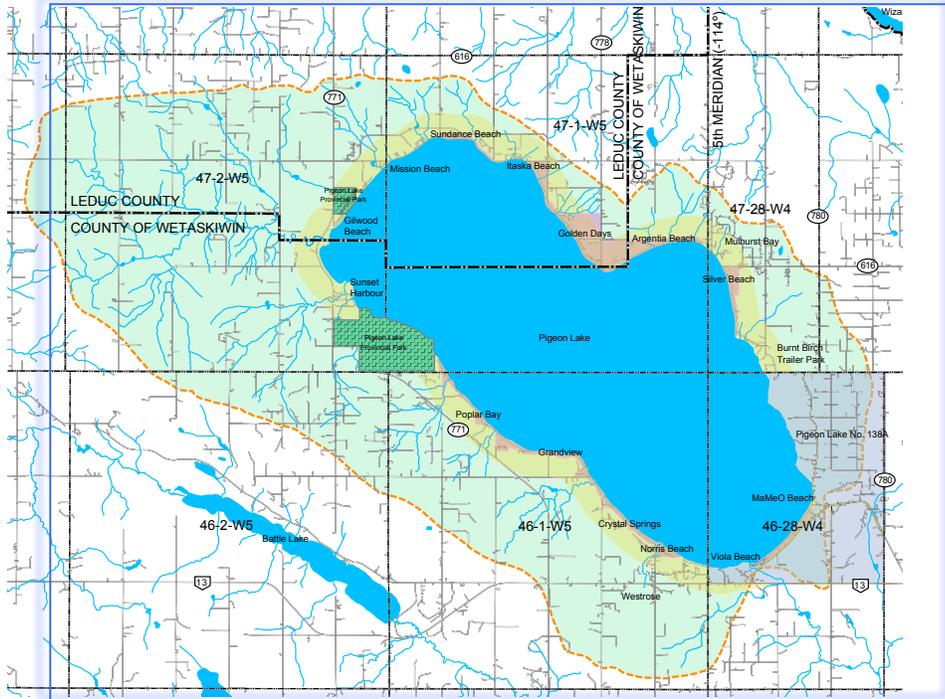


MODEL LAND USE BYLAW

Lakeshore Environmental Development Provisions



*For Conservation and Management of Riparian Lands and Uplands
to Minimize Nutrient Loading and Pollution of Pigeon Lake*

JUDY STEWART, LL.M.
(PhD Candidate)

June 10, 2014

for
Pigeon Lake Watershed Management Plan Steering Committee

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Contributions in funds and in kind have come from numerous organizations and individuals. The following organizations have been particularly instrumental in formulating the PLWMP Terms of Reference:

Battle River Watershed Alliance
Alberta Lake Management Society
Association of Pigeon Lake Municipalities

Alberta Environment and Sustainable
Resource Development

ACKNOWLEDGEMENTS

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FORWARD AND INTRODUCTION

Each of the twelve municipalities within the Pigeon Lake Watershed has an existing Land Use Bylaw (LUB), conforming to the *Municipal Government Act*, R.S.A. 2000, c.M-26 (MGA). LUBs are periodically revised, through a process, which is governed by the MGA. The language and definitions are based on statute law and legal precedents. Adding new provisions to provide greater protection to lake water quality requires careful wording and coordination of all parts (ie definitions, administration and all other provisions). Because of this complexity, the Pigeon Lake Watershed Management Plan (PLWMP) Steering Committee has chosen to create a Model Land Use Bylaw (MLUB) as a guide for municipalities within the Pigeon Lake Watershed.

LUBs are influenced by various sources of law, including emerging provincial laws for protecting and enhancing the environment. For this reason the MLUB Sub-Committee sought the expert assistance of a lawyer who is familiar with land use and water law and the special considerations of lakeshore development and water quality protection. Judy Stewart was selected as a practicing lawyer, but also because of her work with lake and watershed stewardship groups and her experience as a councillor and mayor of a thriving Alberta municipality. The resulting model guidance document emerged through Judy's leadership plus the steering and review provided by the sub-committee.

For municipalities who wish to make use of this MLUB, please keep in mind that this is a model guideline for improving LUB environmental provisions and specifically:

1. The MLUB is written as a "Gold" standard-- recognizing, that the circumstances of some municipalities and existing properties may require the adaptation of specific provisions.
2. The set of provisions in the MLUB are not a complete LUB, just those provisions that address protection of the lake.
3. The MLUB provides a menu of environmental provisions (Section 4) but also addresses:
 - a. The legal framework that affords municipalities the right to address lakeshore environmental protection.
 - b. The policy framework that is needed to interpret a LUB and which is often missing in Summer Villages that have no statutory Municipal Development Plans or Areas Structure Plans.
 - c. A complete LUB framework including administration and provisions.
4. Introducing a new environmental provision(s) to an existing LUB may also mean that definitions will have to be updated, administrative requirements enhanced and other existing provisions amended. Complete coordination of all parts of the LUB is required.
5. An index of provisions is found in Section 4.2 (p29) which serves as a useful checklist

Municipalities considering changes to their LUB or incorporating MLUB environmental provisions are advised to seek the services of a lawyer. Members of the sub-committee will be available to review the contents of the MLUB. Finally, we view this document as a work in progress. Comments and suggestion may be directed to: info@plwa.ca.

PLWMP Chair, Robert (Bob) Gibbs

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RECOMMENDED CITATION

Judy Stewart, 2013. **MODEL LAND USE BYLAW: Lakeshore Environmental Development Provisions for Conservation and Management of Riparian Lands and Uplands to Minimize Nutrient Loading and Pollution of Pigeon Lake.** *Pigeon Lake Watershed Management Plan Steering Committee: Edmonton.*

DISCLAIMER

The following Model Land Use Bylaw Lakeshore Environmental Development Provisions are provided to municipalities that contain lands adjacent to Pigeon Lake within their boundaries as suggestions only, and users are cautioned to seek professional planning and legal advice before incorporating policies and planning regulations into their Municipal Development Plans, Area Structure Plans, and Land Use Bylaws.

Every municipal bylaw should reflect the shared community values of the citizens who reside within the municipality, and the discretion of local councils to exercise decision-making with respect to planning and development cannot be fettered.

ACKNOWLEDGEMENTS

The author acknowledges the Area Structure Plan and Concept Plan work done by municipal councils in the Association of Pigeon Lake Municipalities, and the background documents prepared by Jason Unger of the Environmental Law Centre, Jay White of Aquality Environmental Consulting Ltd., and Fiera Biological Consulting that provided expert professional advice and informed this document. The map of Pigeon Lake depicting the proposed 800 metres from the legal bank of Pigeon Lake was provided by Robert Gibbs.

LIST OF ACRONYMS

APLM	Association of Pigeon Lake Municipalities
MGA	<i>Municipal Government Act</i>
PLWA	Pigeon Lake Watershed Association
PLWMP	Pigeon Lake Watershed Management Plan (being drafted)
PLWMP Steering Committee	Pigeon Lake Watershed Management Plan Steering Committee
2000 APLM Plan	<i>Pigeon Lake Watershed Management Plan, 2000</i>

PART 1

1.0 BACKGROUND

1.01 Pigeon Lake Watershed Management Plan (PLWMP)

The emergent *Pigeon Lake Watershed Management Plan* (PLWMP) ¹ addresses “land-based source control (point source and non-point source) practices that together reduce nutrients and other pollutants from entering the lake.” ² The PLWMP is being developed in accordance with the *Framework for Water Management Planning in Alberta*.³ The Pigeon Lake Watershed Management Plan Steering Committee (PLWMP Steering Committee), under the leadership of the Pigeon Lake Watershed Association, engages local government and watershed stakeholders in watershed management planning. The development process includes three levels of potential involvement of the watershed community to help ensure that the plan will reflect shared community values and desired outcomes of the stakeholders who have vested interests in managing land use to improve water quality in Pigeon Lake.

The PLWMP Steering Committee decided to develop MLUB provisions that might be adopted by Pigeon Lake municipalities for conserving and managing the natural ecological infrastructure that protects and sustains water quality on private lands adjacent to the lakeshore. Two emergent land use management issues must be addressed on an urgent basis:

1. Sources of human generated nutrients; and
2. Maintenance and enhancement of natural ecological infrastructure (wetlands, riparian and lakeshore systems) that mitigate impacts and absorb nutrients.

The Association of Pigeon Lake Municipalities (APLM) consists of 10 summer villages and two counties. One of the purposes of the APLM is to promote water quality in Pigeon Lake through local municipal action. In 2000, the municipalities adopted seven policy statements in the “Pigeon Lake Watershed Management Plan” (APLM Plan 2000). The policy statements from that plan are copied into the majority of APLM member municipal land use bylaws demonstrating political commitment to improving water quality in the lake. Even though that plan includes a “Developer’s Guide” with respect to subdivision and development of lands in the Pigeon Lake watershed, few of the municipalities who signed the APLM Plan 2000 agreement have turned the policy statements into enforceable land use bylaw provisions.

Furthermore, the APLM Plan 2000 is now outdated. Subsequent to its adoption, a blue-green algae outbreak at Pigeon Lake affected the local economy and quality of life. Also, new laws have been enacted since the plan was created (1997-2000) that affect most of the policies in the APLM Plan 2000. For example, since 1999 the *Water Act* and regulations; the *Agricultural Operations Practices Act*; the *Alberta Land Use Framework* and *Alberta Land Stewardship Act*, and changes made to the *Public Lands Act* and regulations have all been adopted or enacted by the province.

¹ *Pigeon Lake Watershed Association. 2012. Terms of Reference for Pigeon Lake Watershed Management Plan.*

² *Ibid.* p.2

³ Government of Alberta, 2001. *Framework for Water Management Planning in Alberta*. Alberta Environment: Edmonton.

The MLUB creates a template of “Lakeshore Environmental Development Provisions” for all lands within 800 metres of the legal bank of Pigeon Lake. These provisions reflect that lands located within the Lakeshore Development Area⁴ in each municipality are influenced or impacted by land uses in the greater Pigeon Lake watershed.

County land use activities that affect water quality must be managed on a different scale than land uses in summer villages. The two counties address large “greenfield” development through Area Structure Plans or subdivision Concept Plans. In summer villages much of the land has already been developed by cottagers. Therefore, the Lakeshore Environmental Development Provisions are useful to all members of the APLM, but are drafted with the recognition that re-development of lakeshore lands and buildings is of primary concern to summer villages.

The provisions are intended to be advisory only as suggested “best management practices.” Municipalities may wish to amend their current LUBs to incorporate some or all of the provisions. An alternative would be to repeal an existing LUB and replace with a new version that includes all or some of the Lakeshore Environmental Development Provisions.

1.02 Managing Land Use in the “Lakeshore Environmental Development Area”

MLUB Lakeshore Environmental Development Provisions to regulate and control land use on private property adjacent to the lakeshore, like those proposed, are rarely included in municipal LUBs. This may be because municipal councils believe that land use and development of these lands are regulated by the province. True, the bed and shore of lakes and other permanent and naturally occurring water bodies are the property of the province pursuant to section 3 of the *Public Lands Act*, and the province is responsible for managing land use on the lake bed and shore.

On the Alberta Environment and Sustainable Resource Environmental Development (AESRD) website, the Province provides advice with respect to describing the “continuum of sensitive lands” and three distinct “management zones,” illustrated in Figure 1 below. The text in bold below effectively describes the lands that need to be conserved and managed through the “Lakeshore Environmental Development Provisions”:

In Alberta, lakes, rivers, streams and wetlands cover approximately 2.5 percent of the landscape. Associated with each of these water bodies is a continuum of sensitive lands separated into three distinct management zones collectively known as the nearshore area:

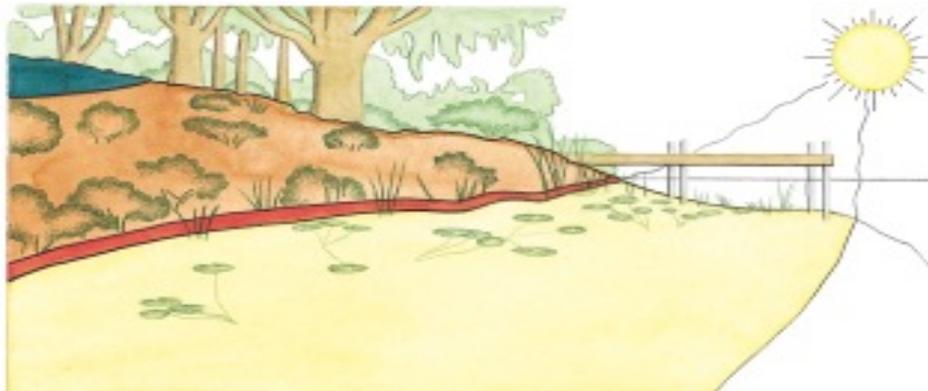
- **Littoral zone**
A region of shallow submerged lands within a water body where sunlight can penetrate and which is very biologically productive

⁴ Lakeshore Environmental Development Area includes all lands mapped and included by each municipality that are within their municipal boundaries and within 800 metres of the legal bank of Pigeon Lake as determined through survey, excluding lands within Provincial Parks and Pigeon Lake Reserve 138A.

- **Riparian zone**
the adjoining vegetated uplands that are directly influenced by the water body
- **Shore zone**
A region comprising the exposed lake or river bed that forms the shores of the water body.

In Alberta, the province generally owns and is responsible for managing the beds and shores of water bodies. Similarly, the province owns and is responsible for managing riparian areas where the adjoining land is also Crown land such as in the forested regions of Alberta or on leased, public lands in the settled areas.

In much of Alberta however, private lands border provincial water bodies and, in such instances, Public Land Managers in the Lands Division work with landowners, municipalities and other resource management agencies to cooperatively manage sensitive provincial shorelands.⁵



- UPLAND**
- RIPARIAN**
- LEGAL BANK**
(aka “shoreline”)
- LITTORAL**
(aka “the bed and shore”)

Figure 1: Nearshore areas taken from the *Shore Primer*⁶

The “littoral zone” and “shore zone” are owned and managed by the province. Land use and human activities in the “riparian zone” is generally regulated and controlled by municipalities through land use bylaws and other bylaw tools. The Lakeshore Environmental Development Provisions are regulations and controls for conserving and managing riparian lands and uplands within 800 metres of the legal bank of Pigeon Lake.

⁵ Alberta Environment and Sustainable Resource Development, *Shorelands*, online: <<http://srd.alberta.ca/LandsForests/Shorelands/Default.aspx>>.

⁶ Government of Canada. The Shore Primer: A Cottager’s Guide to a Healthy Waterfront. Ontario Edition. Department of Fisheries and Oceans: Burlington, Ontario, online: <www.cottagelife.com>.

Riparian lands are valuable ecological infrastructure and provide benefits directly or indirectly to society, especially lake communities. Along with wetlands, natural drainage courses, escarpments and ridges, riparian lands naturally absorb, control and direct the flow of runoff during high precipitation events and snow melt thereby reducing flooding. They absorb and filter storm drainage from impermeable surfaces like rooftops, driveways and roads, and the nutrient laden runoff from agricultural, industrial and forest management operations. As a consequence, over time riparian lands adjacent to the lakeshore become nutrient-rich landscapes, and disturbance or development within these lands may suddenly release those nutrients to Pigeon Lake and its tributaries.

1.03 Common Myths of Private Ownership of Bed and Shore

There are many common myths concerning private land ownership of riparian lands adjacent to the lakeshore. Private lands owners do not own the “bed and shore”. Recently, the province made a public presentation addressing the myth that: “I own the property right to the water’s edge.”

“I own the property right to the water’s edge”

- Vast majority of lakefront property owners do not
- Very few exceptions exist
- The land title and survey plan will state the extent of the property and its boundaries.
- It is the responsibility of a landowner to know where his/her property boundaries are.
- If the current location of a property boundary next to a water body needs to be established, the services of an Alberta Land Surveyor should be sought.
- Private shoreline ownership does not exempt the landowner from obtaining authorization for shoreline work⁷

As well, staff at AESRD created the diagram below to help people understand provincial, municipal and private ownership of lands adjacent to the lakeshore. Most subdivided lands have boundaries that are established through legal survey and are marked with survey pins providing certainty of title under Alberta’s *Land Titles Act*.

It is important for municipalities to understand that the province regulates land use and human activities on the bed and shores of Pigeon Lake up to the legal bank, and often requires permits for certain permanent structures, such as docks and boat lifts that may start on private land and extend or encroach on the bed and shore. Certain development activities, such as retaining walls, dredging, and erosion control structures that impact either the bed and shore or the water quality of the lake also require provincial permits. If development or buildings impact fish habitat, migratory bird or endangered species habitat, or navigability of the lake, those activities may also require federal permits or approvals.

⁷ Government of Alberta, Presentation: “Central Alberta Recreational Lakes Science & Regulation 101,” November 2010, online: <http://environment.alberta.ca/documents/Central-AB-Recreational-Lakes-Science-and-Regulation-101.pdf>.

Though water levels may fluctuate in the littoral zone and shore zone up to the legal bank such that the bed and shore is not always covered with water, these lands retain their function as bed and shore and the Province retains management responsibilities.

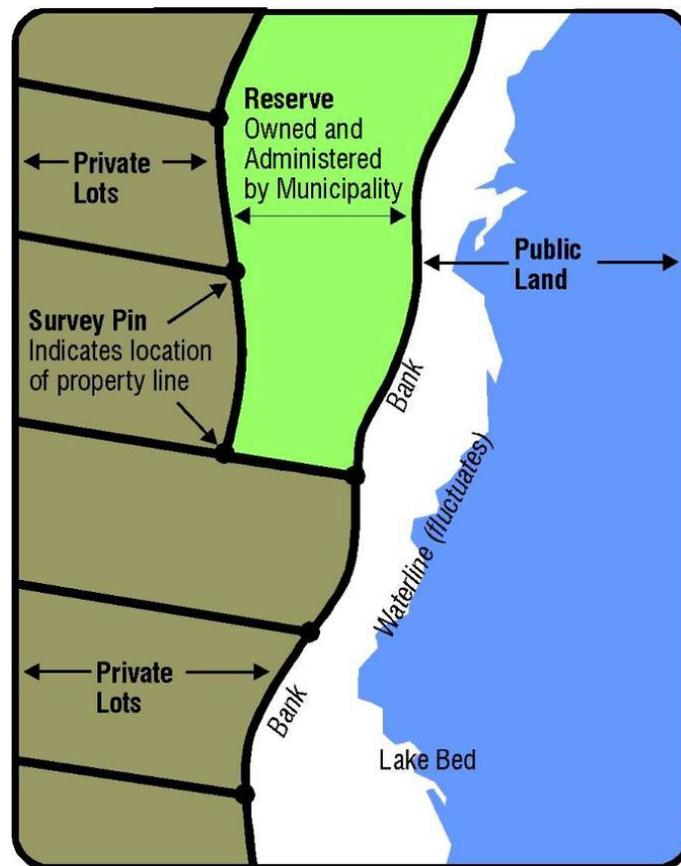


Figure 2: AESRD: Ownership Along Shorelines

1.04 Municipal Management of Lands in the Lakeshore Environmental Development Area

A: Planning and Development: Part 17 of the *Municipal Government Act*

Pursuant to Part 17 of the *Municipal Government Act*, municipalities have jurisdiction and authority to regulate and control land use, subdivision, and development of private lands right up to the legal bank of most lakes,⁸ which generally includes private lands in the riparian land and upland regions. There are some exceptions, because some land uses on private lands are regulated and controlled by other government agencies, like the Alberta Energy Regulator which controls oil and gas operations, or the Natural Resources Conservation Board which administers the *Agricultural Operations and Practices Act* and regulates and controls confined feedlot operations.

⁸ For example, the province owns a provincial right of way in the riparian lands adjacent to Buffalo Lake, and land use within the provincial right of way is managed by the province.

B. Section 60 of the *Municipal Government Act*

Municipalities are also granted “special bylaw passing powers” for the “direction, control, and management” of naturally occurring water bodies under section 60 of the *Municipal Government Act*. This includes intermittent and permanent “water bodies” as defined in the *Water Act*. The only limit on the special power is that any bylaw passed under section 60 is subject to all laws of Alberta and the Government of Canada. That means that a section 60 water body management bylaw must be consistent with existing laws of the province and country such that a person who obeys one law does not offend another. A listing of relevant provincial and federal laws that may affect municipal “direction, control and management” of lakes and other naturally occurring water bodies is provided in **Appendix A**.

C. Sections 7-8 of the *Municipal Government Act*

Additionally, sections 7 and 8 of the *Municipal Government Act* provide municipalities with authority to pass bylaws to regulate and control human activities within lakeshore lands that may create a nuisance or threaten the health and welfare of citizens. A growing body of common law decisions in Canada supports that the health and welfare of citizens are affected if drinking water supplies are polluted, or the health of the aquatic ecosystem is threatened, like it is in Pigeon Lake. Sections 7-8 provide broad bylaw passing powers to enable municipal councils to address environmental issues of local concern that are not already regulated and controlled by provincial and federal laws. For example, a section 7 bylaw could be used to regulate and control the application of pesticides on private lands for cosmetic purposes if the bylaw enhances but is consistent with provincial legislation that regulates application of pesticides.

D. A Comprehensive Planning Scheme

Although not readily understood by citizens, private landowners have no inherent right to subdivide their lands or develop their land. That is why an application must be made to the local municipality for subdivision approval or a development permit. Part 17 of the *Municipal Government Act* and regulations provide a comprehensive scheme for community wide planning; developing statutory planning documents; approving subdivisions of land; and issuing development and building permits.

Statutory planning documents are adopted by council through bylaw and provide local land use planning and development policies that a council may implement and enforce through LUB provisions. All municipal statutory documents, and all land use decisions must be consistent with the *Alberta Land Use Policies*⁹ wherein provincial policy direction is provided for subdivision and development of land near water resources, such as lakes and wetlands, and lands that include

⁹ Government of Alberta. 1996. *Alberta Land Use Policies*. Municipal Affairs: Edmonton. <http://www.municipalaffairs.alberta.ca/documents/ms/landusepoliciesmga.pdf>. See section 622 of the *Municipal Government Act*.

natural resources, such as riparian lands. One such provincial policy statement reads:

Where two or more municipalities are located on the shores of the same lake, and development is anticipated, the municipalities are encouraged to prepare, adopt, and implement an intermunicipal development plan to jointly address lake planning issues.

(i) Intermunicipal Development Plan

Two or more municipalities that have common boundaries often work together to create an Intermunicipal Development Plan (IDP) to ensure that neighbouring communities are aware of their planning intentions and proposed land uses. IDPs traditionally provide for future land use within the designated area; the manner of and the proposals for future development in the area; and other matters relating to the physical, social, or economic development of the area as considered necessary. IDPs are adopted by bylaw, and must include a procedure for conflict resolution; a procedure to amend or repeal the IDP; and provisions relating to administration of the plan.

While the APLM Plan 2000 adopted by the APLM is essentially an agreement to notify one another when subdivision and development applications are made that may affect water quality in the Pigeon Lake watershed, water quality issues persist in the lake. In many ways, the APLM Plan 2000 functions like an IDP, even though the municipalities deliberately did not adopt the plan by bylaw as an IDP because they felt that the IDP process was too cumbersome and would lead to plan irrelevancy over time. However, the summer villages and the County of Wetaskiwin have since developed an IDP for lands where they share common borders.

Recommendation

It is advisable that the APLM create and adopt one IDP to address management of riparian lands and uplands in the Lakeshore Environmental Development Area of Pigeon Lake on an urgent basis to ensure consistency in application of land use policy and decision-making. An IDP is required because land-based sources of nutrients and chemicals persist and continue to affect water quality, the local economy, and quality of life.

(ii) Municipal Development Plan

The MGA requires a municipality to develop a municipal development plan (MDP) if the municipality has a population over 3,500, but smaller municipalities may create an MDP to establish local planning policy for their community. Often summer villages with small populations do not have MDPs, but there is nothing stopping them from creating this important policy document with their citizens to guide future planning and development of private lands adjacent to the lake. The *Municipal Government Act* provides good guidance for what must be included in an MDP and what planning policy a municipality may include in the plan before adoption as a municipal bylaw.

(iii) Area Structure Plans and Area Redevelopment Plans

Subdivision and development of “greenfields” or large previously undeveloped lands usually proceeds based on council adoption by bylaw of an Area Structure Plan (ASP) for the area. In summer villages, ASPs are rarely developed in

advance of subdivision or development approvals. In rural Alberta, ASPs are more common because they enable a municipal council to establish planning policy before development begins. An ASP also helps to avoid one-off developments that can create planning issues in the future. For example, on October 5, 2010, Leduc County adopted the *North Pigeon Lake Area Structure Plan*,¹⁰ stating that the “plan is driven by the need to protect the lake as well as preserve the natural environment, while integrating future development in a responsible manner.” The purpose is stated as follows:

“The purpose of the *North Pigeon Lake Area Structure Plan* is to provide a policy framework which allows for orderly and environmentally conscious development that responds to future subdivision and development proposals, and establishes a preliminary servicing concept.”

An Area Redevelopment Plan (ARP) is adopted by bylaw when a municipality wants to establish planning policy for a large area of existing development that may be redeveloped in the future. Existing land uses within an ARP are usually grandfathered, and it is only when the landowner applies for redevelopment of the property that ARP planning policies kick in. Both ASPs and ARPs must be consistent with the MDP of the municipality and the *Alberta Land Use Policies*.

(iv) Area Concept Plans and Area Outline Plans

Concept Plans and Outline Plans are not statutory documents, and are adopted by resolution of council rather than by bylaw. They provide planning policy for large areas of land before subdivision or development may proceed. An example is the *County of Wetaskiwin Pigeon Lake Area Concept Plan Draft for Public Discussion*¹¹ that was released in March of 2012. The purpose of the draft *Pigeon Lake Area Concept Plan* is stated as follows:

The purpose of the Pigeon Lake Area Concept Plan (PLACP) is to set out principles and policies to act as a guideline for new development. This will help minimize land use conflicts, mitigate environmental pressure and reduce overall impacts in areas currently experiencing, or those areas forecasted to experience development pressure. This plan helps direct subdivision and development authorities when making decisions on subdivision and development within the PLACP boundary. The PLACP is a long-range planning document that will remain in effect until repealed or amended.

1.05 Land Use Bylaw Provisions

Municipal planning, and the regulation and control of land use on private lands are complex processes of application, expert review, political decision-making and enforcement against those who do not follow the established community rules. The processes require an understanding of provincial codes of practice or guidelines for land use and development, like safety and building codes. The most common tool used to

¹⁰ Leduc County, *North Pigeon Lake Area Structure Plan*. Bylaw 19-10. Adopted October 5, 2010. Amended May 3, 2011.

¹¹ County of Wetaskiwin, *Pigeon Lake Area Concept Plan Draft for Public Discussion*, March 16, 2012.

enforce municipal land use policy is the municipal LUB that usually reflects planning policy set out in the statutory planning documents highlighted above.

Unlike statutory plan policy statements, LUB provisions are enforceable in the courts. Municipalities may issue stop orders, assign penalties, or take remedial action to address violations of LUB provisions and collect from violators for remedial work done. While education and promotion of a stewardship ethic are important watershed management tools, so is consistent enforcement of land use regulations.

1.06 Reserve Lands

The MGA provides municipal governments with authority to require that certain lands be dedicated as reserves to the municipality at the time of land subdivision, for roads, public utilities, pathways, schools, and municipal parks and playgrounds. Lands that are considered “undevelopable” such as natural environment features and water resources that would be hazardous to development due to land subsidence, flooding, or instability, may be required to be dedicated to municipalities at the time of land subdivision as “environmental reserves.” Environmental reserves may also be required to be dedicated to prevent pollution and provide access to water bodies. Municipalities have authority and responsibility to manage reserve lands in the overall greater public interest. Reserves are often considered important components of the public realm, whereby municipal councils provide for schools, parks, recreational spaces and facilities, and green and natural spaces, while protecting development from natural hazards, preventing pollution, and providing public access to water bodies, such as Pigeon Lake.

Reserve lands become the titled property of the municipal corporation. Councils often include reserve lands in parks or natural area land use districts and provide development provisions to regulate and control use of these municipal lands. That is because all lands within a municipality must be included in a land use district. However, it is advisable that a municipality creates reserve provisions to regulate and control human activities in or on municipally owned and managed riparian lands adjacent to the lakeshore as part of the LUB, or a stand-alone environmental reserve bylaw to establish rules for public access and restrict some public uses of these municipally owned lands. The MLUB Lakeshore Environmental Development Provisions include a section on use of reserve lands.

1.07 Applications for Subdivision Approvals or Development Permits

LUBs provide the procedures and mechanisms whereby landowners may apply to the development authority of a municipality for a development permit, for example, for stripping and grading of land, constructing a building, or landscaping. To implement a municipality’s planning policies, a LUB creates a number of land use districts and lists the permitted and discretionary uses that may be approved within each land use district. Some land uses may be restricted in some land use districts.

If a person wants to subdivide a parcel of land, he or she must apply to the subdivision and development authority for the municipality to obtain a subdivision approval. In some cases, when a person applies for a subdivision approval, he or she may also request an

amendment in the LUB to allow for the proposed subdivision approval that would otherwise not comply with existing LUB provisions.

Generally, a municipality must ensure that the land is suitable for the purpose for which the subdivision is intended. According to section 7 of the *Subdivision and Development Regulation*,¹² a municipal development authority must consider the following matters when reviewing an application for a subdivision approval:

Relevant considerations

7 In making a decision as to whether to approve an application for subdivision, the subdivision authority must consider, with respect to the land that is the subject of the application,

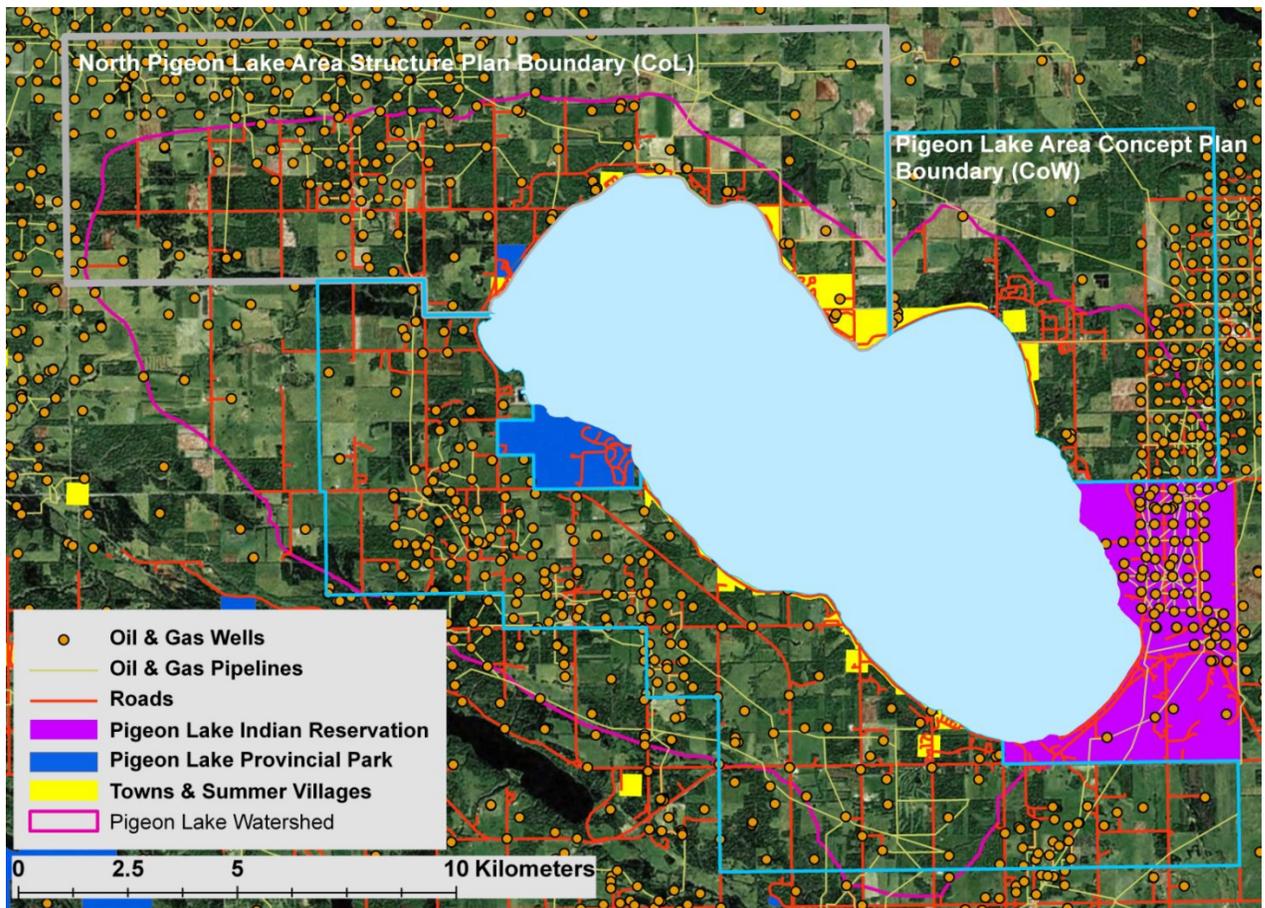
- (a) its topography,
- (b) its soil characteristics,
- (c) storm water collection and disposal,
- (d) any potential for the flooding, subsidence or erosion of the land,
- (e) its accessibility to a road,
- (f) the availability and adequacy of a water supply, sewage disposal system and solid waste disposal,
- (g) in the case of land not serviced by a licensed water distribution and wastewater collection system, whether the proposed subdivision boundaries, lot sizes and building sites comply with the requirements of the *Private Sewage Disposal Systems Regulation* (AR 229/97) in respect of lot size and distances between property lines, buildings, water sources and private sewage disposal systems as identified in section 4(4) (b) and (c),
- (h) the use of land in the vicinity of the land that is the subject of the application, and
- (i) any other matters that it considers necessary to determine whether the land that is the subject of the application is suitable for the purpose for which the subdivision is intended.

It is appropriate for a Development Authority to require plans and studies to be provided as part of an application for subdivision approval or development permit to ensure that the above matters are properly addressed by qualified experts.

A municipality is authorized to restrict some land uses where the lands are not suitable for subdivision or development, for example natural drainage courses, wetlands, riparian lands in the Lakeshore Environmental Development Area subject to flooding or bank erosion, or where development may cause pollution of the water in Pigeon Lake through nutrient loading.

The map below illustrates current land use patterns adjoining Pigeon Lake in Leduc County and the County of Wetaskiwin.

¹² *Subdivision and Development Regulation*, Alta Reg 43/2002, s.7.



**Figure 3: Taken from Fiera Biological Consulting, 2012.
Review of the County of Wetaskiwin’s Draft Area Concept Plan, Edmonton.**

The Fiera map above illustrates that agricultural operations remain the most common land use in the Pigeon Lake watershed. Oil and gas wells, pipelines and access roads dot and cross-cross the agricultural landscape, while summer villages hug the lakeshore along with provincial parks and an Indian Reservation, creating a complex social-ecological network. The cumulative impact of these land uses is degraded water quality in Pigeon Lake caused by excessive nutrient loading.

“Mapping the Legal Bank of a Water Body

The legal bank of a water body should be determined as defined in the Surveys Act. Setbacks should be measured from this line, except for ephemeral/ intermittent streams where the middle axis of the channel can be used. Aerial photographs and Alberta hydro-net data can be used to map the legal bank; however, using a LiDAR-derived Digital Elevation Model (where available) will give a much more accurate representation of stream networks and wetlands, and water body boundaries. The actual legal bank will have to be determined for each individual water body in the field at time of survey. Marshland or wetland vegetation such as cattails and sedges form part of the bed and shore of a water body.”

(Government of Alberta, Stepping Back from the Water, 2012.)

PART 2

2.0 PURPOSE AND PLANNING PRINCIPLES FOR MLUB LAKESHORE ENVIRONMENTAL DEVELOPMENT PROVISIONS

Of the 12 municipalities in the APLM, none have a comprehensive system for regulating and controlling human activities or land uses on private lands to reduce nutrient loading to Pigeon Lake, or to protect the ecological infrastructure (natural environment features and water resources) that mitigate or reduce nutrient loading in the lake.

2.01 Purposes of Lakeshore Environmental Development Provisions

The purposes for creating the Lakeshore Environmental Development Provisions is to regulate and control land use within 800 metres (a half-mile) of the legal bank of Pigeon Lake, and are threefold:

1. to provide model LUB provisions that may be used by Pigeon Lake municipalities to implement and enforce land-based source control policies with respect to reducing nutrient loading and other pollutants from entering the lake, caused by inappropriate use of riparian lands and uplands by private landowners;
2. to provide LUB provisions that may be used by summer villages to regulate and control the redevelopment of private lands and buildings on the lakeshore to reduce nutrient loading in Pigeon Lake;
3. to raise awareness among Pigeon Lake municipalities and others of lake management “best management practices” that might be utilized to improve water quality in Pigeon Lake; and
4. to further develop shared community values about appropriate private land use within lands adjoining Pigeon Lake to ensure that the ecological infrastructure required to sustain the lake’s aquatic ecosystem is managed and sustained for this and future generations.

2.02 Evolution of MLUB Planning Principles

The APLM Plan 2000 adopted by the APLM provided 7 planning principles:

1. Recognize the rights of the farming community;
2. Maintain water quality
3. Protect groundwater flows
4. Maintain public access to the lake;
5. Protect the fishery;
6. Allow suitable new development; and
7. Keep open communication on development proposals.

Protecting the farming community is paramount to municipal governments because the *Municipal Government Act* requires that agricultural operations be protected. But, it is now being recognized by governments and ecologists that not all agricultural operations are suitable land uses within riparian lands adjacent to lakes due to nutrient loading. The

planning principles above are being fine-tuned and amended through ASP and Area Concept Plan development by municipalities in the Pigeon Lake watershed, and by the PLWA in developing the watershed plan.

Lakeshore Environmental Development Provisions include critical water quality management tools to regulate and control land-based sources of nutrients and chemicals that continue to degrade water quality in Pigeon Lake and reflect provincial, regional and local planning principles. The Lakeshore Environmental Development Provisions reflect current planning knowledge and best management practices to 2013. For example, the planning principles used to frame the provisions align with the desired outcomes and guiding principles provided in the *Alberta Land-use Framework* (LUF) as well as planning principles developed to date by Pigeon Lake communities.

The LUF provides three desired outcomes of regional land use planning, and the balancing that must be done to achieve all three outcomes on the same land base:

- Healthy economy supported by our land and natural resources;
- Healthy ecosystems and environment; and
- People-friendly communities with ample recreational and cultural opportunities.

LUF's guiding principles for land-use decision-making in Alberta are as follows:

- Sustainable
- Accountable and responsible
- Supported by a land stewardship ethic
- Collaborative and transparent
- Integrated
- Knowledge-based
- Responsive
- Fair, equitable and timely
- Respectful of private property rights
- Respectful of the constitutionally protected rights of aboriginal communities.

Section 8 of the Leduc County *North Pigeon Lake Area Structure Plan* provides several planning principles directly related to land-use decision-making and LUB provisions for the lakeshore of Pigeon Lake. They are included here as suggested ***best management planning principles*** for other municipalities with lands adjacent to Pigeon Lake. These principles, which have been amended slightly, underscore the MLUB Lakeshore Environmental Development Provisions.

Planning Principles (adapted from Leduc County North Pigeon Lake ASP)

The following 18 planning principles guide the development of enforceable Lakeshore Environmental Development Provisions for regulating and controlling land use within 800 metres of the legal bank of Pigeon Lake:

Recognize

1. Improve the health of Pigeon Lake by identifying how and where water enters the lake and ensuring the ecological infrastructure that supports the source waters is protected.
2. Protect riparian lands adjoining natural drainage courses through site specific, performance based building development setbacks configured to absorb and filter pollutants draining from adjoining lands.

3. Maintain, protect, and enhance the biodiversity of the watershed while integrating human activities.
4. Recognize the importance of Tide Creek as the most consistent contributor of flowing water to the lake.
5. Agriculture is a valued part of the Pigeon Lake cultural heritage and is important to everyone's survival.
6. Recognize that past ways of developing and maintaining recreational properties have negatively impacted Pigeon Lake.
7. Recognize that some agricultural operations may negatively impact Pigeon Lake.

Restore

8. Restoration of riparian lands and uplands adjoining Pigeon Lake can be compatible with some types of development.
9. Explore opportunities to reforest previously cleared reserve and open space lands on new developments through the reintroduction of indigenous species of trees, shrubs and grasses.
10. Enhance the percolation of storm runoff into ground water by managing runoff as close to its source as possible.
11. Ensure the integrity of existing indigenous tree stands.
12. Not allow surface water runoff to access Pigeon Lake or naturally occurring wetlands directly without first passing through a holding pond or other constructed wetland area,

Refocus

13. Concentrate new residential activity away from the lakeshore.
14. Give higher priority to protection of riparian lands and uplands that absorb or filter water entering the lake than to development.
15. Design new subdivisions using ecological design and low impact development principles and practices.

Reduce

16. Minimize disturbances to wetlands, riparian lands and uplands that absorb or filter water from developed or industrial lands.
17. Reduce the human footprint in terms of space taken by individual building sites, thus maximizing the amount of open space available for habitat preservation and watershed restoration.
18. Limit and, in places, restrict development to ensure water entering Pigeon Lake has an opportunity to be absorbed and filtered through ecological infrastructure such as wetlands and the riparian lands adjacent to Tide Creek.

PART 3

3.0 POLICY STATEMENTS BY THEME

The following policy statements are provided to APLM as suggestions that may be included in MDPs or ASPs. The policies are presented by key themes for conservation and management of riparian lands and uplands to minimize nutrient loading and pollution of Pigeon Lake.

Theme 1: Restricted Land Uses within the Lakeshore Environmental Development Area

According to the Government of Alberta *Guidelines for Lakeshore Use*,¹³ temporary seasonal piers, docks, and boat lifts may be constructed or placed on the bed and shore of the lake without obtaining a provincial approval as long as they are completely removed and stored away from the bed and shore at the end of the season, **except:**

- where an environmentally sensitive area or a management concern is identified by the provincial or federal government, and restrictions have been established
- where a local municipal development plan, a lake management plan, or a water management plan limits or restricts such uses
- where the proposed structure's design may interfere with the normal flow of water or is likely to increase the probability of bank or shoreline erosion
- where such structures may adversely block public access along the bed or shore of the lake

Users are advised to contact their local municipal planning office, and provincial or federal regulatory offices to determine if there are any areas on a lake subject to restriction. Structures placed in any of the above areas may require approval or may be removed.

Recommendation:

Provincial written approvals are required “to divert water or prior to developing certain structures or modifications on lake beds and shores and floodplains.”¹⁴ Therefore, it is essential that the APLM adopt policies in their MDPs and enact LUB provisions to restrict certain land uses, development, and buildings so that when the Province is exercising its authority to grant approvals, it is aware of the desired outcomes of the local community with respect to restrictions on land use, development, and buildings.

¹³ Government of Alberta, *Guidelines for Lakeshore Use*, online: http://srd.alberta.ca/LandsForests/Shorelands/Lakeshores/documents/ASRDbed_shore_brochure.pdf.

¹⁴ *Ibid.*

Theme 1 Policy Statements

The municipality will:

- 1.1. identify and map all significant natural environment features, water resources, and reserve lands located within the Pigeon Lake watershed through a Biophysical Inventory and Assessment conducted by a qualified expert. An inventory and assessment of such natural environment features, water resources, and reserve lands will be kept current.
- 1.2 in consultation with local stakeholders and provincial authorities, initiate the development and implementation of a Pigeon Lake watershed management plan for the natural environment features, water resources and reserve lands identified and mapped in accordance with Policy 1.1.
- 1.3 without restricting the generality of Policy 1.1, identify and map all lands in the municipality located within 800 metres of the legal bank of Pigeon Lake.
- 1.4 discourage or restrict land uses within the lands identified and mapped in Policy 1.1 and lands identified and mapped in Policy 1.3. that are the source of phosphorus and other nutrients, chemicals, or nutrient-rich sediment that may pollute the waters of Pigeon Lake.
- 1.5 in consultation with provincial authorities, request that in exercising its discretion where provincial approvals or permits are required, the Province does not approve land uses, development, redevelopment, or buildings that may counteract the land use bylaw provisions of the Lakeshore Environmental Development Area: for example, private access, private beaches, private piers, docks and boat lifts, dredging, and shoreline erosion control.
- 1.6 in consultation with provincial authorities, establish appropriate environmental reserve locations where the municipality may develop community access points, community beaches, and community docks and boat lifts that will enable the phasing out of private access, beaches, docks and boat lifts over time.
- 1.7 in consultation with provincial authorities, ensure that the municipality is the only authorized entity that may apply for approvals or permits to allow dredging or shoreline erosion control on the bed and shore adjacent to private or municipal lands within the municipality.
- 1.8 require special studies to be performed prior as part of the application process for development and redevelopment of any parcel of land within 800 metres of the legal bank of Pigeon Lake, or within 100 metres of the natural environment features, water resources, or reserves mapped and inventoried according to Policy 1.1.

Setbacks should be determined on a case-by-case basis by a person or persons qualified to make these assessments. This may involve a report certified by a professional biologist, engineer, geologist or geophysicist, as defined in the appropriate legislation governing these professions.

Government of Alberta. 2012. *Stepping Back from the Water*.

Theme 2: Building Development Setbacks from the Legal Bank

Theme 2 Policy Statements

The municipality will:

- 2.1 in accordance with clause 640(4)(l) of the MGA, prescribe building development setbacks adjacent to water resources identified and mapped in Policy 1.1, to prevent pollution and provide access to the bed and shore. Such building development setbacks are to be established by a Qualified Water and Aquatic Environmental Specialist (QWAES) using scientific methodology, or, in the alternative, building development setbacks from water resources may be established using the methodology and metrics provided in *Stepping Back from the Water*.
- 2.2 ensure that the minimum building development setback from Pigeon Lake is no less than 20 metres from the legal bank.
- 2.3 ensure that existing private development and buildings within the prescribed building development setbacks established pursuant to Policies 2.1 and 2.2 are treated as legal non-conforming uses as described in section 634 of the *Municipal Government Act*. All new private development, redevelopment, and buildings will be prohibited within building development setbacks.

Theme 3: Construction Management and Landscaping

Theme 3 Policy Statements

The municipality will

- 3.1 ensure that all stripping and grading of land within 800 metres of the legal bank of Pigeon Lake is discouraged and may only proceed by development permit with conditions that protect Pigeon Lake from pollution caused by nutrient-rich sediment being introduced to the lake.
- 3.2 ensure that when a development permit is issued for stripping and grading of land within 800 metres of the legal bank of Pigeon Lake, that the permit is issued

- only for the parcel of land or lot for which the development permit was issued, and not for an entire subdivision.
- 3.3 ensure that when lands within 800 metres of the legal bank of Pigeon Lake are being prepared for development or buildings that low impact development strategies and technologies are incorporated for the parcel of land or lot for which the development permit was issued.
- 3.4 require that a construction management plan for the parcel of land or lot for which a development permit is issued within 800 metres of the legal bank of the Pigeon Lake watershed is in place before development begins. At a minimum, the construction management plan must include strategies and technologies to:
- (a) manage storage of construction vehicles and materials;
 - (b) retain native vegetation including grasses, shrubs and timber;
 - (c) retain topsoils removed during development and construction;
 - (d) control dust and noise;
 - (e) control mud on public roads;
 - (f) control run-off and storm drainage on-site;
 - (g) control sediment on-site; and
 - (h) ensure that nutrient-rich sediment, run-off and storm drainage controlled on-site and is only disposed of after treatment.
- 3.5 require the application of local topsoil and indigenous plant materials to any land within 800 metres of Pigeon Lake that is required to be landscaped.
- 3.6 require that private landowners with developments or buildings within 800 metres of the legal bank of Pigeon Lake manage their lots post-development to prevent degradation of water quality in the lake by:
- (a) retaining indigenous vegetation, including grasses, shrubs and timber that do not require irrigation;
 - (b) controlling invasive species;
 - (c) installing and maintaining low impact development strategies and technologies;
 - (d) installing or maintaining rain gardens and absorbent landscaping materials; and
 - (e) adhering to municipal bylaws, guidelines and best management practices with respect to applications of fertilizers and pesticides.

Theme 4: Storm Drainage and Rainwater Harvesting

Theme 4 Policy Statements

The municipality will

- 4.1 require the development industry to minimize and mitigate impacts of subdivision and development that introduce impermeable surfaces on lands within 800 metres of the legal bank of Pigeon Lake through land use regulations requiring low impact development strategies and technologies.
- 4.2 require a development permit for all stripping and grading of lands in preparation for subdivision or development.

- 4.3 ensure that before the Development Authority issues a development permit for stripping and grading in the Pigeon Lake watershed, applicants for subdivision or development approvals, have established through a qualified expert that the aquatic environment of will not be adversely affected by the activity.
- 4.4 prevent compaction of soils during stripping and grading activities that may interfere with natural groundwater recharge.
- 4.5 require a regulated percentage of indigenous plant materials and timber and a regulated percentage of permeable surfaces in all new and redeveloping development sites.
- 4.6 regulate post development storm drainage flow to no net increase in amount or rate of water flow offsite or to receiving natural environment features and water resources in the Pigeon Lake watershed. Where applicable, the municipality will require Stormwater Site Implementation Plans (SSIPs) that comply with the municipal Master Drainage Plan, and which shall include best management practices, low impact development strategies and technologies, and post development maintenance plans.
- 4.7 require treatment of storm drainage and agricultural and industrial runoff in constructed wetland facilities prior to discharge into receiving natural environmental features, water resources and reserves in the Pigeon Lake watershed.

Theme 5: Riparian Lands and Wetlands

Riparian lands and wetlands in the Pigeon Lake watershed provide the natural ecological infrastructure that filter and absorb storm drainage, and agricultural and industrial runoff from impermeable surfaces. To improve the water quality in Pigeon Lake, these and other identified natural environment features, water resources, and reserves must be protected from subdivision and development.

Theme 5 Policy Statements

The municipality will

- 5.1 ensure that all wetlands in the Pigeon Lake watershed, identified and mapped in accordance with Policy 1.1 are classified in accordance with the “Stewart and Kantrud Wetland Classification System.”
- 5.2 work with the Province to ensure that all wetlands of Class III or greater within the Pigeon Lake watershed are preserved in their natural state. Avoidance of all classifications of wetlands during the process of subdivision and development shall be encouraged as the primary objective of local wetland conservation.
- 5.3 ensure that all wetlands of all classifications are preserved in their natural state within 800 metres of the legal bank of Pigeon Lake.

- 5.4 except where authorized by the federal or provincial government, prohibit the excavation or filling in of all natural environment features, water resources and reserve lands in the Pigeon Lake watershed.
- 5.5 without restricting the generality of Policy 5.4, prohibit the excavations or filling in of all wetlands of all classifications and their associated riparian lands within 800 metres of the legal bank of Pigeon Lake.
- 5.6 ensure that naturally occurring wetlands of all classifications in the Pigeon Lake watershed are not used as untreated storm drainage catchment basins.

Theme 6: Reserve Lands

Theme 6 Policy Statements

The municipality will

- 6.1 using the methodology and metrics provided in *Sustainable Resource Development Standard Recommendations to Municipal Subdivision Referrals*, inventory and map areas of private land that abuts the bed and shore of identified water resources in Policy 1.1 that are necessary to:
 - a. provide public access to the bed and shore; or
 - b. prevent pollution by sustaining existing ecological infrastructure required for a healthy aquatic environment.

Areas of private land inventoried and mapped in accordance with this Policy will be required to be dedicated to the municipality as environmental reserve in accordance with the environmental reserve sections of the *Municipal Government Act* if the area of private land is located within a parcel of land that becomes the subject matter of a subdivision application.

- 6.2 Notwithstanding the generality of Policy 6.1, at the time of subdivision of land, require that landowners provide, at a minimum, all the lands within 50 metres from the legal bank of Pigeon Lake to the municipality as environmental reserves to provide public access to the bed and shore, or to prevent pollution by sustaining existing ecological infrastructure required for a healthy aquatic environment.
- 6.3 Environmental reserves located in the Lakeshore District may only be used in accordance with the provisions in the LUB.

PART 4

4.0 LAKESHORE ENVIRONMENTAL DEVELOPMENT PROVISIONS

MLUB

Lakeshore Environmental Development Provisions for Conservation and Management of Riparian Lands and Uplands to Minimize Nutrient Loading and Pollution

4.01 Preamble

The MLUB “Lakeshore Environmental Development Provisions” are provided to the County of Wetaskiwin, Leduc County, the ten incorporated summer villages, plus the unincorporated hamlets and settlements in Leduc County or the County of Wetaskiwin, such as Viola Beach, Sunset Harbour, Gilwood Beach, Mitchell Beach, Mission Beach, and Mulhurst Bay, as a “best management practice” tool to assist in the development of lands and buildings, and redevelopment of existing lands and buildings, adjacent to the bed and shore of Pigeon Lake. As water quality and the use and enjoyment of Pigeon Lake are affected by inappropriate land uses in adjacent riparian lands and uplands, the land use bylaw provisions are recommended for minimizing nutrient loading and pollution of the lake.

The Lakeshore Environmental Development Provisions apply to a mapped area that includes several land uses districts typical of lakeshore communities including but not limited to residential, large lot residential, municipal reserve, environmental reserve, parks, institutional camp, and commercial lands. Generally, the mapped area includes all lands within 800 metres of the legal bank of the lake, but each summer village or county will be required to map the lands in their community that they wish to be regulated and controlled through these provisions. **Appendix 2** identifies all the lands around Pigeon Lake that are within 800 metres of the legal bank or the Lakeshore Development Area.

For any comprehensive development of which part of the development area occurs within 800 meters of the legal bank, the lakeshore environmental development provisions will apply to the entire development area.

The Lakeshore Environmental Development Provisions are in addition to LUB provisions for all land use districts already designated and mapped in existing LUBs. For example, existing residential districts already provide for lot size, the development of buildings, etc. The Lakeshore Environmental Development Provisions “overlay” all existing land use districts within the mapped area and provide additional regulations and controls for land uses that may cause excessive nutrient loading or pollution of the lake. The overlay of the Lakeshore Environmental Development Provisions would need to be considered by the Development Authority and applicants at the time of development application.

In order for a municipality to incorporate any of the Lakeshore Environmental Development Provisions into their existing LUBs a review of terms and existing provisions would need to be done to ensure consistency: for example that a person who complies with the provisions of the existing LUB would not be in contravention of a Lakeshore Environmental Development Provision, and vice versa. A person who complies with one bylaw provision must not be in contravention of another. Both sets of

provisions should be implementable with the Lakeshore Environmental Development Provisions generally imposing higher standards to protect the lake from nutrient loading and pollution.

Lakeshore Environmental Development Provisions will affect other parts of existing LUBs because they introduce new terms that need to be included in the interpretation section. For example, “riparian lands,” “building footprint” and “timber” are not found in existing LUBs, but are terms introduced in the Lakeshore Environmental Development Provisions. As well, application procedures for development within existing land use districts currently do not require the same number or type of plans and studies before an application will be deemed complete, as those that are required for applications to develop or redevelop lands within the Lakeshore Environmental Development Area.

The focus of the Lakeshore Environmental Development Provisions is both new development and redevelopment of existing lots, which are of varying depth from the lakeshore between 20 to 45 metres, and occasionally up to 60 metres. Many of the existing lots and buildings are situated within riparian lands that provide valuable benefits to lakeshore communities. Redevelopment in riparian lands is addressed through the Lakeshore Environmental Development Provisions building development setback provisions.

Some land uses and buildings are not appropriate in riparian lands within proximity to the legal bank of Pigeon Lake. For example, lawns that extend to the water’s edge, retaining walls that cause erosion or excessive sedimentation along the shoreline, gardens that require fertilizers and irrigation systems, outhouses, and decks on the water’s edge are good examples of inappropriate uses and buildings. However, existing land uses and buildings are “grandfathered” as legal non-conforming uses. Provisions for non-conforming uses and buildings are included in the MLUB.

The purpose of any LUB is provided in the Part 17 of the *Municipal Government Act* as follows: “a land use bylaw may prohibit or regulate and control the use and development of land and buildings in a municipality.” (Section 640(1)) The purpose of all planning and development legislation provided in the *Municipal Government Act* is provided in section 617, and requires municipalities to balance private property rights with the overall greater public interest. For example the rights of riparian landowners must be balanced with the overall greater public good of clean lake water for domestic purposes and human recreation, and the longevity of the biodiversity that shares the water resource with society. All existing LUBs contain a general purpose clause that echoes that purpose and provides additional information relevant to the particular municipality. Therefore, a General Purpose section is provided in the MLUB Lakeshore Environmental Development Provisions that reflects the requirements of section 640 of the *Municipal Government Act* and the general purpose of land use planning on private lands within Alberta, as stated in section 617.

Provisions that require mandatory action by the Development Authority or a person applying for a development permit include the term “shall.” Where discretion is afforded the Development Authority or a person applying for a development permit, the term “may” is employed. A listing of the Menu of Provisions follows below, and is partially repeated in a draft *Land Use Bylaw Amendment Bylaw* to demonstrate process of amending an existing bylaw.

4.02 Menu of Provisions and Location Tool

Lakeshore Environmental Development Area (LEDA)

Section	Description	Page
4.03	Sample Amending Bylaw for Summer Villages	30
Section 1	General Purpose of a Land Use Bylaw	31
Section 2	Interpretation	31
3.1	Purpose of Lakeshore Environmental Development Provisions	35
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Section 4	Use and Development of Wetlands and Riparian Lands	45
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All municipalities, as defined in the *Municipal Government Act* must have a LUB in place at all times, but they are living documents that can be amended from time to time through a prescribed process. Summer villages and counties that wish to adopt any of the definitions or MLUB Lakeshore Environmental Development Provisions will need to amend their existing LUBs through processes required in the *Municipal Government Act*. Therefore, the Lakeshore Environmental Development Provisions are preceded by a sample amending bylaw to assist summer villages with amendment.

Recommendation:

It is important to note that a municipality may amend its existing LUB to incorporate some or all of the Lakeshore Environmental Development Provisions, or may repeal its existing LUB and adopt a new bylaw that includes some or all of these provisions. In both cases, legal professional advice will be required to ensure the provisions are consistent with other parts of the LUB, including definitions and procedures.

4.03 Sample Amending Bylaw For Summer Villages

BYLAW ___-20

A BYLAW OF SUMMER VILLAGE OF _____ IN THE PROVINCE OF ALBERTA FOR THE PURPOSE OF AMENDING BYLAW ___-___ THE LAND USE BYLAW.

WHEREAS it is deemed advisable to amend the Land Use Bylaw;

NOW THEREFORE, the Council of the Summer Village of _____ pursuant to the authority conferred upon it by the *Municipal Government Act*, R.S.A. 2000, c.M-26 and amendments thereto enacts as follows:

1. This Bylaw amends Bylaw ___-20___, the Summer Village of _____ Land Use Bylaw and adds the “Lakeshore Environmental Development Provisions,” and makes incidental amendments to other sections of Bylaw ___-20___ as follows:
 - (a) The General Purpose section is amended as follows:
 - (b) The Interpretation section is amended by adding the following terms:
 - (c) The Non-Conforming Use section is amended as follows:
 - (d) Etc.
2. This Bylaw shall take effect on the date of final passing.

Read a First time this ___ day of ___ 20___.

Read a Second time this ___ day of ___ of 20___.

Read a Third time this ___ day of ___ 20___.

Mayor
Chief Executive Officer

Manager
Chief Administrative Officer

Date signed

4.04 Lakeshore Environmental Development Provisions

Section 1 General Purpose of Land Use Bylaw

- 1.1 The purpose of this land use bylaw is to prohibit or regulate and control the use and development of land and buildings within the municipality to achieve the orderly, economical and beneficial development, use of land and patterns of human settlement, and to maintain and improve the quality of the physical environment within which patterns of human settlement are situated in the municipality, without infringing on the rights of individuals for any public interest except to the extent that it is necessary for the overall greater public interest. (Sections 617 and 640(1)).**

Section 2 Interpretation

2.1 In this bylaw:

- (a) “aggregate mining” means the creating of a pit or borrow excavation for excavating in or working of the surface or subsurface for the purpose of removing any sand, gravel, clay or marl, and includes the area of the pit and any associated infrastructure and stockpiles of materials.
- (b) “agricultural operations” means an agricultural activity conducted on agricultural land for gain or reward or in the hope or expectation of gain or reward, and includes
- (i) the cultivation of land,
 - (ii) the raising of livestock, including domestic cervids within the meaning of the *Livestock Industry Diversification Act* and poultry,
 - (iii) the raising of fur-bearing animals, pheasants or fish,
 - (iv) the production of agricultural field crops,
 - (v) the production of fruit, vegetables, sod, trees, shrubs and other specialty horticultural crops,
 - (vi) the production of eggs and milk,
 - (vii) the production of honey,
 - (viii) the operation of agricultural machinery and equipment, including irrigation pumps,
 - (ix) the application of fertilizers, insecticides, pesticides, fungicides and herbicides, including application by ground and aerial spraying, for agricultural purposes,
 - (x) the collection, transportation, storage, application, use, transfer and disposal of manure, composting materials and compost, and
 - (xi) the abandonment and reclamation of confined feeding operations and manure storage facilities. (AOPA)
- (c) “building” means and includes anything constructed or placed on, in, over or under land, but does not include a highway or road or a bridge that forms part of a highway or road. (MGA)

- (d) “building development setback” means and includes an area of land within a certain distance from the legal bank of a water body or natural environment feature where prohibitions or regulations and controls on the development of buildings apply.
- (e) “building footprint” means the total area of the lot that is or is intended to be covered by building foundations as defined in this Bylaw.
- (f) “beach development” means the disturbance and removal of natural vegetation and soil materials from the bed and shore of Pigeon Lake-
- (g) “confined feeding operations” means fenced or enclosed land or buildings where livestock are confined for the purpose of growing, sustaining, finishing or breeding by means other than grazing and any other building or structure directly related to that purpose but does not include residences, livestock seasonal feeding and bedding sites, equestrian stables, auction markets, race tracks or exhibition grounds. (AOPA)
- (h) “construction management plan” means a plan provided by an applicant that includes strategies to manage activities during and post construction. Construction management plans shall, among other requirements, include strategies to implement low impact development techniques and best management practices for storm drainage control. A construction management plan shall include strategies and technologies to
 - (i) manage storage of construction vehicles and materials;
 - (ii) retain native vegetation including grasses, shrubs and timber;
 - (iii) retain topsoils removed during development and construction;
 - (iv) control dust and noise;
 - (v) control mud on public roads;
 - (vi) control run-off and storm drainage on-site;
 - (vii) control sediment on-site; and
 - (viii) ensure that nutrient-rich sediment, run-off and storm drainage controlled on-site and is only disposed of after treatment.
- (i) “development” means
 - (i) an excavation or stockpile and the creation of either of them,
 - (ii) building or an addition to or replacement or repair of a building and the construction or placing of any of them on, in, over or under land,
 - (iii) a change of use of land or a building or an act done in relation to land or a building that results in or is likely to result in a change in the use of the land or building, or
 - (iv) a change in the intensity of use of land or a building or an act done in relation to land or a building that results in or is likely to result in a change in the intensity of use of the land or building. (MGA)
- (j) “guesthouse” means a permanent building, which contains sleeping accommodation and may have a bathroom, but does not have kitchen facilities, and is not intended to be a self-contained dwelling. A guesthouse may be a stand-alone single storey structure or may be in combination with an accessory building.
- (k) “ice flood risk area” means lands adjacent to a water body that may become covered with ice or water due to natural seasonal phenomena
- (l) “lake frontage” means that portion of a lot that is adjacent to the legal bank of Pigeon Lake.
- (m) “Lakeshore Development Area” means the lands contained within the mapped area of the municipality that are 800 metres from the legal bank of Pigeon Lake

as determined by a surveyor. All land-uses in the Lake Development Area are prohibited or regulated and controlled by Lake Development Provisions which are in addition to those provided in other land use districts.

- (n) “legal bank” means the bank of a water body as determined by a surveyor in accordance with the *Surveys Act*, R.S.A. 2000, c. S-40.
- (o) “low impact development strategies and technologies” mean those strategies and technologies recommended by a qualified expert for use in Pigeon Lake climatic conditions in accordance with the Water Balance Model or other LID storm drainage on-site management system. Without restricting the generality of the foregoing, these strategies and technologies include but are not limited to:
 - (i) bio-retention systems;
 - (ii) filtering technologies;
 - (iii) permeable pavements;
 - (iv) rainwater harvesting;
 - (v) absorbent vegetation or rain gardens;
 - (vi) soil amendments for storm drainage retention on-site;
 - (vii) site design for storm drainage retention on-site.
- (p) “master drainage plan” means the municipal master drainage plan created by a qualified expert. The master drainage plan manages the planning and operations of the municipal storm drainage system, and must
 - (i) consider functional stormwater management areas;
 - (ii) identify local environmental resources;
 - (iii) identify control levels for stormwater best management practices (BMPs);
 - (iv) identify BMPs; and
 - (v) must include low impact development strategies and technologies that are scientifically proven for local landscape and climate conditions.
- (q) “natural environment features” means and includes significant ravines, valleys, stream corridors, riparian lands, lakeshores, wetlands and any other unique landscape feature, lands that are prone to flooding, erosion, landslides, subsidence or wildfire, and areas of significant fish, wildlife, and plant habitat. (ALUP).
- (r) “oil and gas well” means an orifice in the ground completed or being drilled
 - (i) for the production of oil or gas,
 - (ii) for injection to an underground formation,
 - (iii) as an evaluation well or test hole, or
 - (iv) to or at a depth of more than 150 metres, for any purpose,but does not include one to discover or evaluate a solid inorganic mineral and that does not or will not penetrate a stratum capable of containing a pool or oil sands deposit. (OGCA)
- (s) “peatlands” wetlands that are characterized by an accumulation of peat (partially decomposed plant material). Peatlands include both bogs and fens.
- (t) “permeable surface” means and includes any land or building surface that does not create a physical barrier to water penetration into that surface.
- (u) “pollution” means point and non-point source impacts on the environment from substances such as sediments, nutrients, pesticides and toxic chemicals that

- typically reach a watercourse or water body by surface or subsurface flows through adjacent lands, and the unauthorized release of any “deleterious substance” as defined in the *Fisheries Act (Canada)* or the unauthorized “release” of any “substance” whether non-point or otherwise that may cause an “adverse effect” under provisions of the *Environmental Protection and Enhancement Act*.
- (v) “qualified wetland aquatic environment specialist” (QWAES) means an expert with detailed knowledge of the aquatic environment, wetland soils, wetland species, hydrology, the riparian lands adjacent to wetlands that perform as habitat, and management and assessment of wetlands and riparian lands.
 - (w) “qualified expert” means a certified expert with training and certification through a professional organization in a particular field of scientific study, and includes but is not limited to members of APEGA.
 - (x) “recreational vehicle” means a mobile unit that is designed to be used as temporary living or sleeping accommodation, and includes but is not limited to holiday trailers, tent trailers, truck campers, vans, and motor homes, but does not include mobile homes.
 - (y) “riparian land” means the transitional areas between upland and aquatic ecosystems. They have variable width and extent above and below ground and perform various functions. These lands are influenced by and exert an influence on associated water bodies, including alluvial aquifers and floodplains. Riparian lands usually have soil, biological, and other physical characteristics that reflect the influence of water and hydrological processes. (AWC)
 - (z) “site coverage” means and includes all development and buildings that replace natural soils and vegetation with impermeable surfaces. (For example a paved driveway or patio is included in calculation of site coverage, while a gravel driveway or grass patio is not.)
 - (aa) “storm drainage system” means any system for collecting, storing and disposing of storm drainage, and includes
 - (i) the sewers and pumping stations that make up the storm drainage collection system,
 - (ii) the storm drainage storage, management and treatment facilities that buffer the effects of the peak runoff or improve the quality of the storm water,
 - (iii) the sewers and pumping stations that transport storm drainage to the location where it is treated or disposed of, and
 - (iv) the storm drainage outfall structures. (EPEA)
 - (bb) “stormwater site implementation plan” (the SSIP) means the plan prepared by a qualified expert for a specific development area. The SSIP must include:
 - (i) a detailed design of BMPs;
 - (ii) approvals obtained for BMPs;
 - (iii) mitigative measures established for environmental protection;
 - (iv) a plan for construction of stormwater control facilities; and
 - (v) low impact development strategies and technologies as provided in the Master Drainage Plan.
 - (cc) “timber” means all trees living or dead, of any size or species and whether standing, fallen, cut or extracted. (FA) (dd) “water body” means any location where water flows or is present, whether or not it is continuous, intermittent, or

occurs only during a flood, including but not limited to wetlands and aquifers.
(WA)

- (ee) “water resources” means and includes lakes, river, and streams, their beds and shores, wetlands, groundwater, reservoirs, and canals. Without restricting the generality of the foregoing, water resources include
 - (i) water bodies;
 - (ii) watercourses;
 - (iii) alluvial aquifers;
 - (iv) springs; and
 - (v) groundwater seeps. (LUP)
- (ff) “watercourse” means
 - (i) the bed and shore of a river, stream, lake, creek, lagoon, swamp, marsh or other natural body of water, or
 - (ii) a canal, ditch, reservoir or other man-made surface feature whether it contains or conveys water continuously or intermittently.
(EPEA)
- (gg) “watershed” means the area of land that catches precipitation and drains into a larger water body such as a marsh, wetland, stream, river or lake.
- (hh) “wetland” means land having water at, near, or above the and surface or which is saturated with water long enough to promote wetland or aquatic processes as indicated by poorly drained (hydric) soils, hydrophytic vegetation, and various kinds of biological activity that are adapted to the wet environment.

Section 3 Lakeshore Environmental Development Provisions

3.1 Purpose of Lakeshore Environmental Development Provisions

The purpose of the Lakeshore Environmental Development Provisions is to regulate and control land use and buildings on riparian lands and uplands within 800 metres of the legal bank of Pigeon Lake in order to maintain ecological infrastructure required to prevent pollution and provide public access to the bed and shore.

The municipality is responsible for ensuring that subdivision, development and buildings on private lands in the Pigeon Lake watershed do not pollute the lake water and cause blue-green algae blooms that affect health and safety, the local economy, and quality of life. While the municipality must consider the protection of agricultural operations when preparing a land use bylaw, the municipality must also maintain and enhance natural ecological infrastructure (wetlands, riparian and lakeshore systems in the watershed) that absorb and filter nutrients; prevent water pollution; and mitigate negative impacts of land use in the overall greater public interest. As agricultural operations may introduce phosphorus and other nutrients, chemicals, and nutrient-rich sediment to the lake, these operations are an example of a land use not suitable within 800 metres of the legal bank of Pigeon Lake.

When 800 metres from the legal bank is included in a parcel of land subject to a major subdivision and development proposal, the entire proposal must be regulated and controlled in accordance with these provisions.

The primary development strategies to manage nutrient loading in the lake and prevent further pollution and degradation of water quality require (1) minimization of impermeable surfaces, like roof tops, patios, decks and pavement that cause increased volumes and rates of storm drainage flow; and (2) minimization of stripping and grading, and removal of natural vegetation. The Lakeshore Environmental Development Provisions promote low impact development techniques and strategies, and management of storm drainage on site through re-introduction of permeable surfaces.

3.2 Compliance with Provincial and Federal Laws and Regulations

The Province of Alberta owns the beds and shores of all permanent and naturally occurring water bodies in Alberta. An applicant for a subdivision approval or development permit that may allow a development or building to encroach on the bed and shore of Pigeon Lake, or impact water quality in such a way that is harmful to fish or migratory bird habitat, or interferes with the access or navigability of Pigeon Lake must provide proof of provincial and federal approval required before the municipality will consider the application complete.

3.3 General provisions in Lakeshore Environmental Development Area

- 3.3.1 The municipality will identify and map all significant natural environment features, water resources, and reserve lands located within the Pigeon Lake watershed through a Biophysical Inventory and Assessment conducted by a qualified expert. An inventory and assessment of such natural environment features, water resources, and reserve lands will be kept current.
- 3.3.2 In consultation with local stakeholders and provincial authorities, the municipality will participate the development and implementation of a Pigeon Lake watershed management plan for the natural environment features, water resources, and reserve lands identified and mapped in accordance with subsection 3.3.1.
- 3.3.3 Without restricting the generality of subsection 3.3.1 the municipality will identify and map all lands in the municipality located within 800 metres of the legal bank of Pigeon Lake.
- 3.3.4 In consultation with provincial authorities, the municipality will establish appropriate environmental reserve locations where the municipality may develop community access points, community beaches, and community docks and boat lifts that will enable the phasing out of private access, beaches, docks and boat lifts when private lands are subdivided in the future.

- 3.3.5 In consultation with provincial authorities, the municipality will apply for approvals or permits to allow dredging or shoreline erosion control on the bed and shore adjacent to private or municipal lands within the municipality. No private landowner or developer will be permitted to dredge or erect shoreline erosion controls on private lands adjacent to, or on the bed and shore of Pigeon Lake within the municipality.

3.4 Restricted uses in Lakeshore Environmental Development Area

- 3.4.1 To prevent pollution of Pigeon Lake by phosphorus and other nutrients, chemicals, and nutrient-rich sediment, the following land uses are not permitted within 800 metres of the legal bank:
- (a) oil and gas wells,
 - (b) agricultural operations,
 - (c) confined feeding operations,
 - (d) aggregate mining, and
 - (e) commercial timber harvesting.
- 3.4.2 Existing approved and regulated oil and gas wells, agricultural operations, confined feeding operations, aggregate mining, and commercial timber harvesting located within 800 metres of the legal bank of Pigeon Lake are non-conforming uses (section 643 MGA) that the municipality will work with the Province to phase out over time.
- 3.4.3 Notwithstanding other provisions in this bylaw, no stripping, grading, placing or removal of fill of any kind whether originating on the site or elsewhere, shall be permitted on or within identified natural environment features, water resources or reserves in the Pigeon Lake watershed or on or within 800 metres of the legal bank of Pigeon Lake.
- 3.4.4 Storage of any deleterious substance as defined in the *Fisheries Act (Canada)* and the *Environmental Protection and Enhancement Act* or any substance that may cause pollution is prohibited on or within identified natural environment features, water resources, or reserves in the Pigeon Lake watershed, or on or within 800 metres of the legal bank of Pigeon Lake.
- 3.4.5 Aggregate mining is not permitted on or within identified natural environmental features, water resources or their floodplains, or reserves within 800 metres of the legal bank of Pigeon Lake.

3.5 Special planning study requirements in Lakeshore Environmental Development Area

3.5.1 Municipal Environmental Impact Statement

A Municipal Environmental Impact Statement (MEIS) prepared by a qualified expert shall be required as part of an application for subdivision of land, development, or redevelopment of lands within 800 metres of the legal bank of Pigeon Lake, and within 100 metres of identified natural

environment features, water resources, or reserves located in the Pigeon Lake watershed.

3.5.2 Construction Management Plan

A construction management plan prepared by a qualified expert shall be required as part of an application for all subdivision of land, development, or redevelopment within 800 metres of the legal bank of Pigeon Lake and within 100 metres of identified natural environment features, water resources, or reserves located in the Pigeon Lake watershed.

3.5.3 Stormwater Site Implementation Plan (SSIP)

A SSIP, prepared by a qualified expert shall be required as part of an application for subdivision of land, development or redevelopment within 800 metres of the legal bank of Pigeon Lake and within 100 metres of identified natural environment features, water resources, or reserves located in the Pigeon Lake watershed not currently serviced under a Master Drainage Plan. A SSIP must be aligned and consistent with any Master Drainage Plan for the municipality as amended from time to time.

3.5.4 The Development Authority may require additional information, studies and plans be submitted as part of a development permit application in accordance with other sections or provisions in this Bylaw.

3.5.5 Every application for a Development Permit in respect of a dwelling shall contain a detailed proposal as to how the dwelling is to be provided with a supply of potable water, and no dwelling shall be permitted unless the same shall have a supply of potable water.

3.5.6 When the Development Authority receives an application for a development permit for a land use or building in the Lakeshore Development Area he or she shall ensure that the applicant for a development permit is provided with best management practices documents that the Development Authority deems advisable to help the applicant understand that management of nutrient-loading and pollution of Pigeon Lake is a shared municipal and riparian land owner's responsibility. For example, an electronic or hard copy of *On the Living Edge: Your Handbook for Waterfront Living* may be provided.

3.6 Requirements for Development Permit in Lakeshore Environmental Development Area

3.6.1 All new development and buildings, and all re-development and maintenance of existing buildings in the Lakeshore Environmental Development Area requires a development permit.

3.6.2 Notwithstanding clause 3.6.1, the following land uses and buildings do not require a development permit:

- (a) the completion and use of a development which was lawfully under construction at the time this Bylaw comes into effect,
- (b) the continuation of a lawful use of building or land which was in effect at the date this comes into effect,
- (c) routine maintenance to any previously approved building or public utility,
- (d) a temporary building, the sole purpose of which is incidental to the erection or alteration of a building for which a permit has been issued under this Bylaw, which temporary building shall be removed within thirty (30) days of the completion of construction as authorized by the development permit,
- (e) landscape maintenance that does not alter existing lot grades or result in any increases in the volume and rate of flow of storm drainage from the lot and does not import or export more than 10 cubic metres of soil, and that does not remove natural vegetation or changes the percent lot coverage of impermeable surfaces or results in the construction of retaining walls
- (f) public utility work in, on, or under a road or lane,
- (g) a garden or rain garden not to exceed 30 square metres and complying with the building development setback requirements set out in this Bylaw; and
- (h) a storage shed (one per lot) not to exceed 15 square metres and complying with the building development setback requirements set out in this Bylaw.

3.6.3 A site plan, to the scale and in a form and standard to the satisfaction of the Development Authority shall be provided at the time of application for development permit and shall include the following information as required:

- (a) the location of the legal bank of Pigeon Lake;
- (b) the location of the existing water edge of Pigeon Lake;
- (c) the location and dimension of existing natural vegetation;
- (d) the change in existing to proposed grades and resulting changes to drainage patterns
- (e) the location and dimension of proposed removal or impacted indigenous vegetation;
- (f) the location and dimensions of all required yards;
- (g) the location and horizontal dimensions of all buildings and other improvements located or proposed to be located on the site;
- (h) the location and horizontal dimensions of all roof overhangs, balconies, decks, patios and other projections from buildings located and proposed to be located on the site;
- (i) calculations of site coverage;
- (j) parking areas, driveways and the location of all proposed accesses on to public roads.
- (k) the locations of all municipal services to and within the site;
- (l) details as to the landscaping proposed for the site;
- (m) a construction management plan; and
- (n) a stormwater site implementation plan.

3.7 Compatibility with Community Standards in Lakeshore Environmental Development Area

The Development Authority may, as a condition of issuing a development permit, require changes in the placement of buildings, site design, building appearance and placement on a lot to ensure that it is compatible with the surrounding buildings and the accepted community standards.

3.8 Building Development Setbacks (MGA Section 640(4)(l) in Lakeshore Environmental Development Area

- 3.8.1 At the discretion of the Development Authority, an applicant for a development permit may be required to determine the 1:100 year flood risk area in riparian lands adjacent to water bodies, watercourses and Pigeon Lake including any ice flood risk areas.
- 3.8.2 The Development Authority shall not approve permanent buildings within the 1:100 year flood risk area of water resources or Pigeon Lake. If a qualified expert determines that ice flows exceed the 1:100 year flood risk area, then the Development Authority shall not approve permanent buildings within the identified ice flood risk area.
- 3.8.3 The minimum building development setback from Pigeon Lake shall include all land within 20 meters of the legal bank of Pigeon Lake. If the Development Authority is of the opinion that an environmental impact assessment must be conducted by a qualified expert, and the assessment indicates that a greater building development setback is required from the legal bank of Pigeon Lake to prevent pollution caused by nutrient loading, the Development Authority shall require it.
- 3.8.4 The minimum building development setback from all other mapped and inventoried water resources in the Lakeshore Environmental Development Area is 20 metres- If the Development Authority is of the opinion that an environmental impact assessment must be conducted by a qualified expert, and the assessment indicates that a greater building development setback is required from other mapped and inventoried water resources in the Lakeshore Environmental Development Area to prevent pollution caused by nutrient loading, the Development Authority shall require it.
- 3.8.5 The minimum building development setback area from mapped and inventoried natural environment resources shall be 10 metres. If the Development Authority is of the opinion that an environmental impact assessment must be conducted by a qualified expert, and the assessment indicates that a greater building development setback is required from other mapped and inventoried natural environment resources in the Lakeshore Environmental Development Area to prevent pollution caused by nutrient loading, the Development Authority shall require it.

- 3.8.6 The following land uses and buildings are prohibited in the building development setback area:
- New dwellings
 - New mobile homes and manufactured homes
 - New garages
 - New accessory buildings including but not limited to guest houses
 - New commercial buildings
 - New boathouses
 - New driveways
 - New paved surfaces
 - New hot-tubs and swimming pools
 - Storage of vehicles, including recreational vehicles
 - Stockpiling of clay, marl, sand, gravel and other rock products
 - Stripping and grading of land
 - Cutting and removal of natural vegetation and timber
 - New retaining walls

3.9 Restrictions on Use and Buildings in Lakeshore Environmental Development Area

- 3.9.1 Private development and buildings that encroach on the legal bank or bed and shore or water of Pigeon Lake are not permitted.
- 3.9.2 On municipal reserves, municipalities may, with provincial approvals, develop community access, beaches, docks, and, shoreline erosion controls.
- 3.9.3 Development and buildings that encroach on the legal bank or bed and shore or water of Pigeon Lake require provincial or federal approvals, and an application for a development permit shall not be complete unless required approvals are attached to the application.
- 3.9.4 Outhouses shall not be permitted within the municipality unless they are equipped with holding tanks.
- 3.9.5 Retaining walls shall not be permitted within 3 metres of the legal bank of Pigeon Lake.
- 3.9.6 Any erosion protection on the shoreline is limited to only a single layer of local rocks, which cannot be used as a retaining wall.
- 3.9.7 Private landowners shall not be permitted to stockpile or excavate any soils, gravel, clay, marl or any rock product unless a temporary permit with conditions for restoration has been issued by the Development Authority.

3.10 Permitted Uses and Buildings in Lakeshore Environmental Development Area

- Existing dwellings
- Existing accessory buildings, including but not limited to guest houses
- Existing mobile homes and manufactured homes
- Existing pathways
- Existing roads
- Existing aggregate extraction operations
- Existing oil and gas wells
- Existing agricultural operations
- Existing commercial timber harvesting operations
- Natural areas
- Public parks

3.11 Discretionary Uses and Buildings in Lakeshore Environmental Development Area

- Maintenance of existing buildings pursuant to subsection 3.6.2(c)
- Temporary stockpiling of soils, clay, marl, sand or gravel
- Temporary storage of recreational vehicles
- Temporary storage of rock products pursuant to subsection 3.10.5
- Landscaping
- Front yard rain gardens
- Low impact development techniques and strategies
- Rear yard vegetable gardens (less than 3 metres x 3 metres)
- Community parks and recreation facilities
- Community beaches
- Community docks and boat lifts.

3.12 Lot Size and Site Coverage in Lakeshore Development Area

3.12.1 The maximum combined site coverage of all buildings shall not exceed 40% of the lot area. For the purpose of this clause, buildings include but are not limited to all dwellings, guest houses, accessory buildings, boat houses, storage sheds, stand-alone garages, patios and decks, and all impermeable surfaces such as driveways and paved surface areas.

3.12.2 No less than 25% of the total lot area shall be covered with trees and natural vegetation. If the lot has been developed, when an application is made for re-development, the applicant must provide the Development Authority with a site plan for restoration of trees and natural vegetation to achieve the 25% goal.

3.12.3 Within the building development setback area adjacent to Pigeon Lake pursuant to section 3.8 of this Bylaw, an applicant for development or redevelopment shall naturalize the first 10 metres from the legal bank of Pigeon Lake to provide natural filtering and buffer.

3.12.4 When approving lot sizes in a new subdivision or development, the Development Authority may require the developer or lot owner, as the

case may be, to create lots of a specified minimum size to achieve the required percentage of impervious to pervious surfaces.

3.13 Site Drainage and Rainwater Harvesting in Lakeshore Environmental Development Area

- 3.13.1 Building site areas with surface groundwater table of less than 2 metres in depth shall require special considerations such as restrictions on basements as per the discretion for the development officer.
- 3.13.2 Site grading that alters or impacts natural drainage patterns or affects an adjacent property or municipal roadway shall not be permitted.
- 3.13.3 No land shall be stripped and graded or raised or filled unless a development permit has been issued.
- 3.13.4 An application for a development permit to construct a building shall contain a grading and site specific storm drainage management plan to the satisfaction of the Development Authority that includes low impact development strategies and techniques and requires removal of all excavated soils and materials from the site.
- 3.13.5 Rainwater and snowmelt runoff that exceeds pre-construction volumes and as determined by a qualified expert shall be retained on site through low impact development strategies and techniques.
- 3.13.6 Rainwater and snowmelt runoff shall not be diverted from one property to an adjacent lot unless a site specific storm drainage management plan has been approved by the Development Authority and the adjacent lot owner to allow for such diversion.
- 3.13.7 A private driveway shall not be constructed to interfere with the natural drainage of water, and if a driveway is constructed across a drainage ditch a culvert must be installed to the satisfaction of the Development Authority.
- 3.13.8 Rainwater harvesting is encouraged.
- 3.13.9 Rain gardens are encouraged. A lot owner may apply to develop one or more front yard rain gardens of a maximum size of 3 metres by 3 metres to allow rain and snowmelt to infiltrate the soils for irrigation purposes. Rain gardens shall be constructed and maintained in accordance with best management practice for rain gardens, and plant materials used in rain gardens shall not include invasive or exotic ornamental species.

3.14 Landscaping and Construction Management in Lakeshore Environmental Development Area

- 3.14.1 All applications for development permits in the Lakeshore Environmental Development Area shall include a construction management plan to the satisfaction of the Development Authority.
- 3.14.2 A construction management plan shall include strategies and technologies to:
- manage storage of construction vehicles and materials;
 - retain native vegetation including grasses, shrubs and timber;
 - retain topsoils removed during development and construction;
 - control dust and noise;
 - control mud on public roads;
 - control run-off and storm drainage on-site;
 - control sediment on-site; and
 - ensure that nutrient-rich sediment, run-off and storm drainage controlled on-site and is only disposed of after treatment.
- 3.14.3 Post-construction local topsoil and indigenous plant material shall be applied to any land that is required to be landscaped in accordance with a development permit.
- 3.14.4 Private landowners with developments or buildings within 100 metres of the legal bank of Pigeon Lake shall be required to manage their lots to prevent degradation of water quality in the lake by:
- (a) retaining indigenous vegetation, including grasses, shrubs and timber that do not require irrigation;
 - (b) controlling invasive species;
 - (c) installing and maintaining low impact development strategies and technologies;
 - (d) installing or maintaining rain gardens and absorbent landscaping materials; and
 - (e) adhering to municipal bylaws, guidelines and best management practices with respect to applications of fertilizers and pesticides.

3.15 Private Wastewater Treatment and Storage

- 3.15.1 Wastewater from a dwelling shall be collected in a holding tank until it is pumped out and hauled away for disposal in a manner acceptable to the provincial authorities under current provincial laws, regulations, codes of practice and guidelines.
- 3.15.2 Any private wastewater septic system in existence on the date when this Bylaw comes into force shall be maintained by the landowner on an annual basis. If the Development Authority requests proof of annual maintenance, the landowner shall provide such proof.
- 3.15.3 No new outhouse shall be constructed within the municipality.
- 3.15.4 At the request of the Development Authority, the landowner shall be required to provide information about the private wastewater system serving a dwelling within the Lakeshore Development Area. If the

Development Authority has no information about the private wastewater system serving a dwelling, and no request has been made pursuant to this clause to obtain information, that lack of information shall be recorded on any Letter of Compliance issued by the Development.

Section 4 Use and Development in Riparian Lands and Wetlands

4.01 General Provisions

- (a) All wetlands in the Pigeon Lake watershed, identified and mapped in accordance with Policy of the Municipal Development Plan shall be classified in accordance with the “Stewart and Kantrud Wetland Classification System” or a provincially acceptable alternative wetland classification system.
- (b) Wetlands of Class III or greater within the Pigeon Lake watershed shall be preserved in their natural state.
- (c) Avoidance of all classifications of wetlands during the process of subdivision and development shall be encouraged as the primary municipal wetland conservation objective.
- (d) Notwithstanding subsection 4.01, wetlands of all classifications within 800 metres of the legal bank of Pigeon Lake shall be preserved in their natural state.
- (e) Except where authorized by the federal or provincial government, aggregate mining, excavation or filling in of identified natural environment features, water resources and their floodplains, and reserve lands in the Pigeon Lake watershed is prohibited.
- (f) Without restricting the generality of subsection 4.01(e), aggregate mining, excavations or filling in of all wetlands of all classifications and their associated riparian lands within 800 metres of the legal bank of Pigeon Lake is prohibited.
- (g) Naturally occurring wetlands of all classifications in the Pigeon Lake watershed shall be not used as storm drainage catchment basins for untreated storm drainage or untreated agricultural runoff or industrial runoff.

4.02 Permitted uses in riparian lands:

The following uses are permitted in riparian lands:

- existing uses and buildings
- existing agricultural operations;
- existing oil and gas wells;
- existing parks and playgrounds;
- existing recreational facilities and associated surface parking areas;

- existing public and quasi-public utility installations and facilities;
- existing roads;
- natural areas; and
- pathways.

4.03 All existing land uses and buildings permitted in riparian lands pursuant to subsection 4.02 of this Bylaw are non-conforming uses that the municipality intends to phase out over time.

4.04 Discretionary uses in riparian lands

The following land uses may be permitted in riparian lands, with or without conditions, at the discretion of the Development Authority:

- roads;
- community access, beaches, docks and boat lifts; and
- public parks.

4.05 Except for renovations and maintenance to buildings listed as permitted uses in subsection 4.02 of this Bylaw, and roads, community beaches, docks and boat lifts and public parks in subsection 4.04 of this Bylaw, no new development is permitted in riparian lands.

4.06 If development occurs in riparian lands in accordance with subsection 4.05 of this Bylaw the developer shall be required to avoid riparian lands wherever possible, to mitigate impacts on riparian lands when avoidance is not possible, and when avoidance and mitigation are not possible to construct an equivalent riparian facility in the Pigeon Lake watershed to replace the riparian land that was destroyed through development. The Development Authority will ensure that the policy of “no net loss” is adhered to for all development occurring in riparian lands.

4.07 Permitted uses in wetlands

The following uses are permitted in wetlands:

- existing uses, buildings, and structures;
- existing agricultural operations;
- existing oil and gas wells
- existing parks and playgrounds;
- existing public and quasi-public utility installations and facilities;
- existing roads and pathways; and
- natural areas.

4.08 Discretionary uses in wetlands:

The following land uses may be permitted in wetlands, with or without conditions, at the discretion of the Development Authority:

- roads;
- public parks.

4.09 Except for renovations and repairs to existing buildings listed as permitted uses in subsection 4.07 of this Bylaw, or roads and public parks in subsection 4.08 of this Bylaw no development is permitted in wetlands.

4.10 If development occurs in a wetland in accordance with subsection 4.09 of this Bylaw, the developer shall be required to avoid wetlands wherever possible. Only if a qualified expert can prove that avoidance or mitigation of impacts on wetlands is not possible, then the developer will be required to construct an equivalent wetland facility of the same size and classification in the Pigeon Lake watershed to replace the wetland that was destroyed through development. The Development Authority will ensure that the policy of “no net loss” is adhered to for all developments occurring in wetlands.

Section 5 Use and Development of Reserve Lands

5.01 The municipality’s development and use of reserve lands in the Pigeon Lake Watershed shall be in accordance with this section.

5.02 The municipality is the owner, and has direction, control and management of reserve lands in the municipality, except registered environmental reserve easements in which case the municipality has a registered interest in the environmental reserve easement.

5.03 A person who has an environmental reserve easement registered on the title to his property shall preserve the lands in their natural state.

5.04 The municipality shall enforce all environmental reserve easements.

5.05 No person shall operate an off highway vehicle on reserve lands, unless authorized by the municipality.

5.06 No person shall mow or cut or remove natural vegetation or timber from reserve lands unless authorized by the municipality and the municipality has issued a building development permit.

5.07 No person shall plant any form of vegetation or timber on reserve lands unless authorized by the municipality and the municipality has issued a building development permit.

5.08 No person shall apply pesticides or fertilizers on reserve lands unless authorized by the municipality.

- 5.09 No person shall develop land or buildings on reserve lands unless authorized by the municipality and the municipality has issued a development permit.
- 5.10 At the discretion of the Development Authority, a person may use reserve lands for designated day use or authorized camping purposes only, and a commercial use permit or non-profit group use permit shall be obtained for any commercial activity or non-profit group activity on reserve lands.
- 5.11 A person who uses or develops reserve land in the municipality without prior authorization or permit from the Development Authority, or the school authority if the reserve land is a municipal and school reserve, commits an act of trespass that is an offence subject to orders and penalties under the provisions of this Bylaw.

5.12 Permitted Uses of Environmental Reserves

Environmental reserves shall be retained in their natural state. The only permitted use of environmental reserves is natural areas.

5.13 Discretionary Uses of Environmental Reserves

The following uses may be permitted on environmental reserve lands in accordance with the *Municipal Government Act*:

- public parks;
- public and quasi-public utility installations and facilities;
- roads and pathways.

- 5.14 When environmental reserve lands are to be used as public parks, public and quasi-public utility installations and facilities or roads and pathways, the municipality shall ensure that as much as possible of the natural environment features and indigenous vegetation, including native grasses and timber are maintained during development.

5.15 Permitted Uses of Municipal, or Municipal and School Reserve Lands

The following uses are permitted on municipal, or municipal and school reserve lands:

- public parks;
- public recreation areas;
- school authority purposes;
- to separate areas of land that are used for different purposes; and
- natural areas.

- 5.16 When municipal and municipal and school reserve lands are to be used as public parks, public recreation areas, and school authority purposes, the municipality shall ensure that as much as possible of the natural environment features and indigenous vegetation, including indigenous grasses and timber are maintained during development.

5.17 Compliance and Enforcement of Reserve Land Provisions

Where the Development Authority discovers that a development or use of reserve lands is not in accordance with this section, the Development Authority may, by notice in writing, order the person or persons responsible for the contravention to:

- (a) stop the development or use of the land in whole or in part as directed by the notice;
- (b) demolish, remove, or replace the development and restore the natural environment features of the lands; and
- (c) take such other measures as are specified in the notice so that the development or use of the lands is in accordance with the Act, the regulations, a development permit, a commercial use permit, a non-profit group use permit, a subdivision approval, or this Bylaw, as the case may be.

- 5.18 Where a person fails or refuses to comply with an order directed to him under subsection 5.18 of this Bylaw or an order of the Subdivision and Development Appeal Board within the time specified, the Development Authority may, in accordance with the Act, enter upon the private land and take such action there as is necessary to carry out the order.
- 5.19 Where the Development Authority carries out an order pursuant to subsection 4.18, the Council shall cause the costs and expenses incurred in carrying out the order to be placed on the tax roll as an additional tax against the adjacent property concerned and that amount shall be collected in the same manner as taxes on the land.
- 5.20 A person who contravenes any provision in this section of this Bylaw either by doing something which he is prohibited from doing or failing to do something which he is required to do is guilty of an offence and is liable on summary conviction to a fine not exceeding \$10,000.00, exclusive of costs; and/or to reserve land restoration works or other environmental or habitat protection activities as determined by a Court by way of creative sentencing; or, in default of payment of the fine and costs of the committal, or in default of such site restoration works or other activities as determined by a Court, to imprisonment for a period not exceeding six months or until such fine and costs are sooner paid or such restoration works or other ordered activities are sooner completed.

Section 6 Storage of Materials that Constitute a Pollution Hazard or Nuisance

- 6.01 Garbage shall be stored in weather proof and animal proof containers and shall be placed inside or adjacent to the property line in a location easily accessible for pickup.
- 6.02 Outside storage areas shall be screened from adjacent sites and roads to the satisfaction of the Development Authority.
- 6.03 No person shall store or permit storage of the following items in the Lakeshore Development Area:
 - (a) any dismantled or wrecked or unlicensed vehicle for more than fourteen successive days;

- (b) any vehicle weighing in excess of 4500 kg gross vehicle weight for longer than is reasonably necessary to load or unload such a vehicle unless the owner is a permanent resident with a valid road use permit;
- (c) any object or chattel which, in the opinion of the Development Authority, is unsightly or tends to adversely affect the amenities of the district,
- (d) any excavation, storage or accumulation of materials required during construction unless all necessary safety measures are undertaken, and any such excavation, storage or accumulation of materials shall persist no longer than reasonably necessary to complete construction; or
- (e) any material that constitutes a danger or nuisance to persons on the site, on public property, or on any other sites, by reason of the generation of noise, radiation hazards, vibration, fire and explosive hazards, dust and other particulate matter, heat, humidity, glare, smoke, waste matter, toxic and noxious matter, traffic, or steam.

PART 5

5.0 RESOURCES

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PART 6

6.0 Appendices

6.01 Appendix 1 Federal and Provincial Legislation Affecting Lakeshores

Federal Legislation	Purpose or highlights
<i>The Fisheries Act (Canada), R.S.C. 1985 c.F-14.</i>	Defines “deleterious substances” and regulates activities that might result in the ‘harmful alteration, disruption or destruction of fish habitat.”
<i>Canada Shipping Act, 2001, 2001, c.26</i>	Regulates all aspects of recreational boating. Minister of Transport is responsible for administration of the Act.
<i>Migratory Birds Convention Act 1994, 1994, c.22</i>	Regulates activities that could harm migratory birds or their nests, and prohibits deposits of certain materials that might be harmful in water frequented by migratory birds.
<i>The Navigable Waters Protection Act, R.S.C. 1985 c.N-22</i>	Regulates uses and activities of water that may interfere with navigation on navigable waters.
<i>The Species at Risk Act, S.C. 2002, c.29</i>	Prohibits the destruction of critical habitat for species at risk. Provides stewardship opportunities of critical habitat. Prohibits killing, harming or harassing endangered species as defined.
<i>Canadian Environmental Assessment Act, 2012, SC 2012, c 19, s 52</i>	Requires assessment of projects that may impact species at risk, fisheries, migratory birds and federal lands, among other things. The federal law and provincial law requiring assessment can both apply on some landscapes and for some projects.
<i>The Canadian Ecological Gifts Program, Environment Canada</i>	A federal program to ensure that conservation easements can be registered on private lands with tax benefits accruing to the landowner registrant.
Provincial Legislation	Purpose or highlights
<i>Agricultural Operations Practices Act, RSA 2000, c A-7</i>	Defines an agricultural operation broadly. Regulates and controls confined feedlot operations and manure handling.
<i>Alberta Land Stewardship Act, S.A. 2009, c. A-26.8</i>	Provides legislation to support the Alberta <i>Land Use Framework</i> . Enables the creation of regional plans based on major watershed boundaries. Only one regional plan currently exists: LARP. Provides new tools such as conservation directives and offset schemes.
<i>Environmental Protection and Enhancement Act, R.S.A. 2000, c. E-12.</i>	Regulates municipal water, wastewater and storm drainage systems, groundwater wells, private wastewater systems, waste management, pesticides, etc. Provides for conservation easements. See also: Pesticide Sales, Handling, Use and Application Regulation, Alta. Reg. 24/1997 Environmental Protection and Enhancement Act - Code of Practice for Pesticides
<i>Fisheries (Alberta) Act, R.S.A. 2000, c.F-16.</i>	Enables Alberta to administer federal fisheries legislation in Alberta waters.
<i>Line Fence Act, R.S.A.</i>	Provides for regulation and control of fences that block public

2000, c.L-13.	access on trails, and a mechanism to resolve disputes and collect the costs of maintenance and repair of fences erected between adjoining livestock producers.
Land Titles Act, R.S.A. 2000, c.L-4.	Provides for boundary changes when the “natural boundary” changes through erosion or accretion of lands when the title to lands is a “natural boundary”. Public lands are excluded from titles. See Law of Property Act, R.S.A. 2000, c.L-7 that clarifies exclusion of public lands from title.
Municipal Government Act, R.S.A. 2000, c.M-26	Provides for municipal bylaw passing powers, (Part 1) municipal “direction, control and management of natural water bodies, (section 60), and Planning and Development of all private and municipal lands within municipal boundaries. (Part 17). The MGA provides enabling legislation for all municipal corporations. Also see the Safety Codes Act, R.S.A 2000, c. S-1. , which appends the Plumbing Code Regulation AR 119/2007 and the Alberta Building Code Regulation AR 111/2007. The Subdivision and Development Regulation, AR 43/2002 also affects development of private lands adjacent to the ROW. Also see municipal statutory plans, the Land Use Bylaw, and other municipal bylaws that prohibit, regulate or control activities.
Public Lands Act, R.S.A.	Regulates the use and development of all provincial public lands, including the beds and shores of all permanent and naturally occurring water bodies in Alberta.
Surveys Act, R.S.A. 2000, c.S-26.	The “ordinary high water mark” or legal bank establishes the delineation of bed and shore of permanent and naturally occurring water bodies owned by the Province. The legal bank is established by surveyors pursuant to the Act. Defines bed and shore for purpose of determining natural boundary.
Water Act, R.S.A. 2000, c.W-3.	Section 3: “The property in and the right to the diversion and use of all water in the Province is vested in Her Majesty in right of Alberta except as provided for in the regulations.” Diversion and use of water is regulated, and water management planning is a component of the legislation. Disturbance of water bodies (such as draining and filling) is an activity under the Act that requires an approval.
Weed Control Act, R.S.A. 2000, c.W-5.	Municipalities are delegated authority to pass local bylaws to control restricted noxious and, noxious weeds on municipal lands and on certain public lands such as highway corridors. Recently amended.
Wildlife Act, R.S.A. 2000 c.W-10.	Prohibits unauthorized activity on specified public or private land that could harm a nest or den of identified wildlife. Migratory birds identified for purpose of legislation.

Figure was adopted from a similar chart prepared by Aquality Environmental Consulting Ltd. based on information collected from many sources and provided by Judy Stewart when preparing the “Interim Wetland Policy Implementation Plan” for Strathmore, Alberta. Was improved for work on *Buffalo Lake Shoreland Management Plan Implementation Plan* and further amended for the Pigeon Lake Model land Use Bylaw project.

Also see: Watt D. and Jason Unger. 2008. *The Law and Policy Framework Operating in the Pigeon Lake Watershed*. Prepared for Pigeon Lake Watershed Association by the Environmental Law Centre. Edmonton, Alberta.

6.02 Appendix 2 Map: Pigeon Lake 800 Meter MLUB Setback

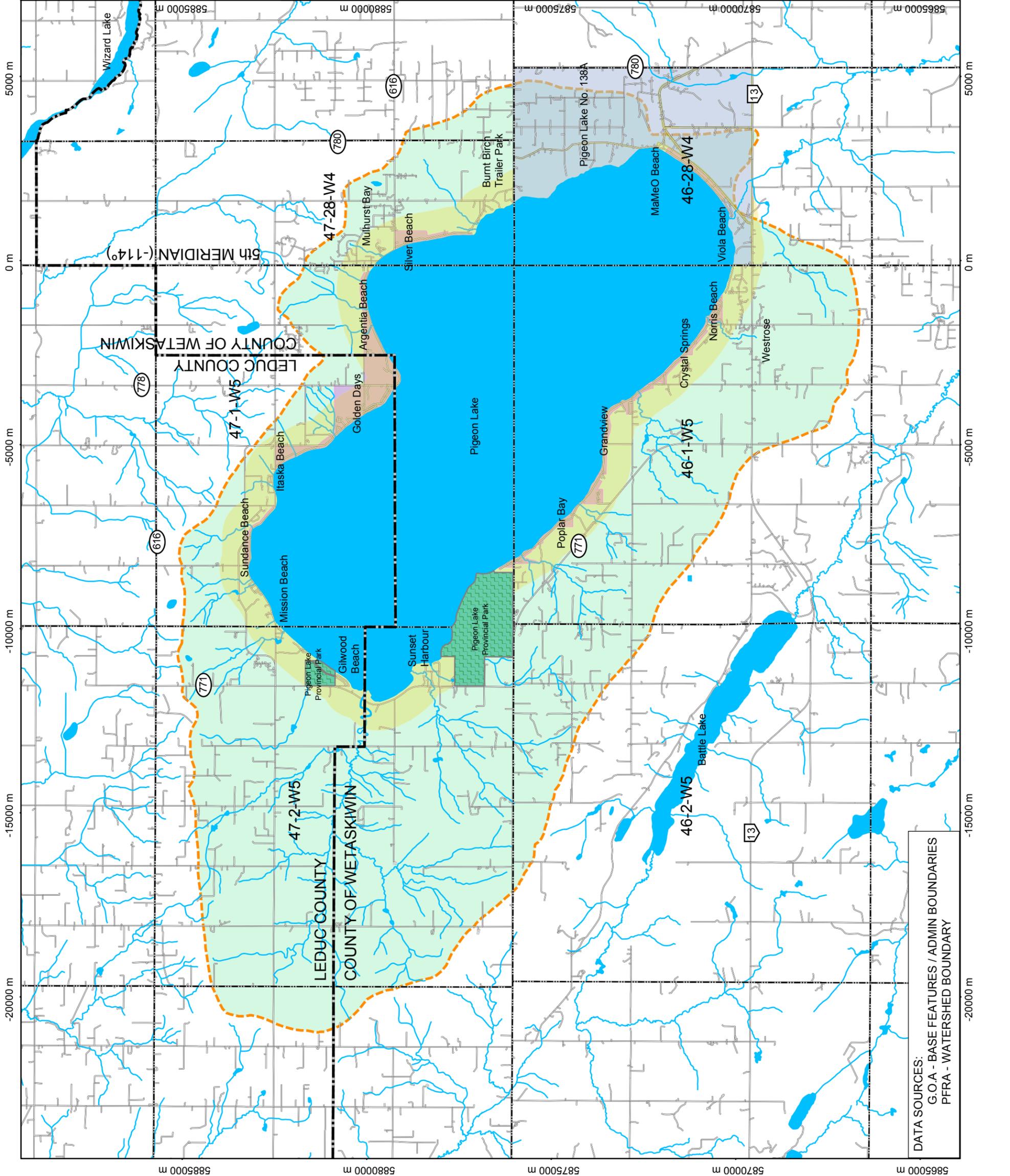


LEGEND

- PLWA-Watershed Boundary
- Provincial Park
- Municipal District and County
- Township
- Waterbody
- Stream and Flow
- 800m Buffer Zone
- First Nation
- Road
- Summer Village (Incorporated)
- Village

0 >1 km 3TM Projection

Figure: 1
PLANNING BUFFER (800m)
 (DRAFT)
 BENEFICIAL MANAGEMENT PRACTICES
 MAY, 2013
 PIGEON LAKE WATERSHED ASSOCIATION



DATA SOURCES:
 G.O.A - BASE FEATURES / ADMIN BOUNDARIES
 PFRA - WATERSHED BOUNDARY