

**Analysis
of the
Lacombe County Area Structure Plan for Sylvan Lake**



Sylvan Lake Watershed Stewardship Society

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Introduction

The following is a preliminary analysis of the Area Structure Plan (ASP 2010) for land that surrounds Sylvan Lake and is administered by Lacombe County.

Comments are compiled under categories that represent the priorities of the Sylvan Lake Watershed Stewardship Society (SLWSS) of its mission to protect Sylvan Lake.

In addition to these Society opinions, statements extracted from the ASP 2010 that relate directly to environmental protection concerns and practices are included. Those statements highlight the deficiencies of the Area Structure Plan document.

Opinions of the SLWSS on ASP 2010

1. Vision of the ASP 2010; Scale of the ASP 2010; Fear of ASP 2010 Impact; Lacombe County Stewardship

The SLWSS agrees that there is a fundamental need to avoid ecosystem damage.

The ASP 2010 provides promises but no assurance that the goal will be achieved. Where is the development and conservation plan that would assure the community that ecosystem damage risk will be avoided, including:

- A shift from the current mesotrophic state to a eutrophic state complete with blue green algae blooms.
- A lowering of lake levels due to aquifer depletion, and
- A loss of biodiversity caused by an increased human lake/shoreline footprint that reduces availability of currently functional habitat.

The ASP 2010 covers 7,509 hectares compared to the watershed area of 10,600 hectares. Note that some included agricultural land may lie outside the watershed perimeter.

The ASP 2010 makes provision for intrusion onto most of the remaining undeveloped land around Sylvan Lake. The ASP 2010 makes statutory law for development of the entire ASP 2010 area. If “staged growth” is core recommendation then the proposed rate of “stop-go” development will exceed the rate of cumulative pollution loading because natural contaminant transport processes are relatively slow. These can be predicted based on basis of “development footprints” so a simulation of development scenarios will increase confidence in outcomes.

The real starting point for this ASP 2010 is not new development in Phase 1, but the existing 238 lots already approved, and the additional 500 lot trailer park north of Sunbreaker Cove. Over 700 lots have been “staged”. The effect of those developments on the watershed should be evaluated before Phase 1 is started.

The ASP 2010 insults the public with the implication that legitimate concern is irrational (characterized as “fear”) about development on the scale of the ASP 2010 proposal. The onus lies with Lacombe County to prove that such concerns are unjustified. God did not create the Sylvan Lake watershed for Lacombe County developers to bulldoze.

In this regard the Lacombe County stewardship track record is unsatisfactory. For example, ten lots were approved in the middle of the west end fen wetland, an important ecological feature

where sub surface water enters the lake and pollutants could otherwise have been naturally processed. Lacombe County has demonstrated no understanding of stewardship principles or of critical lake features that help buffer against pollution.

The Province of Alberta has provided a new balanced context for development whereby all social, economic and environmental opportunity and risk are considered when reward is being pursued. The spirit and practice of the Alberta Land Stewardship Act is absent from the ASP 2010.

The ASP 2010 contains several statements that seek to revise, ignore or override environmental regulations of Canada and Alberta. It is simply not good enough to try hard to avoid damaging fish and wildfowl habitat. It is illegal to do so. The Council of Lacombe County cannot create new regulations or dismiss existing ones to facilitate concepts within the ASP 2010.

2. Water Quality and Risk

The ASP 2010 presents assurances that water quality will be protected by engineering practice.

Earnest statements support the questionable intent of Lacombe County to protect Sylvan Lake without a supporting financial guarantee that will cover the environmental liabilities created by its land use changes.

At stake is the potential collapse of residential and business property values and tourism revenues in the watershed if Sylvan Lake becomes contaminated. An appropriate financial bond is required to insure against the cumulative effects of the ASP 2010.

Lacombe County states that it will rely on Alberta Environment to monitor the lake. That agency no longer has resources to provide the level of service required to monitor the effects of the ASP 2010. AENV is an independent regulatory agency and should avoid conflict of interest by acting for a regional government.

Expert opinion suggests that once a lake converts from a mesotrophic to a eutrophic state then there are no scientific solutions for restoration. The ASP 2010 does not explain how contamination that originates within Lacombe County will be removed if detected, or at whose cost. That liability would be a direct consequence of the ASP 2010 for which the County would be responsible.

The standard of risk management in ASP 2010 is unacceptably weak.

3. Water Quantity and Risk

The ASP 2010 notes that water will be supplied from wells. No evidence is provided to demonstrate that the watershed aquifers can meet the implied demand (see Regional Wastewater Commission design assumptions of wastewater removal rates).

No discussion of drawdown of water inventory is included. A hydrogeological tool already exists and should be applied to investigate the unintended consequences of land use changes.

Either a freshwater pipeline in parallel with the regional wastewater pipeline, or infrastructure to re-infiltrate treated wastewater from Sylvan Lake lagoons back into watershed aquifers, is required to maintain the long term water balance in the watershed.

4. Municipal Government Act; Land Use Framework and Alberta Land Stewardship Act; Unintended Consequences

No reference is made in ASP 2010 to the principles embedded in the Alberta Land Stewardship Act (ALSA). The SLWSS recommends that the ASP 2010 should comply with the ALSA.

The SLWSS recommends that a comprehensive analysis of the watershed be completed using the ALCES Group to investigate the effect of implementation of the ASP 2010 and the sensitivity of the state of the watershed to the proposed land use changes.

Other Alberta watershed agencies have already applied that technology to support decision-making. Protection of the watershed requires the right tools for the job. Analyses which ensure that Lacombe Councillors are informed and competent to make strategic watershed decisions are a prerequisite to building and maintaining public confidence in any development plan.

5. Cumulative Effects Analysis

No reference is made in ASP 2010 to the principles embedded in the Alberta Land Stewardship Act.

No language in the ASP 2010 document indicates that effects (cumulative or otherwise) have been anticipated from other development approvals by the seven other lake municipalities in the Sylvan Lake watershed.

Discretionary marginal land use tradeoffs are discussed throughout ASP 2010 without a coherent enforceable conservation plan and cumulative effects tracking and evaluation to achieve the promised end result.

ASP 2010 assumes that there is pressure to improve public access. The SLWSS views initiatives to dramatically increase power boat density as threats to biodiversity, for example to loons, grebes, nesting and foraging eagles, shorebirds, waterfowl and more.

Increased public access may also cause public safety hazards. If Lacombe County is serious about the vision of protecting the Sylvan Lake beauty and uniqueness, then the SLWSS requires evidence about how specific elements of "beauty and uniqueness" will be protected. Otherwise we conclude that this statement is a platitude, rather than a serious vision. We expect a conservation action plan to show how increasing public access and natural assets will be balanced.

6. Governance; Intermunicipal Development Plan Cooperation; Infrastructure

The ASP 2010 does not explain how Lacombe County will legally cooperate with other Sylvan Lake municipal governments. That does not provide confidence in the future direction of watershed governance. By default, the Sylvan Lake Regional Water and Wastewater Commissions control financial affairs without environmental accountability. The SLWSS views those Commissions as providing premature support and endorsement of the ASP 2010. Cooperation that enables eligibility for Alberta infrastructure funding is all that is required by Lacombe County to facilitate the ASP 2010.

Some reference is made to consultation with the non-statutory Sylvan Lake Management Plan Committee (SLMPC). The SLMPC has been in existence for a decade, has a limited track record

of achievements, and at best offers a forum for discussion of issues. The SLWSS expects to see formal statutory cooperation among Sylvan Lake watershed governments with the force of an Intermunicipal Development Plan (IDP) with ALSA standards.

The tool used for clear “regional” planning to maintain lake water quality as suggested by Sustainable Resource Development Minister Knight is an IDP for now that rolls into a “Sylvan Watershed” sub regional plan under the new Red Deer River LUF Regional Plan.

There is plenty of debatable detail in the Lacombe County land use sections of the attached stripped-down ASP 2010, like setback distances around sensitive areas and the grudging acknowledgement that fish and wildfowl breeding areas are sort of off-limits. In most of those cases “the Council” is not competent to judge if it is or is not acceptable. The arbitrary plans for shoreline modification, public access areas including off the lake public access (which I take to be parking lots) are just that....arbitrary plans.

7. Transportation; Land and Water Based Traffic Impacts

Land based impacts

There is no Traffic Master Plan (TMP). The deliberate omission of a TMP within the ASP 2010 document occurs because there can be no actual planning for traffic without understanding the volume and pattern of traffic that will be contributed from surrounding municipalities. Remarkably, the ASP 2010 document “recommends” that a TMP be undertaken. Self-referential law making exposes the significant flaw in the plan. The document makes statutory law when convenient to its purpose but then neglects to make law when it is less convenient or impossible considering the circumstances.

The ASP 2010 does not anticipate or consider impacts caused by the cumulative traffic volumes because Lacombe County does not engage in collective planning with seven other municipal governments to control growth and development opportunities in the watershed. Such independent planning actions may lead to unintended cascading consequences that negatively affect the lake environment, the economic and social values provided by a healthy watershed.

The spirit and intent of the Alberta Land Stewardship Act is to direct and control local municipalities such that individual ad hoc decisions, that may appear justified or rational when viewed in isolation, do not produce results that make our communities worse off. If there is a poster-child for the need to fix this problem, Sylvan Lake would be it.

Incredibly, ASP 2010 Section 3.1.2 states "However, due to the existing development that has been approved adjacent to Range Road 2-4 and both the environmental and politically sensitive nature of the area, transportation connections in this area would not be justified."

We are only able to conclude that political sensitivity ranks above environmental sensitivity.

Water based impacts

The ASP 2010 ignores water born traffic – a by-product and predictable consequence of watershed development. Responsible watershed management would ensure that negative impacts are predicted and avoided. If no effort is made to consider and plan for secondary or other consequential impacts caused by increased watershed density then it will be impossible to avoid or mitigate them. The lack of consideration for impacts to water born traffic on the surface of the lake will ensure a significant level of risk to the lake. The lack of communication, co-operation and collaboration between municipal, provincial and federal governments is a guarantee that environmental and social conflict problems will occur at Sylvan Lake.

Environmental Statements of Note from the ASP 2010

These direct extracts are presented without comment or analysis. Readers may use these statements to form an opinion about ASP 2010 and to judge the acceptability of the content.

The full ASP 2010 document should be consulted for context of these extracts.

Section headings refer to parts of the ASP 2010.

1. Introduction

The size of the ASP 2010 area is approximately **7,509 hectares** (18,555 acres). Figure 1 – Plan Area shows the location and Plan boundaries of the ASP 2010.

An Area Structure Plan (ASP 2010) is a **statutory plan** prescribed in the Municipal Government Act

Vision: The beauty of Sylvan Lake and its uniqueness as possibly the highest quality central Alberta lake, demand that it be protected while it is being enjoyed.

Provide a clear growth blueprint to facilitate regional, technical and political solutions to **maintaining lake water quality** and improving public lake access.

2. Development Plan

2.1 Planning Areas

Lake Development Area (LDA) surrounds the lake and contains almost half of the ASP 2010 area. It has a total **gross area of 3448 hectares**

2.2 Development Capacity

As the lake ecosystem and water quality is the basic strength of the region, the primary growth determinant is the **biological capacity of the lake** to sustain additional housing and recreational activities. Maintaining the recreational capacity of the lake and the quality of life for residents and visitors was also a primary consideration.

The **primary impact of development** on water bodies in environments similar to Sylvan Lake is from sanitary effluent and contaminated storm runoff. Uncontrolled storm runoff travels across 'polluted' surfaces, carrying undesirable materials and compounds into the water body (e.g. fertilizers, pesticides, and petrochemicals). Effluent contaminants from these sources may reach the water body directly or through percolation into the groundwater.

It should be noted that currently the **primary source of contaminants** (nitrogen, phosphorus) is runoff/snow melt from agricultural operations

The impacts from these sources and best practices required for lake development in other jurisdictions were considered. It is recognized that a serious challenge in managing the health of a lake is that a biological system may take a **very long time to recover from damage**.

Sylvan Lake is an important and very unique provincial resource and it would be **unreasonable and unjustified to refuse to allow development based on fears** of possible ecosystem damage that have proved avoidable in many lakes throughout the world.

The approach pursued in this ASP 2010 is that **development around the lake should not be restricted or curtailed** without clear and defensible scientific or other rationale.

2.2 Development Capacity

The County is confident that the 'staged' growth approach proposed in this Plan will allow **systematic scientific monitoring of the lake water quality** and provide sufficient notice to delay or prohibit additional development if deemed appropriate. The County and the Town cooperate on the monitoring and development of management approaches for the lake through the Sylvan Lake Management Plan Committee.

2.3 Development Phasing

This is a unique approach to **controlling development** and is undertaken to protect the lake water quality and the quality of life of area residents and visitors.

Actual construction: at least 500 additional units should have been **constructed and occupied** since the previous monitoring period was undertaken (1000 in the first 2000 unit phase).

Land owners and prospective developers must realize that although this ASP 2010 allows development throughout the watershed area in principle, such development is dependant on Council's determination on an ongoing basis that the lake water quality will not be unreasonably affected by new development.

During the two year development review period, the County will **monitor the impact** of the new development on the lake from a biological and social perspective. Should Council deem that additional development will jeopardize the water quality, seriously impact the quality of life of existing residents, or decide that other factors would recommend against further development, it may do one of the following:

1. Impose additional controls over further development.
2. Restrict development further (i.e. below 8,500 dwelling units).
3. Refuse to allow any further development in spite of previous approvals

The **monitoring protocol** that should be undertaken during the monitoring period should include: Full lake water quality evaluation as recommended by Alberta Environment.

2.4 Sequence of Development

- To avoid ad hoc development and promote orderly, **staged growth**.
- To ensure that development coincides with the staging and construction of a regional wastewater sewer system that will collect sanitary sewage for transport to an appropriate treatment facility.
- To minimize the cost of road upgrades and maintenance for the County and developers.
- To minimize environmental impacts by locating new developments close to each other allowing environmental impacts to be managed effectively.
- To minimize the costs of other municipal services (e.g. emergency services, etc).

Once the **regional trunk is constructed along the north side of the lake** (expected within 10 years), development can proceed throughout this area as long as it connects to this new line (Development Area 2). This sanitary line is the priority for the regional municipalities and **will be eligible for more provincial support than a line on the west side of the lake**. The longer term sanitary system objective is for a regional sewer system that will encircle the lake. The third phase of development (DA 3) would be based on the construction of a sewer line running west and northwest along the southwest side of the lake from the Summer Village of Norglenwold. Finally, the lines would be joined at the northwest end of the lake. This very extensive system depends on a number of financing, provincial policy and market demand factors and could be modified in the future.

All new development within the Lake Development Area will **connect upon construction** with a regional wastewater trunk.

2.5 Land Use Plan & Strategy

The Sylvan Lake Area Structure Plan endorses **conservation cluster development** on a parcel by parcel basis.

Conservation cluster development would emphasize attributes offered by the natural and cultural-historical setting by retaining a portion of the parcel in an undeveloped form resulting in an overall more attractive and sustainable lake area environment.

As part of development, **open space (remnant lands)**:

- May be acquired through dedication, purchase acquisition, caveat registration or donation if the land is
- in the ownership of a municipality;
- May be protected through a conservation easement, a condominium title, restrictive covenant, etc;
- May serve passive recreation uses (e.g. pedestrian trails, benches, viewing areas, but not landscaped
- parks);
- May protect natural features, such as trees and wetlands, permanent or seasonal water bodies and
- drainage courses and other environmentally sensitive features;
- May maintain some form of agricultural production;
- May be used to preserve and enhance lake access and views.

to prevent further subdivision of the remnant lands (open space). This may be done by one or more of the following options:

- i. Ownership by a condominium or residents association of the owners of dwelling units within the development with restrictive covenants on the open space.
- ii. Ownership by a condominium or residents association of the owners of dwelling units within the development with a conservation easement granted to the County or a recognized conservation organization.
- iii. The transfer of the open space, with permanent restrictions, to a land trust or other recognized conservation organization acceptable to the County.

There are many parcels in the LDA where agricultural cropland and large blocks of forest and vegetation cover exist on the same parcel. In these instances, development should occur on the cleared, agricultural cropland portion of the parcel and the forested area shall be preserved to the greatest extent possible

Approximately 40% of the area of a parcel to be developed/subdivided must be retained in its current and/or **natural state**.

the dedication of reserve shall be required to **protect environmentally sensitive lands**, such as riparian areas, and to provide interconnected green spaces for trails and connections to other public recreation facilities;

the **camp shall be required to connect to a regional sewer line**. Furthermore, all new institutional uses shall connect to a regional sewer line.

Recreational vehicles (RV) resorts are permitted in the Lake Development Area of this ASP 2010 (sewer line connection required?)

Municipal reserve where possible should be integrated (i.e. physically linked) with the **shoreline environmental reserve** to create a public access site suitable for day use. The length of the municipal reserve parcel must be not less than 20% of the total length of the shoreline frontage of the parcel of land proposed to be developed, with a minimum width of 30 m. This dedication shall be a single contiguous area and not fragmented into several parcels.

v. **A municipal reserve strip** not less than 5 metres wide will be dedicated adjoining the entire length of the shoreline environmental reserve. This reserve is designed to accommodate a trail along the top of the bank. However, it is also meant to stop private encroachments from lakefront lots onto environmental reserves.

Sylvan Lake is a public resource that offers a diverse range of recreation opportunities for residents across central Alberta. But perhaps more than any other recreational lake in Alberta, Sylvan Lake faces **growing demand for additional recreational development**.

Any development proposals with the capability of providing public lake access will be expected to protect such access through the dedication of environmental and municipal reserve. This ASP 2010 has identified general locations where such **public access on lakeshore properties** should be considered.

The Sylvan Lake ASP 2010 recognizes that **public access does not necessarily have to be direct and physical access to the lake and water**. Public access can therefore include a small day use area that is set back from the lake, but is still adjacent to or in immediate proximity to the lake. It would also not have typical "lake use" activities. In this ASP 2010, Sites G, H, I and J are examples of this type of day use area. Of the six privately owned parcels that the Public Access Study Background Report identifies as having lake

Minor Public Access Sites 1

This form of public lake access is not located on the shoreline of a water-based environmentally sensitive area (ESA), as identified in the Sylvan Lake Management Plan (2000). This form of public lake access is not located on the shoreline of a water-based **environmentally sensitive area** (ESA), as identified in the Sylvan Lake Management Plan (2000). These water-based ESAs include key waterfowl habitats and key fisheries habitats.

- This form of public lake access will include full day use area (parks, playgrounds, picnic sites, washrooms, parking area) and may allow **new beach construction and shoreline alteration**.

Minor Public Access Sites 2 (Within ESA)

This form of public lake access abuts the lake shoreline and is located near or within at least two of the **three forms of environmentally sensitive areas** (ESA). These sensitive areas include the following: key ungulate habitat, key fisheries habitat and key waterfowl habitat. Thus, there

will be **considerable limitations on the type of public access** that can be developed. A minor 2 site includes day use with limited lake use.

- Public access to the lake shore / water's edge and water shall be limited.
- Natural edge along lake shore shall be retained (shoreline will not be altered)
- This form of public lake access will not include: boat launching (motorized boats), beach and beach/shoreline swimming area, permanent pier or dock, unrestricted access to the shoreline.

Tertiary Public Access Sites

This form of public lake access is a day use area without lake use. In other words, it is public access without direct physical access to the lake/water (due to steep slope constraints or other environmental constraints, etc), but is in immediate proximity to the lake.

Communal Access and Docking Facilities as Part of Lakeshore Subdivisions

The use of **joint access and docking facilities** by lakeshore property owners, rather than individual piers/docks and access points (for each lot/unit), will provide lake access for residents with much less impact to littoral zones and fish and aquatic habitat than currently occurs with multiple access points. The following policies are recommended:

- The placement of communal docks and lakeshore access as part of lakeshore subdivisions shall **avoid known spawning and rearing habitats for fish and nesting and brood-rearing habitats for water birds.**
- Developers, property owners or landowners of a lakeshore property or subdivision **shall not carry out any work or undertaking that results in the harmful alteration, disruption or destruction (HADD) of fish habitat**, unless this HADD has been authorized by the Fish Habitat Management division of Fisheries & Oceans Canada (DFO).

2.5 (m) General Principles & Policies for Public Access & Recreation

The water quality and health of the lake / lake environment is a high priority, and **new public access areas** will be designed in such a way as to protect the lake ecosystem and minimize impact on residential areas.

Based on Principle 3. above, **boat launch parking areas** shall not be located within 100 metres of a boat launch and the shoreline of Sylvan Lake. The only exception to this is the queuing and drop off area for the boat launch. In addition, parking lots/areas for day use areas shall not be located within 100 metres of the shoreline of Sylvan Lake. A drop off area for the day use area may, however, be located within this setback.

All **environmentally sensitive areas** (including land and water) are highly valued and shall be respected to the greatest extent possible in locations that are within or adjacent to a proposed public access site.

Any **stream / creek** that flows through or near a proposed public access site **shall be respected** and sensitively incorporated into the recreational area.

*Protective Notations (PNT) are land reservations placed on emergent vegetation zones by Alberta Sustainable Resource Development, Fish & Wildlife. Establishment of the PNTs is based on the preservation of fish spawning and wildlife nesting habitat, as well as water quality issues. These PNTs restrict development/alteration on public or crown lands, thereby limiting future destruction of natural shoreline habitat. Furthermore, they may limit the type and extent of increased public use within these zones, including such developments as docks or piers. **The PNT alone cannot restrict development,***

however, it ensures that proper assessment, review, design, mitigation and compensation will occur (Sylvan Lake Public Access Study Background Report, 2002).

2.5 (n) Priorities for County Action

If emergent vegetation continues to be absent within Protective Notations #8B and #9A at the time of development, Lacombe County should approach Alberta Sustainable Resource Development, Fish & Wildlife Division and **request that the PNT be removed** to allow for the development of public access on the shoreline.

2.6 Environmental Protection & Enhancement

A lake watershed refers to the area of land that drains into a lake. Activities that occur in the watershed influence the quantity and quality of water that enters the lake and the overall health of the lake ecosystem. For example, runoff from agricultural land often is a **source of nutrients and bacteria**. Lake waters may also be polluted by nutrients and bacteria leaching from septic systems into shallow aquifers. **Runoff from urban and agricultural areas** can contribute significant quantities of nutrients, bacteria, pesticides, metals, oils and other contaminants to lakes. To maintain the health of a lake, it is important to manage non-point source pollution originating from the lake's watershed (ISL, 2003).

However, because of the **high water quality** associated with the lake at present, water quality is not considered to be a limiting factor for increased public access and recreational use of Sylvan Lake over the short-term (ISL, 2002). Water quality has remained high over the last 20 years around the lake and is **not expected to change in the near future (ISL, 2002)**.

Basic to protecting the lake water quality is a systematic **monitoring** regime undertaken with Alberta Environment involvement. Over the past 50 years the lake water has been tested frequently however there is currently no formal monitoring program in place. Alberta Environment has supported the Alberta Lake Management Society report on Sylvan Lake water quality in 2000, 2001, 2003, and 2006 and it is **vital that Alberta Environment commit to continuing monitoring** on a regular basis into the future.

A monitoring program of the type proposed during the development monitoring periods should focus on levels of phosphorus, algae (chlorophyll), water clarity, bacterial content, routine water chemistry, major ions, alkalinity, hardness, dissolved oxygen and a range of compounds. **The County should encourage Alberta Environment to take the lead on continuing this water quality monitoring program.**

The **riparian setbacks for wetlands** (as defined under the Wetlands of Canada, Environment Canada, 1981) within or adjacent to development sites will be determined on a site specific basis but will not be less than 15 m. The primary purpose of the 15 m ER strip is to protect water quality by capturing sediment and chemicals before they reach the lake. The effectiveness of the strip is greatly enhanced by the presence of vegetation and a grass strip to help capture phosphorus.

An **expansion of the ER setbacks** may be required in situations where there are steep slopes that can accelerate erosion or areas adjacent to the lake where there is shallow groundwater present. The County may require ground water studies in such cases to map the extent of alluvial aquifers/groundwater and require further setbacks. This requirement would be based on findings and recommendations of an environmental impact assessment and a geotechnical study (slope stability study). The geotechnical study is not required. However, the County may require one if the County deems it is warranted. The additional ER setbacks would be **for the purpose of protecting the groundwater** and to maintain the natural vegetation.

A **15 m setback will applied to permanent streams flowing into the lake** to protect from erosion and contamination. Municipal reserve or other lands allowing public access may be located along the environmental reserve corridors.

In regard to **intermittent/ephemeral/temporary/seasonal streams a minimum ER setback of 10 m** on either side of streams is recommended. This setback is open to site-specific modification through discussion with the County. The purpose is to minimize the amount of nitrogen, phosphorous and sediments flowing into the stream and the lake. The use of appropriate vegetative cover which traps sediment (and therefore nitrogen) or other designed approaches (e.g. settling ponds) which could be incorporated into the storm drainage system would also contribute to achieving this goal.

Policies

1. As part of subdivision approval, a minimum: **30 metre environmental reserve setback shall be required from the bank of the shores of the lake, 15 m from all wetlands and 15 m from permanent streams to the property line.**
2. The setback may be increased due to steep slopes, erosion, shallow ground water, particularly sensitive contamination concerns.
3. The County may require groundwater studies designed to identify areas with shallow groundwater susceptible to contamination for protection.
4. **Ephemeral/intermittent streams** must be mapped in development applications and will require **10 m ER setbacks** at the discretion of the Approving Authority.
5. Developers or private landowners on lands adjacent to the shoreline **shall not be permitted to create an artificial beach or plant grass or non-native plant species within the 30 metre environmental reserve setback.**
6. Except within the 30 metre ER shoreline buffer strip in those instances where public access is not required or desirable in a proposed subdivision, the County may consider registering an environmental reserve easement in lieu of taking environmental reserve dedication.

Preservation of Forest/Vegetation Cover Policies

1. Developers and private landowners shall endeavour to **preserve the remaining forest cover** (large forest blocks) surrounding the lake when planning a new development, to the greatest extent possible.
2. To the greatest extent possible, **future development shall occur on lands that have already been cleared** and shall be avoided in areas of natural vegetation cover.
3. Wherever possible, the majority of **internal roads within a subdivision** development shall be restricted to the outer edge of forest blocks.
4. Connectivity of **large forest blocks** shall be preserved.
5. In instances where at least 75% of a parcel is covered by forest/vegetation a minimum of **50% of the parcel shall be preserved** and retained in its current state, with development only occurring on the remaining 50% of the parcel. A forested area in this circumstance must retain its appearance as a heavily wooded area once development is complete, to the greatest extent possible.
6. As part of the effort to ensure the long-term sustainable health of the lake-environment and lake water quality, developers are encouraged to contribute to the **restoration and the re-establishment of natural vegetation cover** within the Sylvan Lake watershed (using native plant species).
7. Developers of lakeshore subdivisions shall **preserve vegetation along and in close proximity of the shoreline** of the parcel to the greatest extent possible.
8. **Raptor nesting areas**, particularly of species which rely on the lake environment (e.g., osprey and bald eagle) shall be identified and avoided as sites for development or the appropriate set back distance, determined through environmental assessment, should be implemented.
9. Connectivity between habitat patches around the lakeshore should be maintained and enhanced to ensure the **ecological viability of remaining habitat.**
10. All proposed subdivision development plans shall include an environmental overview/assessment which defines measures to protect any unique habitat areas within the development parcel.

1. Installation of **erosion and sediment control measures** are highly encouraged during construction and landscaping. Any major construction activities that expose soil require the use of sediment and erosion control measures to mitigate potential sediment transport.
2. Gardens should not be located on a slope on a property since it would promote **soil erosion and runoff**.
3. The use of intense growing techniques such as inter-cropping, succession planting, and raised beds are highly encouraged as this will **minimize the amount of exposed soil**.
4. **Pesticides** should be avoided.
5. Planting of **native vegetation**, reducing lawn sizes and xeriscaping are highly encouraged.