

**Review and Analysis of the Science Based Documents and
Associated Governing and Management Documents for
the Sylvan Lake Watershed**

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The Sylvan Lake Watershed Stewardship Society

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Appendix A: Summary of the Sylvan Lake Management Plan: 2000 Update

Appendix B: Summary of the Sylvan Lake Public Access Study

Appendix C: Summary of the Sylvan Lake Water Quality Assessment and Management Considerations Study

Appendix D: Summary of the Shoreline Habitat Assessment of Sylvan Lake Study

Appendix E: Summary of the Komex Review of Three Development Proposals in Vicinity of Sylvan Lake Alberta

Appendix F: Summary of the Lacombe County Municipal Development Plan

Appendix G: Summary of the Red Deer County Municipal Development Plan

Appendix H: Summary of the Town of Sylvan Lake Municipal Development Plan

1.0 Introduction

1.1 Background

The Sylvan Lake Watershed Stewardship Society (SLWSS) has identified the need to enhance its understanding of the core stewardship issues related to the Sylvan Lake watershed. The Society reasoned that with a comprehensive understanding of the issues, it would be better able to establish effective communication, community awareness, and outreach priorities. Further, the Society identified the need to develop a map-based tool that would provide a means of visually depicting the watershed, its key features and values.

Sylvan Lake has been the subject of considerable research and planning efforts. The work has been completed over a number of years, by many authors, and was driven by many different contexts. A thorough review and consolidation of this information relative to identification of stewardship issues was identified as a logical starting point to enhance SLWSS's knowledge base. This report will serve as an accessible, consolidated, source of information for communication efforts and future project development.

This project has been supported by the Alberta Stewardship Networks (ASN) program and Shell Canada.

1.2 Methods

The most relevant science-based reports, management, and planning documents were selected for review and analysis. These documents were originally prepared to determine, guide, and influence the land use and recreational use within the watershed.

Following the review and analysis, key categories or themes relative to Stewardship issues were identified and described.

The definitions of stewardship that are used as a guide throughout this report: “commitment to care for” and “to sustain or enhance for the enjoyment of future generations” are viewed as consistent with the intent of the definition as it is listed on the SLWSS website.

1.3 Report Organization

The first section of the report is the executive summary. See: (2.0 Executive Summary).

The second section of the report contains the key messages from each study or report; categorized for the consideration of the SLWSS. See: (3.0. Key Communication Themes for SLWSS Consideration).

The third section of the report contains an overview created from the analysis and summarization of each document. The key message thoughts that were used in the consolidation in Section 3 are provided. See: (4.0 Review and Analysis of Science and Management Related Documents Affecting the Sylvan lake Watershed)

Appendices are included that summarize each of the individual documents reviewed. The goals, objectives and policies summarized were only expanded upon where they were considered to be relevant to this project.

1.4 Important Definitions

Capital - the accumulated goods or cash devoted to producing income or other goods. Capital is a good thing to have. Similarly, Natural Capital is the accumulated assets that our natural environment is providing.

Eutrophic – A lake or pond having waters rich in mineral and organic nutrients that promote a proliferation of plant life, especially algae, which reduces the dissolved oxygen content and often causes the extinction of other organisms.

Meso-eutrophic – A productive status between moderate productivity (mesotrophic) and high productivity (eutrophic).

Mesotrophic – Freshwater systems characterized by moderate levels of nutrients and productivity. Compare to oligotrophic, eutrophic and hypereutrophic.

Oligotrophic – A water body with very low levels of nutrients and productivity. Compare to eutrophic, mesotrophic and hypereutrophic.

Renewable Natural Capital, such as ecosystems and the components of ecosystems such as soils, grasslands, forests, lakes, wetlands, rivers and riparian areas. Accumulated Natural Capital provides a flow of Environmental Goods and Services. (Ecological Goods and Services (EG&S) are the benefits that people obtain from functioning ecosystems.)

2.0 Executive Summary

The very values that make Sylvan Lake and its watershed one of Alberta's premier recreational resources are at risk of loss. The supercharged Alberta economy is driving the demand for more development and intensive forms of land use in the watershed. Under these pressures, the current governance system is not able to guide a planned and sustainable future. The current planning and decision making process is fragmented (eight distinct municipal governments), reactive, and without measurable accountability. If this level of stewardship continues there is little doubt that many of the "values" that make Sylvan Lake a special place will be severely impacted or lost. As Dr. Roger Gibbons of Canada West Foundation concluded during the recent Alberta Land Use Forum, "Today's land use decisions will affect tomorrow's quality of life."

Quality of life is the core context for the over one million annual users and residents of Sylvan Lake. Sylvan Lake's watershed is dominated by a privately owned land bank slated for future development, as well as agricultural production land. Energy sector and other industry activity and impacts are on the increase. Water based recreational use of the lake is in high demand.

The overarching stewardship question, for the Sylvan Lake Watershed is how can the values that collectively contribute to "quality of life" be sustained and balanced within a very real context of a privately owned land base and the related business interests.

The Sylvan Lake Watershed Stewardship Society (SLWSS) has goals to generate public awareness related to stewardship of watershed values. It was important for the Society to clearly understand the reality of the current situation. A grant was secured through the Alberta Stewardship Network (ASN) to review the key scientific and management related information. Planned Environmental Associates, of Red Deer, was contracted to complete the review and analysis. The work has focused on analysis of the current situation and the identification of information gaps, and key education and awareness themes for SLWSS public awareness activities.

The review of the most recent science documents revealed a very serious problem. The lake is being polluted over time. The recreationally desirable **meso-eutrophic** status of Sylvan Lake is shifting to the more undesirable eutrophic status. The desirable lake status cannot be sustained with current and increasing negative cumulative impacts. The science recommends minimizing or eliminating high-risk practices within the watershed. Measuring and monitoring have consistently been identified as critical. A comprehensive system is not in place. The science identified some of the critical limiting factors and "quality of life" values where monitoring needed to be focused. The collective lake community including its users and residents have not been

consulted to identify the values they would like the governments to protect. Identifying and understanding these values is critical to guide future policy, decisions and progress measurement. The current land use strategy affecting the watershed has evolved largely from rural strategies. These strategies have not focused on development and conservation of natural capital to sustain the delivery a variety of values to the community of users. Under the current situation “agriculturally assessed lands” are readily brought into residential development when market demand exists. A more comprehensive value assessment, measurement and trading system would sustain the values being sought by the recreational and life style community at Sylvan Lake.

A most concerning issue relative to the stewardship of Sylvan Lake is the lack of a collective, modern strategic plan to guide the future development, use and conservation. The watershed has no collective vision, mission or goals. Decisions are being made on a project-by-project, site-by-site basis by eight individual municipalities. Alberta’s Land Use Policy recommends cooperative and collective planning in situations where the responsibility of managing a resource overlaps with other governing bodies. Red Deer County has taken leadership on this issue and has adopted policy to cooperate with Sylvan Lake and other affected municipalities to complete and approve the Sylvan Lake Intermunicipal Development Plan. The remaining seven governing bodies have not yet publicly recorded their intent relative to developing a modern inter-municipal plan that would guide the protection of Sylvan Lake and the watershed ecology. This situation creates the highest level of risk to watershed values. This choice seems to favour the interests of short term private business over thoughtful identification and protection of the resource values that would serve both public interest and longer term business.

Each guiding document was reviewed and summarized. Key themes and issues from each document were extracted. The key themes from the review were grouped into six major categories. The intent is to introduce these messages to the SLWSS web site, and other communications mediums such as news letters display panels. The theme categories that have been identified are:

1. Watershed/lake pollution
2. Protection of natural values
3. Watershed management, planning and governance
4. Measuring and monitoring,
5. Innovative solutions
6. The watershed map product.