

Introduction

The landscape at our lakes is changing. There are more cottagers, increased pressures from development, and growing concerns about poor land management practices. These all affect the overall water quality and health of our lakes. We all have the responsibility to take positive action towards improving the condition of our lake's environment. By having a better understanding of lake stewardship issues, involving people at all levels in the Summer Village, and by making better decisions about land use practices, Summer Village councils will be able to lead their community in ensuring their lake ecosystems remain healthy for all users.

The Association of Summer Villages of Alberta (ASVA) Lake Stewardship Reference Guide (Reference Guide) provides Summer Village councillors and administrators with general information, issue identification, legal reference materials, and suggestions for effective stewardship of lake environments. It celebrates and shares success stories of active lake stewardship projects, and suggests policies that can be utilized by Summer Village councils to achieve lake stewardship goals and objectives.

Summer Villages as Municipalities

Summer Villages are municipalities incorporated under the *Municipal Government Act*. Each Summer Village has its own distinct sense of values about the quality of their lake environment. The unique qualities and characteristics of each Summer Village, and the lake stewardship issues they encounter, must be taken into account in planning and decision making. All planning decisions by Summer Village councils must be consistent with Alberta's Land Use Policies, which provide broad policy statements, goals, and objectives to be used by municipal land use decision makers. Council must also consider federal interests and legislative requirements concerning the nation's fisheries and navigable waters. Each Summer Village is required to enact a Land Use Bylaw, which will regulate land development activities. Councils have broad bylaw-making powers, and may enact provisions to minimize or mitigate human impact on the lake environment.

Summer Village Councils as Lake Stewards

Elected councils can provide leadership in all community matters including lake stewardship. Effective ways to address lake stewardship issues include preventing problems from occurring, educating residents about lake stewardship practices and, when necessary, acting on behalf of the community to enforce bylaws.

Councils have the opportunity to ensure good stewardship through instituting proper municipal policies and bylaws. Understanding best management practices can help councillors do this. It can also help them provide property owners with credible advice, guide residents through the Land Use Bylaw, and assist in directing inquiries to other appropriate authorities for private land development and recreational activities. Public consultation with residents and stakeholders is important when developing policies, plans, and bylaws to regulate land use and human activities near the lakes. Community input can help ensure that planning and development reflects community goals and objectives for lake stewardship.

This Reference Guide provides easy access to information to help council and administration understand legislated responsibilities as well as positive stewardship activities they can undertake in the community. Ultimately, councils have a responsibility to be pro-active, to ensure the long-term health of the lake.

Our mission: Effective lake stewardship through leadership, education, public consultation, development of policies and bylaws, and implementation of best management practices.

Adopting Policies and Enacting Bylaws

The following is a brief overview to provide councillors with a better understanding about adopting policies, and enacting bylaws, and with planning tools that support lake stewardship activities.

Policies

Policies are general guidelines that Council provides to administration to instruct them on the course of action to be taken or followed when making administrative decisions. Policies ensure consistent decisions are made by administration when reviewing similar matters.

Policies are not laws unless adopted by bylaw, and are not generally enforceable in the courts. If a lake stewardship issue within a Summer Village requires some kind of “compliance” or “enforcement,” a bylaw needs to be developed or “enacted,” to support related policy goals and objectives.

Bylaws

Bylaws are municipal laws that are enforceable in the courts. Bylaws often outline the fines and penalties for violations and non-compliance. A Summer Village has broad bylaw making powers as provided in the *Municipal Government Act* and may generally pass bylaws for the following purposes:

1. To provide good government;
2. To provide services, facilities or other things that, in the opinion of council, are necessary or desirable for all or part of the municipality;
3. To develop and maintain safe and viable communities.

Municipal Development Plan

A Municipal Development Plan is optional (for municipalities under 3500 people), and is a policy document adopted by bylaw that provides general guidelines and broad statements about planning policy. A Municipal Development Plan can assist in ensuring good lake stewardship by setting the tone with environmentally responsible guidelines.

Land Use Bylaw

All municipalities in Alberta are required to adopt a Land Use Bylaw to provide for a means of regulating land use in the municipality. Provisions of the Land Use Bylaw are enforceable in the courts, and there are fines and penalties for non-compliance. For example, a municipality can issue stop orders and order reclamation of sites, if the development or use of private land is not authorized, or not in accordance with the Land Use Bylaw.

For more information, refer to the **Planning and Development** chapter of this guide.

The Lake We Live At

Many governance issues dealing with the lake and surrounding land use practices can directly influence the lake, its stewardship, and the lifestyle quality of those living near it. Therefore, Summer Village councillors and administrators must have a basic understanding of lake ecology and of what an ecosystem is. **Ecology** is the relationship between organisms and their environment. An **ecosystem** is an ecological community functioning as a unit, with its physical environment.

Albertans tend to see their lake in different ways. People buying property at a lake often envision a sandy beach and sky blue water. Chances are that if there was not a beach on your property when you bought it, you will never get a “good” beach to be there. If aquatic vegetation grows in your lake now, it will continue to be there in the future.

But why is this? The answer lies in the way that lakes are created and with where they are located. Once we understand the kind of lake we have property at, and we understand the role of that lake in its surrounding ecosystem, we can better understand what we, as councillors and property owners, can do, or should not do, to keep the lake healthy and functioning. Appreciating the natural beauty and purpose of our lake will go a long way to making our time spent there more enjoyable.

So – just what kind of lake is an Alberta lake? Well, we must remember that lakes are not static objects – they are living, changing, dynamic systems. Typically, most Alberta lakes were formed as retreating glaciers created shallow depressions on the earth’s surface. The glaciers melted and the water filled these depressions, creating lakes.

Most Alberta lakes are shallow, and the soil beneath the water and around the water is very nutrient rich. These nutrients include phosphorus and nitrogen, which are excellent foods for plants. Most Alberta lakes, therefore, are naturally nutrient-rich and thus highly productive, meaning that many plants grow in and around them. Scientists call these lakes **eutrophic**. Eutrophic lakes can support sizable fish populations, and attract waterfowl and wildlife. Alberta also has many **hypereutrophic** lakes (very highly productive). We also have a small number of **oligotrophic** lakes (relatively deep, clear, nutrient-poor and less productive). Typically, oligotrophic lakes are found in the mountains where they sit on and are surrounded by rock, as opposed to nutrient rich soils. Alberta also has some **mesotrophic** lakes, with mid-range levels of nutrients and productivity.

Lakes gradually “age” over time. This change is slow and depends on, amongst other things, the initial depth of the lake. It occurs as nutrients are released from the soil at the bottom of the lake, and are carried into the lake by runoff from surrounding lands. Eutrophic lakes are “old” lakes. They are well into the process of transforming from open, clear water, to wetland, and eventually to land. This process has ups and downs, but generally, all of our lakes are aging.

Many Albertans have come from, or have visited, places with younger, oligotrophic lakes. We might think that all we need to do is “clean up” the lake to make it like the clear, plant free lakes we have in mind. While this is not possible, we can implement practical measures to minimize our human impacts that may speed up the aging process of Alberta’s eutrophic lakes. We can also realize that our Alberta lakes are areas of great beauty and worth. We just need to respect how they work and learn to love what they have to offer.

For More Information

More information on how lakes work can be found in Appendix I - **Understanding Lake Basics**.

To find out what kind of lake you live at, contact your nearest Alberta Environment office.

To see a sample of the trophic status of some Alberta lakes, refer to the Figures 5 and 6 in Appendix I.

You can also find information on many Alberta lakes in the *Atlas of Alberta Lakes*, found on line at: <http://sunsite.ualberta.ca/Projects/Alberta-Lakes/characteristics.php>



Using this Guide

To fulfill our lake stewardship role we need to know, or have easy access to, information to help us administer our duties. These duties include providing credible advice, ensuring proper policies and bylaws are in place, directing lake users to appropriate authorities for development activity, educating other lake users, and enforcing compliance where an infraction has occurred.

This booklet uses a chapter approach to identify common lake issues, including those associated with human activities that can shape the lake environment. Each chapter discusses the associated law, what actions a member of council should take, whom one can contact for further information, and other resources available on the subject.

Each identified lake stewardship priority issue is presented in six components:

1. What is the Issue?
2. Background
3. What Does the Law Say?
4. What Should I Do?
5. Who Can I Contact?
6. Are There Any Resources Available?

Some issues may also include a success story, or reference a sample bylaw or suggested policy, which can be found on the Association of Summer Villages of Alberta website: www.albertasummervillages.org.

As noted earlier, the following is a guide. While it provides some information, we encourage you to contact the appropriate agencies for current practices, resources, and rules regarding these subjects.