

Section 8

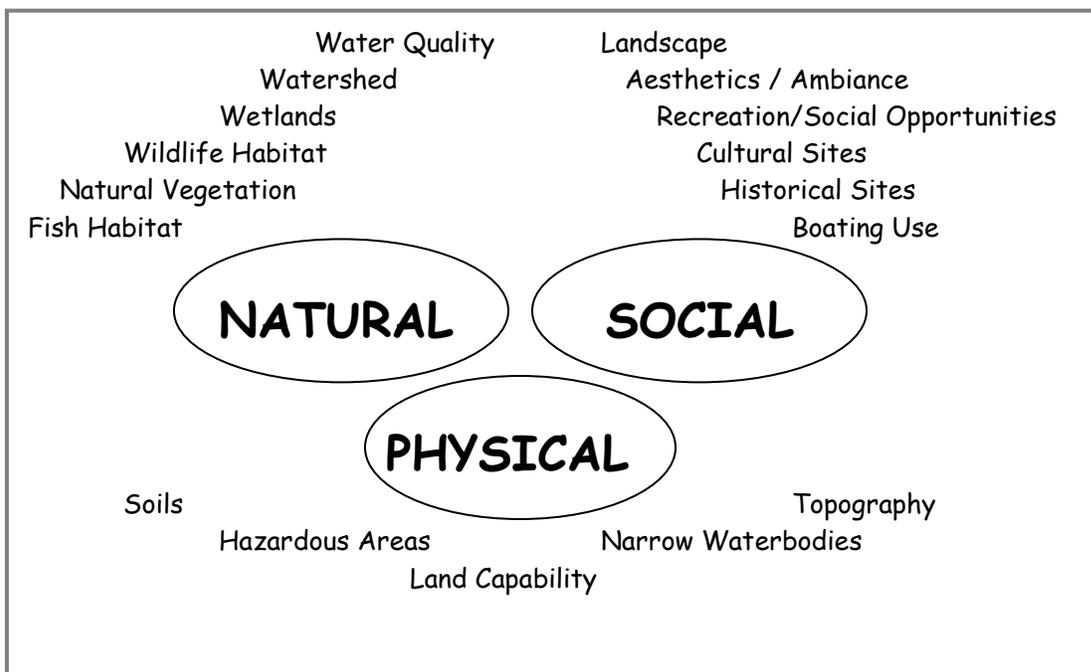
Issues and Concerns

8.1 Discussion of Carrying Capacity and Values

Determining appropriate carrying capacities is one of the most difficult matters to deal with for the comprehensive planning of lakes. Currently, water quality for Lake Trout habitat, is the keystone resource for determining carrying capacities for new development on Lake Vernon.

The Ministry of Natural Resources has indicated that Lake Trout habitat is sensitive on Lake Vernon and is the limiting factor to new lot creation. The health of Lake Trout habitat has been linked to phosphorus loadings from anthropogenic sources, especially sewage disposal systems and landscaping. However, the science on phosphorus loading is not exact and there may soon be new septic system technology (that is acceptable to MOE) or extension of municipal sewers that will reduce the amount of phosphorus released into the natural environment.

Figure 32 – Carrying Capacities



This is a double-edged sword, because although this new technology will help to improve water quality and lake trout habitat by decreased phosphorus loadings, the current restrictions on development may be lifted and new lot creation would be permitted. It is for this reason that the Lake Plan has identified other elements and values to consider. Generally, the key values that add to the quality of life on Lake Vernon are shown in Figure 32.

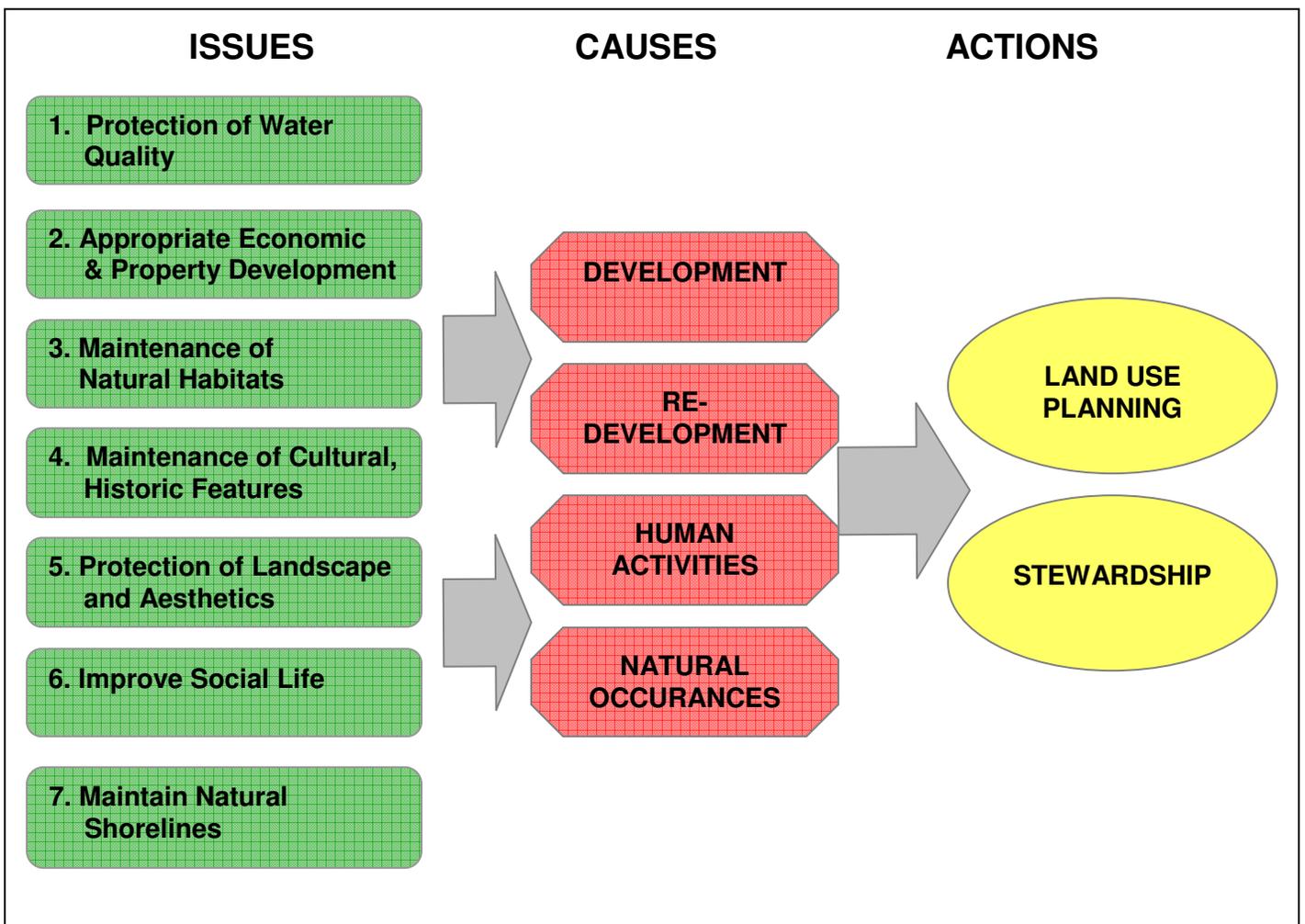
8.2 Lake Issues

There are many man-made activities that can impact the valued features of the lake. Often a single event, or combination of small events, can be sustained without the significant impairment of a lake value or feature. However, the cumulative impact of ongoing activities can result in a negative impact or the creation of a situation that becomes intolerable to lake users. For example the removal of one tree may not result in any detectable impact, however the removal of many trees could result in loss of habitat, affect the natural beauty of a shoreline, or cause erosion.

The following seven issues were identified through the lake planning process and are directly linked to the original targets of the Lake Vernon Environmental Committee. Many of the issues are inter-connected and Section 9, Action Plan, will recommend projects that address several issues at one time.

Through residential and stakeholder workshops and surveys, the following issues, causes and remedies were identified:

Figure 33 – Issues, Causes and Remedies/Actions



The following provides a general description of the issues to be addressed by the Actions in Section 9.

1. Protection of Water Quality

The density and scale of development and the general urbanization of shoreline areas within the watershed creates the main impact on water quality. Development on Lake Vernon and within the watershed, results in nutrient enrichment (phosphorus and ecoli) and turbidity.

Nutrient Enrichment – Nutrient enrichment occurs as a result of both natural and man-made sources, and it is the man-made sources that we can primarily deal with. The predominant source of increased nutrients is from phosphorus loadings from septic systems, fertilizer application and storm water run-off. Increased phosphorus promotes increased plant growth and can result in algae blooms.

Turbidity – Turbidity is the result of silt that is either stirred up from the lake bottom from boating activity in shallow areas or from storm-water runoff from adjacent lands. Several siltation events have occurred during the past decade on the Huntsville Lakes as a result of stormwater washing away exposed topsoil on construction sites and turbidity can result in impacts to water quality as well as fish habitat. Construction mitigation should be encouraged for all shoreline and backlot development, including: residential, commercial and highway.

Upstream Development – Development on upstream lakes and streams can cause increased nutrient and silt loading. Actions taken to prevent this should be applied to all upstream lakes and rivers.

Storm water - Phosphorous is a nutrient that stimulates aquatic growth. Storm water from urban and non-porous areas contain this nutrient, which originates from fertilizers used on home lawns and landscaping. Storm water can also contain other water pollutants such as silt and sediment from soil erosion, oil from paved areas, and chemicals that are accidentally or improperly allowed to flow into storm sewers.

2. Appropriate Economic and Property Development

Economic and property development is seen as the major source of “change” on Lake Vernon. While it is important to recognize that “change” is not necessarily bad, it is important that all development be treated consistently across Lake Vernon and occurs within the zone of tolerance for social and natural elements.

Density and Scale of Development – At present, the creation of new lots on Lake Vernon is prohibited as a result of Lake Trout habitat. The Huntsville Plan contains specific policy requiring the Ministry of Natural Resources to comment on any new lot creation. However, should new phosphorus abatement septic technology be approved by the Ministry of Environment, it is possible that new lots may be created on Lake Vernon. The current lot frontage requirement for Lake Vernon is 60 m (200 ft). In order to maintain the existing character of the lake, official plans and zoning by-laws should stipulate that the lot frontage requirement be increased to 90 metres (300 ft.) or 120 metres (400 ft.) in order to maintain the undeveloped feeling of the lake.

Replacing smaller older cottages with “monster” cottages is an increasing trend throughout the District of Muskoka and the redevelopment of larger buildings and structures on existing lots can increase impacts through occupancy, phosphorus loading, use and aesthetics.

Construction Practices - During construction, significant damage to Lake Vernon’s natural, social and physical features can occur unless proper care is taken. Removal of vegetation and topsoil can result in erosion. Sand and silt from construction sites can be washed into a lake during rainstorms or along improperly designed or protected drainage channels and land gradients. Unstable banks can collapse into a watercourse and silting and sedimentation can result in increased turbidity, which has the potential to affect the entire lake food chain.

Resort and Private Camp Viability - Commercial resorts and private camps provide recreational, social and economic benefits to residents of Lake Vernon and surrounding area, and add to the desired character of the lake. Resort visitors are attracted by the natural character and beauty of Lake Vernon, which are the same amenities that shoreline residents seek. Recent trends throughout Muskoka indicate that the number of resorts have steadily declined over the past decades by conversion to residential properties. In order for resort operations to survive it is important that they be allowed an opportunity to grow and re-develop within the natural, social and physical carrying capacities of Lake Vernon.

Impact on Natural/Physical/Social - High profile or highly visible development can impact or detract from the natural beauty of Lake Vernon. It is important that the natural, social and physical sites, features and areas identified in the plan are protected from inappropriate development.

Septic Systems - Improper construction and maintenance of septic systems can result in the release of nutrients and coliforms into Lake Vernon. Released nutrients, such as phosphorous, increase plant growth that in time reduce dissolved oxygen. High levels of certain coliforms can have a serious affect on public health. As well, agricultural activity, golf courses and out-dated septic tanks are all sources of phosphorus that are potentially responsible for seepage of contaminants into Lake Vernon.

3. Maintenance of Natural Habitats

Healthy populations of fish and wildlife are directly linked to healthy habitats. The Lake Plan identifies the significant areas and features to be protected through land use policy and rehabilitated through stewardship. While many areas have been identified, there is still a need to compile additional information on streams, wetlands, loon habitat and other environmentally sensitive areas. Generally there is a lack of awareness about the natural habitat features on the lake and within the watershed. Monitoring the health of the watershed is a long-term goal that should be implemented.

Fish – Lake Vernon is a cold-water lake that provides habitat for Lake Trout among many other species. Lake Trout lakes only represent about 1% of all lakes in Ontario and are among the most desirable due to their clear and clean water. Lake Trout spawning shoals are identified on Map 14 – Spawning Sites of Lake Trout and Northern Pike and should be a priority for protection.

Deer – There is a large winter deer habitat located to the west and north of Lake Vernon. Development on smaller lots with extensive clearing will negatively impact the health of this important feature.

Loons – Some loon nesting sites have been identified and more information needs to be collected to confirm their exact location, to identify unknown nesting sites and to understand potential impacts.

Streams – Very little information is known about the streams that flow into Lake Vernon. Additional information on the species composition and habitat provided by these streams would help to identify sensitive areas and areas in need of rehabilitation.

Exotic Species Invasion – Lake Vernon and many surrounding lakes were invaded by the Spiny Water Flea in 1991. Continuation of the Exotic Species Program with the OFAH is encouraged to reduce the number of future problems.

4. Maintenance of Cultural and Historic Features

Cultural and historic features add to the ambiance and the character on Lake Vernon. The protection, maintenance, rehabilitation and promotion of these features and sites are important. Map 19 provides the location of the cultural and historic sites to be protected through land use policy and maintained and rehabilitated through private land stewardship.

Historic settlements – Development on Lake Vernon evolved around historic settlements (such as Ravenscliffe and Hoodstown). These areas are historical settlement nodes and help to provide a sense of community.

Special sites/features – Most of these sites and features (Map 19) are in private ownership, and stewardship provides the best opportunity for maintenance and rehabilitation.

Public Access – There are 10 Town owned public access points on the lake as identified in Section 3 Lake Description. These areas should be retained in public ownership and used as a point of access for non-resident lake users.

5. Protection of Landscape, Aesthetics

Different views are held on what constitutes attractive landscaping. Unfortunately, urban landscaping which normally requires replacement of natural vegetation with cultivated lawns and ornamental plantings is not suitable on shoreline lands. Fertilizers, herbicides, and pesticides used on lakeside property have an increased potential to be transported into the water, harming water quality. Nutrients from fertilizers stimulate the growth of aquatic plants and algae; when aquatic plants die and decompose, dissolved oxygen is consumed and the oxygen available to fish (especially affected are Lake Trout) is diminished. At present, off-site migration of fertilizers is not thoroughly understood and studies are in progress. The protection of landscape and maintenance of aesthetics is important to the natural beauty and ambiance of Lake Vernon.

High Profile Landscapes – The profile of Big Island is identified as one of the most significant landscape features on Lake Vernon and uncontrolled development would

impact the scenic beauty of the surrounding area. High profile development constructed on the top of Big Island would affect the natural beauty of this landscape. Other high profile landscapes are identified in Section 6 and should be protected in a similar fashion.

Noise and Lighting – Noise and lighting issues have increased over the past five years. Education and communication are among the best options to deal with this issue.

Shoreline and Treeline – The shoreline and treeline are two important landscape features and efforts should be made to ensure the naturalness of these areas.

6. Improve Social Life

Lake Vernon has a history of social activity and the Resident Survey indicated that social life is an important aspect of living on Lake Vernon.

Boating Activity – The Summer Residential Survey indicated that there are about 1.47 motorized boats and 1.68 non-motorized boats per household. Residents on Lake Vernon are concerned about noise, wake, water pollution, safety and the use of personal watercraft.

Recreation - There are many recreational opportunities in the Lake Vernon watershed. Resorts, commercial operators and private camps provide opportunities for lake and non-lake residents to enjoy the natural and recreational amenities of the lake.

7. Maintain Natural Shorelines

The de-naturalization of shorelines is perceived as a major impact on natural and landscape features. Removal of shoreline vegetation adversely affects the natural shoreline that is so desired for scenic beauty and natural habitats. In addition, the elimination of vegetation roots takes away the holding action on the shoreline and causes erosion, which produces silting and destruction of fish habitat. Removal of trees destroys the shading needed by fish in shallow water. A naturally vegetated shoreline filters nutrients and sedimentation and this action disappears with its removal. The maintenance of water quality and the provision of fish and wildlife habitats depend upon healthy shoreline environments.

Vegetation Removal - Map 12 (insert at back of report) identifies shoreline and backlots that have been affected by the removal of vegetation. All shoreline and riparian areas that have had their natural vegetation removed are good candidates for shoreline rehabilitation projects. The Lake Association should initiate volunteer shoreline restoration projects in these areas by encouraging property owners to replant their shorelines with indigenous species. Communication and education provides the best approach to encouraging property owners to promote healthy shorelines.

Docks and Boathouses – The location, size and type of docks and boathouses can directly impact the health of fish habitat. New docks and boathouses should avoid critical fish habitat areas and shoreline wetlands. The type of construction as well as timing restrictions should be communicated through approval agencies to contractors and property owners.

Removal of substrate from Littoral Zone – The maintenance of the natural substrate (rocks, logs, debris) under the water is important to ensure healthy fish populations. Many residents remove this material in an effort to “clean up” their waterfront. These areas should be left undisturbed or at a minimum should be kept to as small an area as possible.

Increased setbacks and shoreline buffer areas – Development that encroaches upon the shoreline impacts the health of the natural buffer area. Increased setbacks and mitigation measures should be considered for areas adjacent to significant or critical habitat areas.

Shore walls – Shore walls are sometimes needed to stabilize shorelines. However, concrete and other vertical seawalls are of little use for fish or other aquatic organisms. They will deflect wave energy rather than dissipate it, usually resulting in erosion problems elsewhere. Properly constructed, slanted, rock rubble embankments, however, can increase fish habitat diversity, encourage vegetation growth, and dissipate wave action.

8.3 Discussion of Causes

New Development - New development includes new buildings or structures and new lot creation. Large portions of Lake Vernon are undeveloped and a significant number of new lots may be created if the Ministry of Natural Resource’s concerns about Lake Trout habitat are satisfied.

Re-development – Redevelopment includes the replacement of older cottages with new and increased residential or commercial densities. The re-development of residential and commercial existing lots may have the greatest potential to cause impacts to all natural, social and physical elements. The size and scale of new shoreline development (buildings and structures) should be relative to the shoreline frontage and area of the lot immediately adjacent to the shoreline.

Human Activities – Human activities include boating, snowmobiling, and landscaping. Many activities that impact natural, cultural and historic features, as well as generate noise, light and boating pollution are the direct result of human activities, which cannot be regulated by land use planning. Positive results are best achieved through long-term education, communication, and the promotion of proper conduct and good stewards.

Natural Occurrences – Natural occurrences include natural cycles or elements such as weather, rainfall and temperatures and people cannot be held responsible for everything that impacts the quality of life on Lake Vernon. These natural cycles and variations can cause temporary problems and result in increased awareness of the environment.