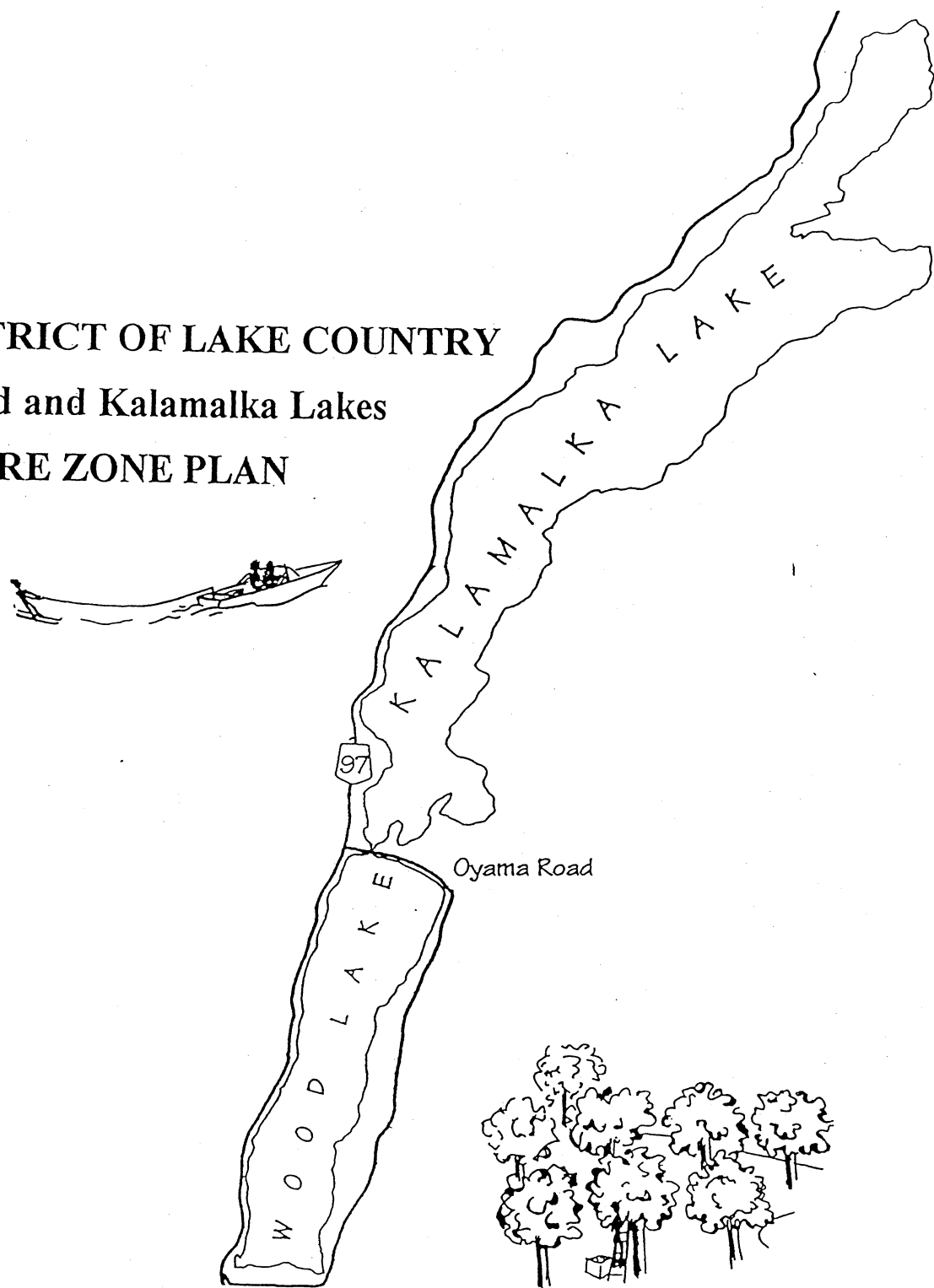


10/1/1978

**DISTRICT OF LAKE COUNTRY**  
**Wood and Kalamalka Lakes**  
**SHORE ZONE PLAN**



Schedule E to Official Community Plan Bylaw 96 - 075

# WOOD AND KALAMALKA LAKES SHORE ZONE PLAN

February 1998

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## ACKNOWLEDGMENTS

The Wood and Kalamalka Lakes Shore Zone Plan was commissioned by the Central Okanagan Regional District in March of 1995. The plan was prepared by Griggs Tassie & Associates, with environmental review by Trumbley Environmental Consulting.

Following incorporation of the District Municipality of Lake Country in the spring of 1995, work on the plan was assumed by the District, and work continued under the auspices of the elected Council and its Advisory Planning Commission.

During the planning program, extensive consultation and input was received from community members and from provincial agencies. The following persons and agencies are acknowledged, for having contributed considerable input into the Shore Zone Plan:

Municipal Council, District of Lake Country  
Marnie Skobalski, Planner, District of Lake Country  
Randy Rose, Administrator, District of Lake Country  
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Delphine Carlson, Technologist, Regional District of Central Okanagan  
Planning staff from the adjacent communities represented by City of Kelowna, District of Coldstream, and North Okanagan Regional District.

Special appreciation is noted to the editors and correspondents of the Lake Country Calendar, which gave ongoing community newspaper coverage to the planning program.

The final word of appreciation is due to two individuals, Harold Butterworth and Daryl Bauman, who graciously conducted the May 1995 shoreline boat tour for members of the consulting team, the project steering committee, and provincial and local government agents.

## PART 1: INTRODUCTION

Wood and Kalamalka Lakes are a unique resource, renowned for their natural beauty throughout the Okanagan and British Columbia. Traditionally, the lakes serve a variety of purposes at the local, regional, and provincial levels, and are under increasing pressure for development for a number of uses.

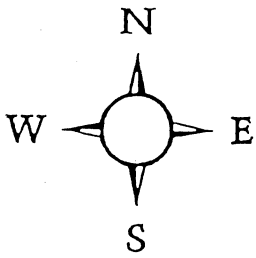
Recognizing that the lakes have a finite capacity, the District Municipality of Lake Country has commissioned a Shore Zone Plan and a Foreshore Structures Bylaw. The planning exercise reflects co-operation between local and provincial authorities, and will result in the implementation of local objectives for the future of Wood and Kalamalka Lakes.

### PLAN AREA

This District of Lake Country Shore Zone Plan includes all of Wood Lake and the southern part of Kalamalka Lake which falls within the municipal boundaries, as shown on the following Plan Area Map. A summary of the land uses along the perimeter of these two lakes is shown on Diagram 1: "Major Uses of Land Adjoining Wood and Kalamalka Lakes". The lake frontage or foreshore addressed by this plan is over 31 kilometres long.

Diagram 1: Major Uses of Land Adjoining Wood and Kalamalka Lakes (1997)

	Lake Frontage (kilometres)	Percentage of Total
Canadian National Railway	8.125	26.2%
Highway 97 and Oyama Road (not including highway pullouts)	6.025	19.4%
Lake accesses and highway pullouts	.910	2.9%
Parks - Kaloya, Reiswig & Beasley	1.475	4.7%
Rural Residential 15 parcels	1.920	6.2%
Single Family Residential 54 lots	1.535	4.9%
Multi Family Residential 41 units	.660	2.1%
Campgrounds & Motels 572 sites & 87 units	3.005	9.7%
Other Commercial Uses	.120	0.4%
Rural	6.605	21.2%
Undeveloped	.700	2.3%
<b>Total</b>	<b>31.080 km</b>	<b>100.0%</b>



Highway 97  
North to Vernon

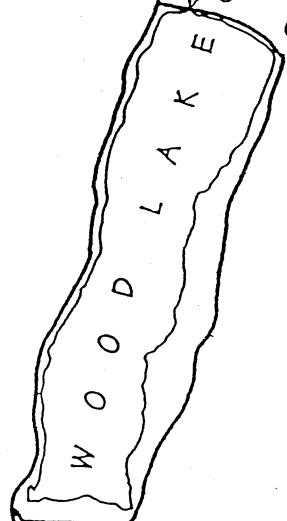
North Okanagan  
Regional District



LIMIT OF  
STUDY AREA

97

Oyama Road



Woodsdale Road

Highway 97  
South to Kelowna

Wood and Kalamalka Lakes  
Shore Zone Plan

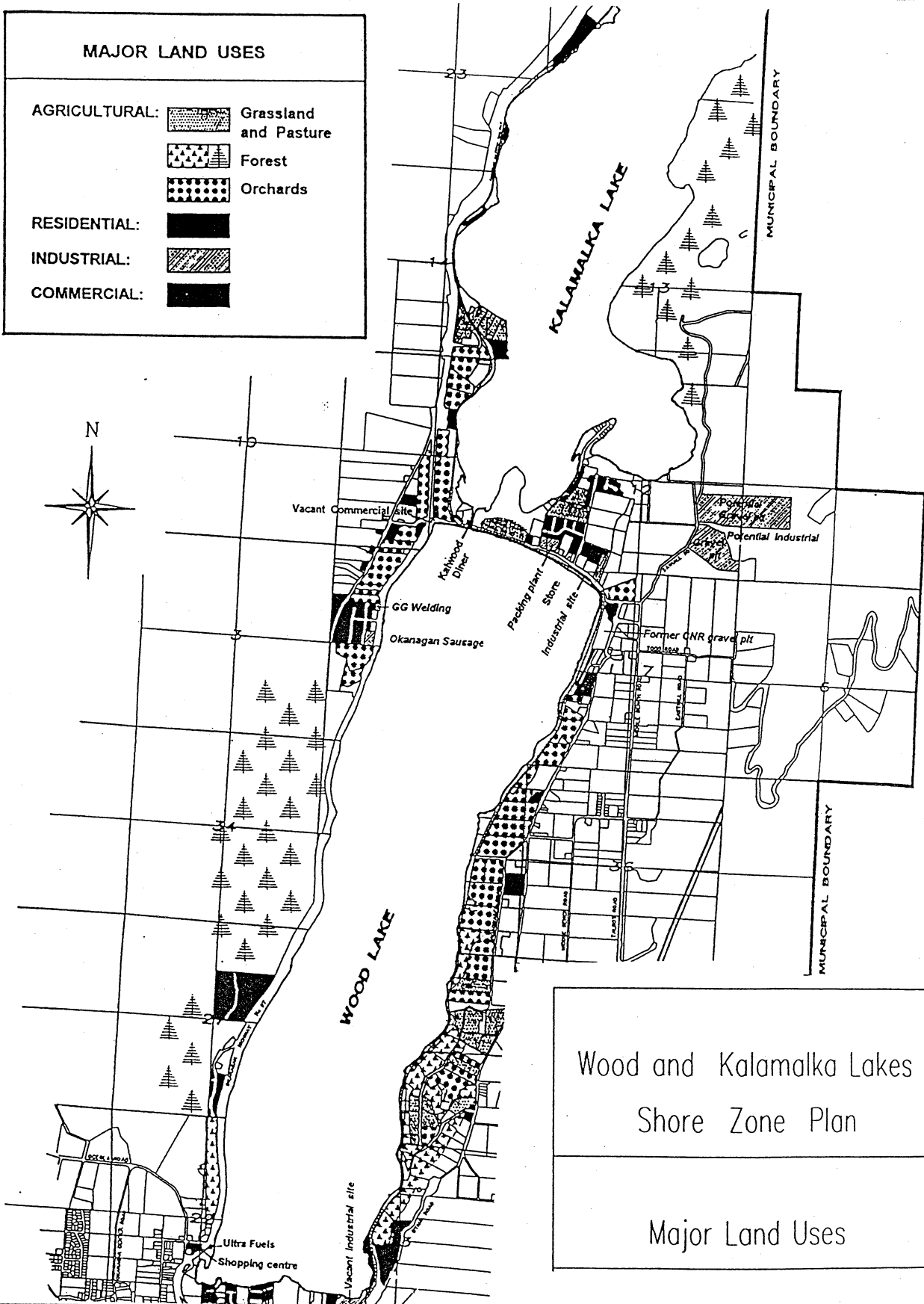
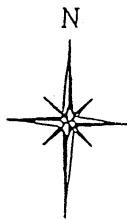
Plan Area Map

Scale: 1: 100 000



MAJOR LAND USES




- AGRICULTURAL:
- Grassland and Pasture
  - Forest
  - Orchards
- RESIDENTIAL:
- INDUSTRIAL:
- COMMERCIAL:

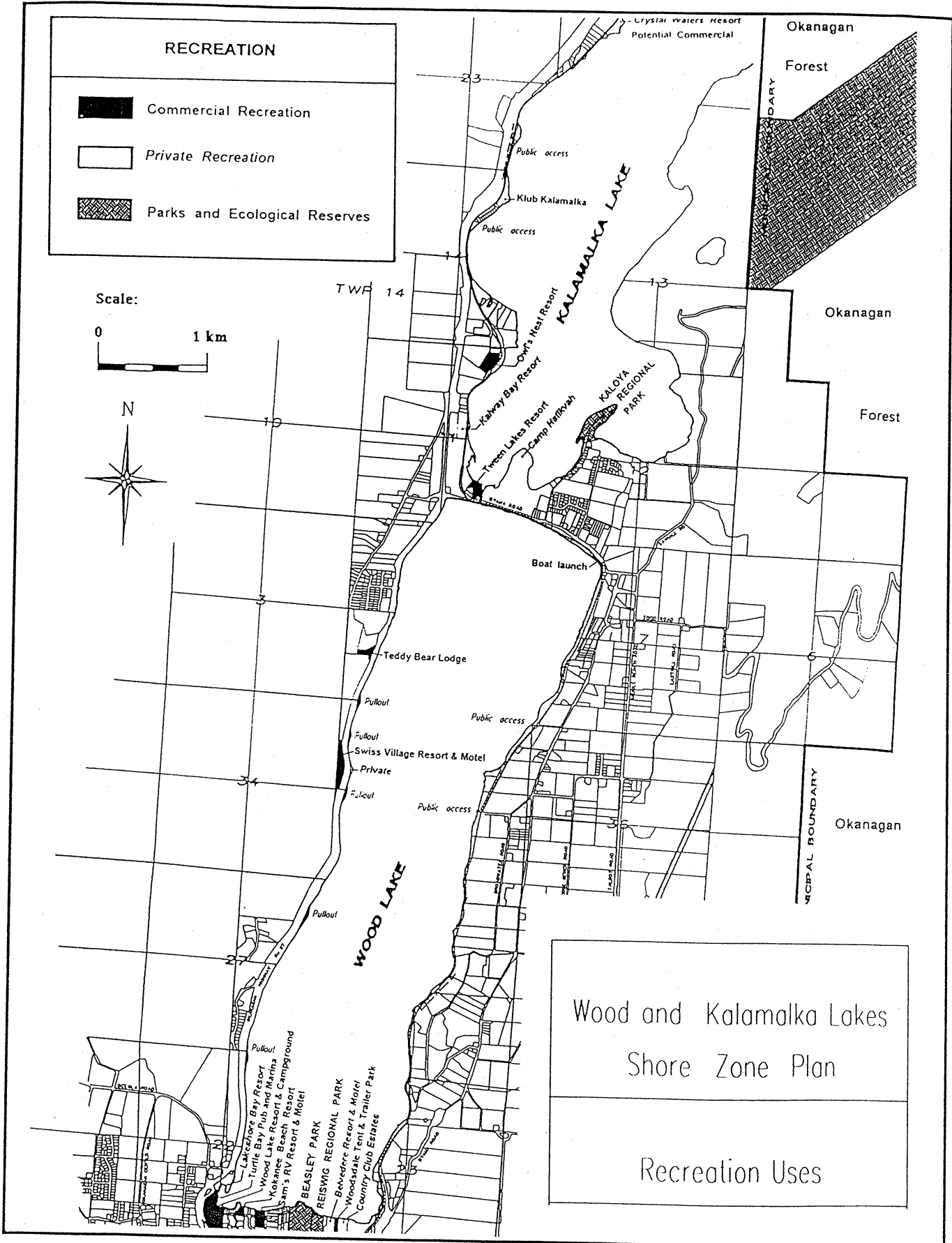
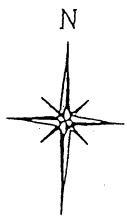
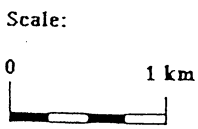


Wood and Kalamalka Lakes  
Shore Zone Plan

Major Land Uses

**RECREATION**

-  Commercial Recreation
-  Private Recreation
-  Parks and Ecological Reserves



Wood and Kalamalka Lakes  
Shore Zone Plan

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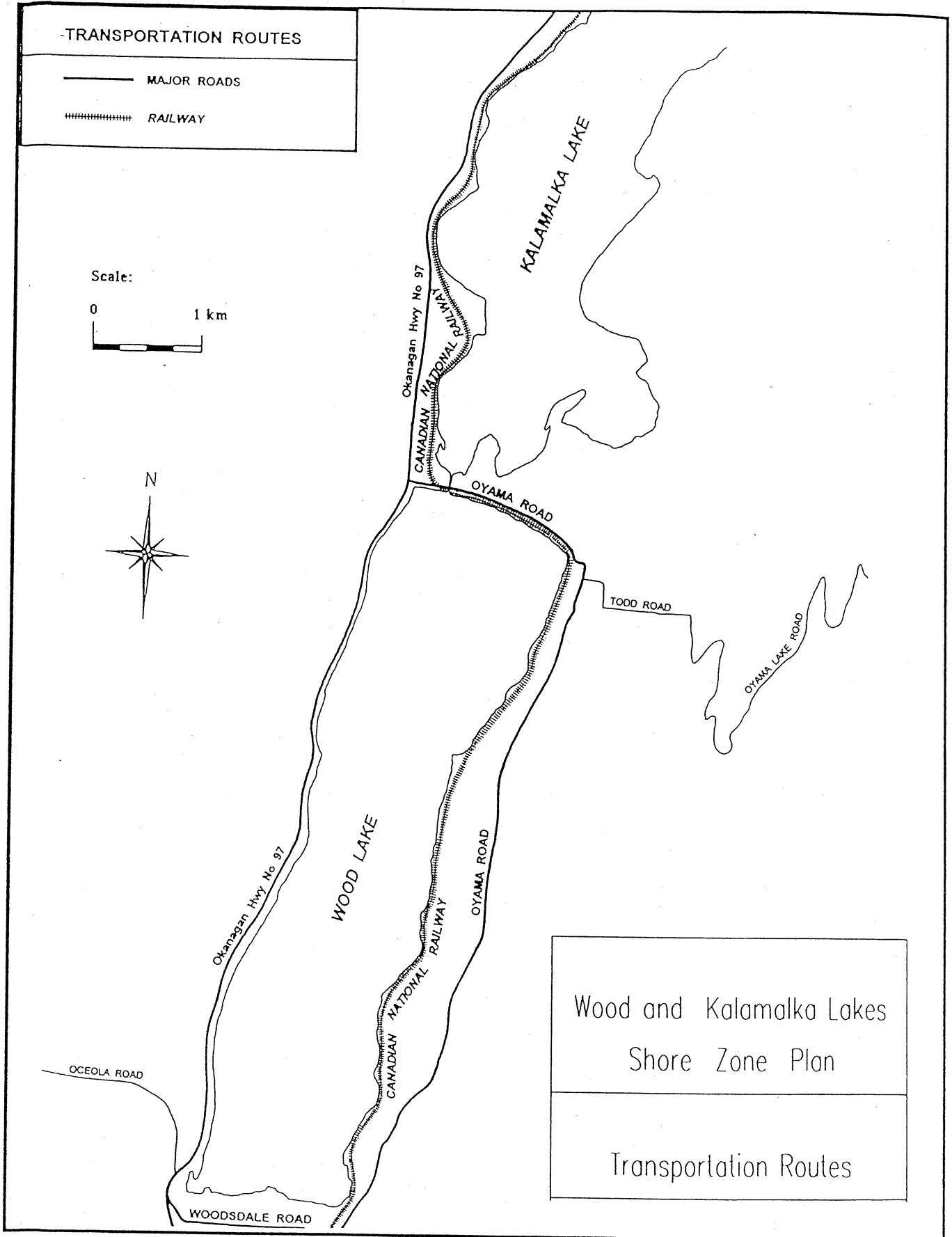
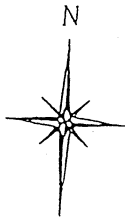
Recreation Uses

TRANSPORTATION ROUTES

MAJOR ROADS

RAILWAY

Scale:



Wood and Kalamalka Lakes  
Shore Zone Plan

Transportation Routes



**WILDLIFE HABITATS  
AND FISH SPAWNING AREAS**

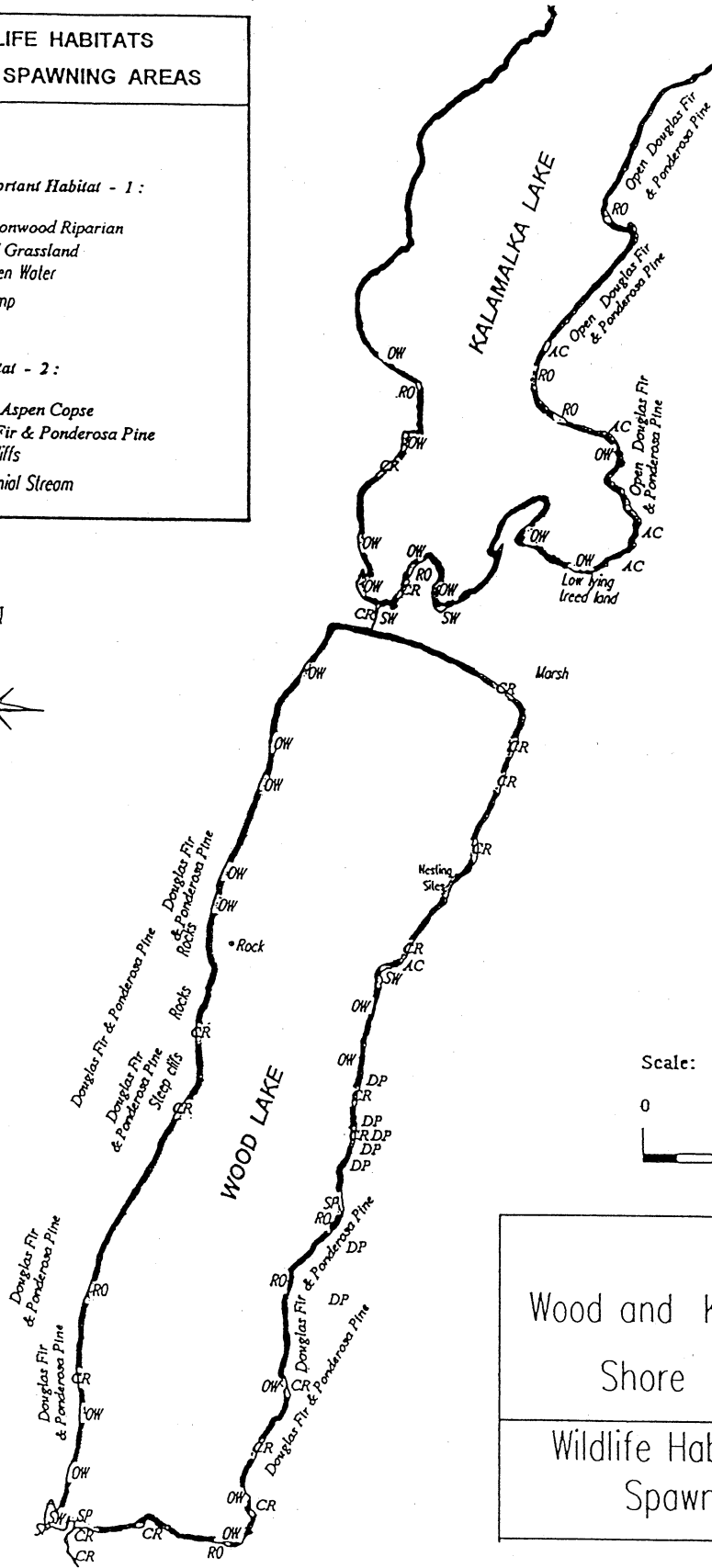
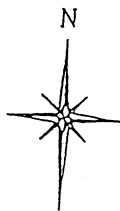
**LEGEND :**

*Extremely Important Habitat - 1 :*

- CR -Black Cottonwood Riparian
- BS -Bunchland Grassland
- OW -Shallow Open Water
- SW -Shrub Swamp

*Important habitat - 2 :*

- AC -Trembling Aspen Copse
- DP -Douglas Fir & Ponderosa Pine
- RO -Rocks & Cliffs
- SP -Slow Perennial Stream



Wood and Kalamalka Lakes  
Shore Zone Plan  
Wildlife Habitats and Fish  
Spawning Areas

## **PLANNING CONTEXT**

Wood and Kalamalka Lakes are dominant landscape features and are an important component of the economic foundation of the District of Lake Country. This municipality is experiencing a period of rapid growth and development and has recently updated the Official Community Plan to deal with these conditions. The Official Community Plan provides for the following:

1) **An increasing population.**

The increase depends on a number of factors, some of which are influenced by national and international trends. Notwithstanding these external factors, the population of Lake Country is expected to grow at least at the same rate as the Regional District of Central Okanagan, in the order of 2 to 3% per year. Using a modest rate of 2% per year, the resulting population in year 2005 would be 11,000 people.

2) **A strengthening of the four communities of Winfield, Oyama, Okanagan Centre and Carr's Landing.**

Because of the long term costs of sprawled development, the efficiency of servicing a well-contained urban area, and the constraints of the Agricultural Land Reserve, it is likely that most of the increase in population will be confined to the communities of Winfield and Okanagan Centre, situated south and west of Wood Lake. Oyama, situated between Wood and Kalamalka Lakes, is not expected to grow substantially.

Commensurate with the strengthening of the four communities will be an intensification of the commercial hub at Winfield, because of its strategic location and because of the existing commercial base. It is also expected that the existing industrial base at Winfield will expand.

3) **Protection of the rural and agricultural character of Lake Country, the open space, and the lakes, while at the same time providing for linkages between the residents of the four communities and the less populated surrounding area.**

The methods by which community objectives will be attained include designating foreshore development permit areas, protecting agricultural lands and the agricultural economy; identifying and preserving open space, amenity and ecological areas for both active and passive recreation; protecting the lakes; and connecting the open space and lakes with a network of roads, walking and cycling paths. Some of the methods are within the scope of the Official Community Plan and not part of this plan. However, the consideration of, and access to, open spaces near the lakes, and the environmental protection of the lakes, are all within the scope of this Shore Zone Plan.

**OBJECTIVES**

The principal objectives of the Shore Zone Plan are:

- (1) to plan the use of the lakes over the long term in a manner that will sustain them indefinitely, that will take into account the environmental and recreation functions they fulfil, and that will be consistent with overall rural nature of the community.
- (2) to regulate and provide guidelines for the design of wharves and other shoreline structures.

The following specific objectives relate to the plan policies and regulations which are contained in Section 3 of this plan:

1) **Environmental**

- to protect and enhance water quality;
- to protect endangered species of plants and animals, critical areas of fish and wildlife habitat, and shore zone ecosystems;
- to maintain significant landscape, ecological, visual and cultural features;
- to maintain stormwater runoff and lake discharges at safe levels for both quality and quantity;
- to work with provincial authorities, ensuring that wharves and other structures along the foreshore and lake bed are environmentally acceptable, safe, and do not obstruct fish, wildlife, pedestrians or flow of water.

2) **Social**

- to provide access to the lakes for present and future generations for community needs;
- to ensure the safety and security of the foreshore;
- to ensure that uses within the shore zone and adjoining the upland operate in harmony with each other.

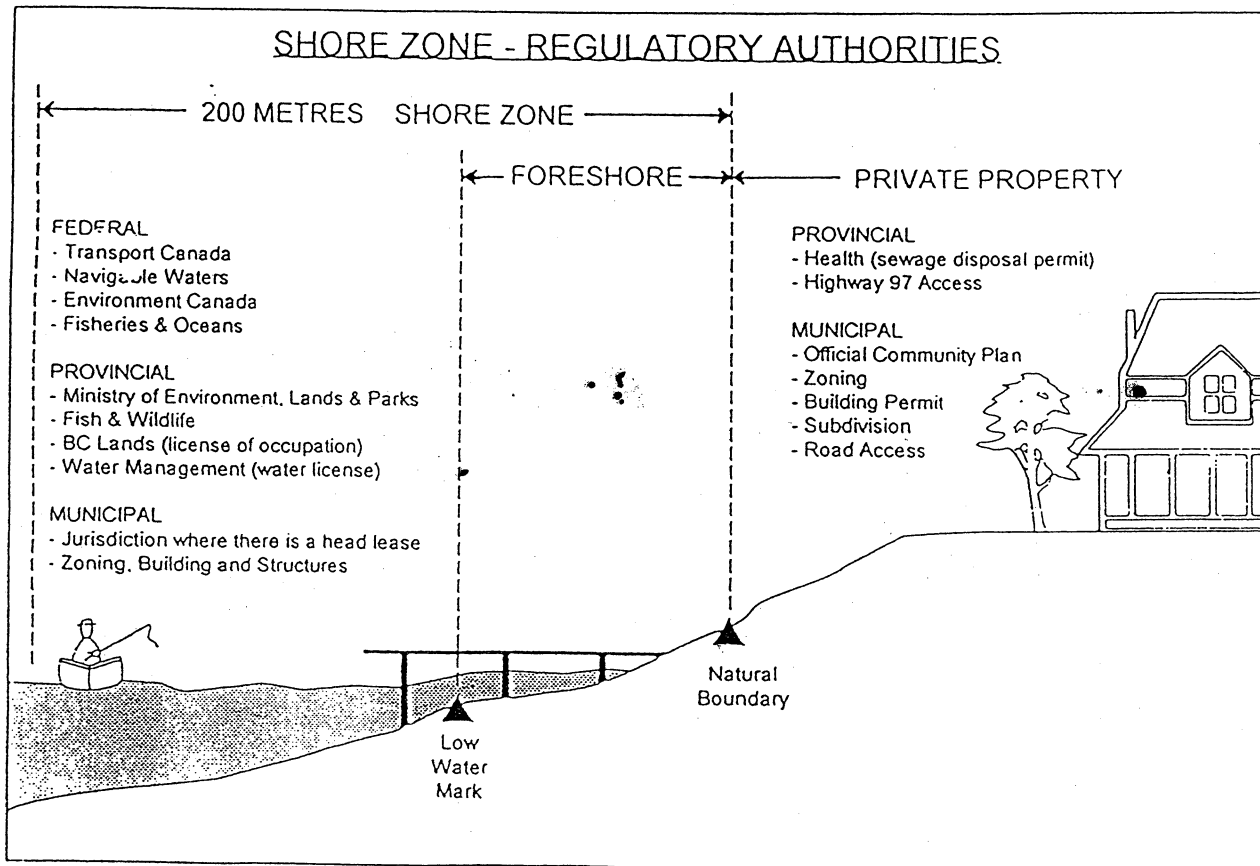
3) **Economic**

- to ensure that the lakes are used in an environmentally sustainable manner that will enhance the economic prosperity of the area.

## PART TWO: JURISDICTION AND DEFINITIONS

District policies respecting the shore zone and the foreshore will be implemented through the regulations, guidelines and management practices of a number of agencies. An outline of the various authorities and their respective areas of jurisdiction is provided in Diagram 2 "Shore Zone - Regulatory Authorities".

Diagram 2



For the purposes of this plan, the following definitions apply:

**ACCRETION:**

The gradual accumulation of land out of the lake. Accretion is of two kinds; by alluvium i.e. by the washing up of sand and soil, so as to form firm ground; or by dereliction as when the water retreats below the usual high water mark.

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**DISTRICT:**

Refers to the District Municipality of Lake Country, incorporated on May 2, 1995.

**EUTROPHICATION:**

The process of making a body of water nutrient-rich, either naturally or as a result of artificial high nutrient loading pollutants, and hence having an over abundant growth of water plants and animals.

**FORESHORE:**

The strip of land between high and low water marks.

**LITTORAL:**

The area of shallow water near the shore. This is a biological term relating to the penetration of sunlight through the water to the subsurface.

**NATURAL BOUNDARY:**

The high water mark of a body of water, where the common or regular presence of water leaves a mark on soils and vegetation. (Note that the Natural Boundary is known as the High Water Mark in some BC Lands documents)

**RIPARIAN RIGHTS:**

The rights and privileges that are incidental to the ownership of land fronting onto a body of water. Title to waterfront land extends to the natural boundary.

**SHORE ZONE:**

An area extending from the natural boundary to any point within the lake, 200 metres offshore, and includes the foreshore within the District of Lake Country. (Note that the District of Lake Country includes all of Wood Lake and all of the southern portion of Kalamalka Lake. The northern portion is part of the Regional District of North Okanagan.)

**STRUCTURES BYLAW:**

A municipal bylaw controlling the size and use of structures. In the shore zone, it includes structures which are fixed to, supported by or sunk into the land or water, such as docks and boat houses.

**UPLAND:**

Land lying immediately adjacent to the foreshore. (Note that "upland" includes all of the 100 metre corridor known as "shoreland property" in some BC Lands documents).

**VERNON CREEK WATERSHED:**

The area including all streams draining into Wood and Kalamalka Lakes, and then exiting the northern end of Kalamalka Lake through Vernon Creek to Okanagan Lake.

## PART 3: POLICIES

Local management of the lakes focuses around five dominant topics. These are described in the following pages as:

1. Lake Access
2. Water Quality and Quantity
3. Boating Safety
4. Habitat Protection
5. Management

Community objectives for the lakes will be met through policies contained in the following sections:

### 3.1 LAKE ACCESS

As the population increases, the majority will be housed on land that is not lake frontage, and there will be a desire for residents to have access to the lake. Further there is demand for a continuous linear system of roads, paths, bicycle ways, etc., in view of or along the lake.

Public access to the foreshore is well secured at only three locations within the 31 kilometre shoreline. Reiswig Regional and Beasley Community Parks on Wood Lake and Kaloya Regional Park on Kalamalka Lake provide beach access with adequate parking and other day use facilities.

Road end access and small boat launching is available at several points on the south and east shores of Wood Lake. Lack of parking and disturbance of adjacent properties restrict the increased use of road ends. In addition there are two commercial boat launches at the south end of Kalamalka Lake. A third commercial boat launch, located in the south-west portion of Wood Lake, was closed in 1996, leading to demand for a replacement facility.

#### Policies:

3.1.1. New waterfront public recreation and boat launch sites will be identified through ongoing planning processes, and acquired over the long term in response to regional population growth, expanded tourism, and/or the loss of access sites along Highway 97. The following factors shall be considered in identifying potential public land acquisitions along Wood and Kalamalka Lakes:

- integration with the long term community recreation programs and budgets;
- protection of wildlife and fisheries habitat;
- natural attributes for boat launches, beaches, or other marine recreation;
- provision of sani stations, road access and parking; and
- provision of linkages with other public accesses and parks.

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By following a broad and diverse range of approaches for acquiring land at the foreshore, the District will be able to coordinate its public access, habitat protection, boat launch and recreation site goals with private land development and neighbourhood planning decisions. The following is a description of the methods of land acquisition and how these methods may be applied.

**Park dedication:** In subdivisions, including both fee simple and strata, which create three or more lots, acquisition of up to 5% of land area or cash in lieu for park purposes.

**Right of Way dedication:** In subdivisions, acquisition of a road right of way along the foreshore, and/or acquisition of beach access points every 200 metres (or 400 metres in rural areas).

**Purchase of land:** When negotiated in the interest of both parties, purchase of land, rights of way, and/or easements for public purposes, from park reserve funds.

**Land donations:** Acceptance of donated land, rights of way, and/or easements from private individuals and community groups, for public recreation and/or habitat protection purposes.

**Zoning amenity bonusing:** Acceptance of donated land, rights of way, and/or easements for additional public access or habitat protection purposes, as a result of zoning bylaw provisions. (See also policy 3.4.3)

#### **Highway 97:**

Five highway rest stops and pullouts exist on the western shore of Wood Lake. These are well known and well used, by tourists, residents and commercial drivers, all year round. In the winter they provide local access to favoured ice fishing grounds. Provincial highway plans to widen Highway 97 to four lanes threatens the existence of these pullout sites.

Highway 97 is a major highway and carries high volumes of traffic, particularly in the summer months. Extensive sections have been four-laned, and the section along Wood Lake is the only part between Swan Lake Junction north of Vernon and the Coquihalla Junction at Peachland that remains at two lanes. It is inevitable that this part will be widened, but it is not known whether the present location will be used or whether an alternative route, further west and above the lake, will be selected.

If the highway is relocated to the westerly route, above the lake, the present highway can revert to a local road, providing easier access, and facilitating use of the lake and the shore for water-based recreation, boat launching, walking and cycling.

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Policies:

3.1.2. The District supports the proposed relocation of Highway 97 so that aquatic habitat remains intact and so that the existing corridor may be protected as recreation access to and along Wood Lake.

3.1.3. The District shall retain and maintain existing municipal road ends that provide local access to the lakes.

Canadian National Railway:

The Canadian National Railway operates a daily freight service on its branch line connecting Kelowna with the main line at Kamloops. The line follows the eastern shoreline of Wood Lake, crosses the isthmus at Oyama, and proceeds along the foreshore and western uplands of Kalamalka Lake. While rail traffic is light, it is slowly increasing, and Canadian National expects that more traffic may be diverted to the railway as highway congestion and trucking costs increase. For the present Canadian National plans to continue its rail operation indefinitely.

The infrequency of train traffic has led to increased use of the right-of-way as a walking trail, particularly along the isthmus separating Wood and Kalamalka Lakes. In addition land across from a former CNR gravel pit at the north east corner of Wood Lake is now used as a lake access and boat launch. Safety and long term use of this access are concerns.

Policies:

3.1.5. Contingency plans will be developed by the District, to consider acquisition of CN Rail lands for access to and along Wood and Kalamalka Lakes, if the railway corridor is abandoned.



**Pedestrian Corridors:**

The concept of creating pedestrian access routes along the shoreline has been put forward as a means of increasing accessibility to the lakes. The foreshore itself is usable only in late summer, autumn and winter periods of low water, when there is sufficient width between the natural boundary and the water to provide for pedestrian access.

It is not considered feasible or necessarily desirable to create a continuous corridor along the entire shoreline of Wood and Kalamalka Lakes. Priorities need to be established in selecting areas for public routes. The following should be considered:

1. Corridors should be located in areas where there are a number of waterfront destination points within easy walking distance, in areas where existing road rights of way do not provide access along the lakes, and in neighbourhoods designated for higher density residential and tourist development such as the Winfield area at the south end of Wood Lake.
2. In low lying areas, pedestrian routes may interfere with natural areas critical for plant and animal habitat. Nesting areas for birds and wildlife habitat areas are not compatible with many public uses.
3. Where the foreshore abuts smaller lots such as in single family residential areas, it is often intersected by piers, floats, and other improvements designed to protect uplands against erosion. In these cases it would be disruptive and confrontational to insist on a public pathway, even though it may not be encroaching on private land.
4. Experience has shown a lack of respect from some foreshore users, causing upland property owners to have concern about vandalism, rowdy behaviour and discarded refuse, which is difficult to monitor in confined locations such as along the foreshore.

The priority of securing and developing additional public corridors will be largely determined by the continued availability of provincial transportation corridors as informal lake access.

**Policies:**

3.1.6. Right of public access to the foreshore as well as riparian rights of upland owners will be protected. While the lakes are viewed as a public amenity, the District will develop access policies which respect the privacy of single family residential use and which protect agricultural operations from public interference. The District will work with property owners to introduce foreshore use regulations, including noise restrictions, prohibition of open campfires and control of non resident dogs.

February 26, 1998

3.1.7. A linear system of public paths and bicycle ways may be designed along existing and future public rights of way close to the shore and shall be clearly marked with signs, so as to discourage foreshore use in private upland areas. Design details and the location of pedestrian and bicycle paths will be further determined in Sector Plans for the Woodsdale and Oyama areas.

**Protection of Riparian Rights:**

As use of the waterfront increases, and as the District acquires new public sites, it will become increasingly important to work with adjacent property owners in respecting private riparian rights. The following measures may be employed:

**Policies:**

3.1.8. The District may undertake measures to improve security of foreshore property, including support to community enforcement measures, bylaw enforcement, ensuring that RCMP have access to marine patrols, supporting Neighbourhood Watch, and limiting hours of use along road ends and pedestrian rights of way.

3.1.9. The District shall place signs at high traffic areas that inform members of the public of the rights and responsibilities of foreshore use and shall consider placing signs at edge of parks to indicate where private property and the natural boundary is located.

### 3.2 WATER QUALITY AND QUANTITY

It is imperative to Lake Country residents that water quality be preserved for continued potable water, swimming and tourist amenity uses. Aquatic flora and fauna health is both an indicator and a factor in the maintenance of a renewable supply of potable water. Kalamalka Lake is an especially attractive tourist amenity, with an emerald green shimmer caused by marl formation on the lake bottom in shallow areas.

Wood Lake is the smaller and shallower of the two lakes, and supports a greater density of upland development. The Ministry of Environment records from 1970 to 1988 show that it is mildly eutrophic, but that water quality improved over that period. For reasons unknown the water quality in Kalamalka Lake deteriorated during the same period.

Not only quality but also water quantity must be maintained, to assure an adequate supply for agricultural and domestic consumers, to provide sufficient flushing action, and to meet the commitments of downstream users. While licensing of water is a provincial responsibility, it must be administered with local co-operation in view of the local needs.

The District of Lake Country is planning for provision of a community sewer system through Winfield to the south end of Wood Lake. The extension would replace the present system of on-site sewage disposal in parts of the Winfield and Woodsdale area, and would remove some of the pollutants that are now eventually ending up in the lakes.

Storm drainage policies have been adopted by the District Official Community Plan to reduce pollutants from storm runoff before discharging into the lakes.

Concerns exist around a number of unknown factors which could affect water quality and foreshore habitat. For instance, the impact of increased boat traffic is unknown, as is the impact of the recent closure of the Hiram Walker distillery, resulting in reduced flow in Vernon Creek. There is also concern around incidents of environmental degradation, such as illegal dumping, toxic spills, topsoil removal, and unauthorized works in waterways and along the foreshore.

#### Policies:

3.2.1. The District shall work with provincial agencies to maintain and improve water quality in Wood and Kalamalka Lakes through wastewater management programs, including the following:

- planning for the provision of a community sewer to areas identified for urban development (south end of Wood Lake in particular),
- subject to the provincial Health Act, requiring the improvement of inadequate on-site sewage disposal systems, with particular attention to older systems when approving any construction on waterfront lots,

- requiring that on-site sewage disposal systems for new development be situated 10 metres or more away from areas designated as environmentally sensitive,
- requiring that new development be on parcels that are either adequate for long term on-site sewage disposal or are intended to be connected to a community sewer system, and are in compliance with District standards,
- requiring in co-operation with Ministry of Environment, municipal maintenance agreements on existing private wastewater utilities, and
- permitting no new private wastewater utilities.

3.2.2. Minimum parcel sizes for new development based upon on site sewage disposal shall be determined by Ministry of Health guidelines, with reference to Ministry of Environment Soil Capability mapping. Resulting parcel sizes may be larger than the typical parcel size approved in previous years. Preparation of municipal standards for on site sewage disposal shall be considered.

3.2.3. The District shall advocate for federal legislation that will require boats with toilet facilities operating on Wood or Kalamalka Lakes to have a holding tank that will prevent lake discharge.

3.2.4. The District shall work with marina operators to develop facilities for the discharge of holding tanks in boats operating on Wood or Kalamalka Lakes.

3.2.5. The District shall work with provincial and federal agencies to develop programs that will reduce discharge, and that require 30 metre or greater setbacks for the storage of dangerous materials, with the goal of eliminating agricultural, industrial, road, railbed, and other pollutants.

3.2.6. The District shall require that all development and any site works within 30 metres of the foreshore shall have a stormwater management plan, consistent with a comprehensive plan of drainage, emphasizing protection of natural drainage systems.

3.2.7. The District shall, in conjunction with adjacent local governments, the Province, and other agencies, initiate and participate in annual programs to monitor water quality, and to evaluate the effectiveness of water quality improvements.

3.2.8. The District shall work with provincial agencies and shall enact municipal measures, to protect the Vernon Creek Watershed, such as good forestry practices, maintenance of large lot zoning, and compliance with the Ministry of Environment's "Land Development Guidelines for the Protection of Aquatic Habitat".

### 3.3 BOATING SAFETY

Increased water activity and a greater mix of vessels are creating congestion and hazards throughout the lakes. Specifically this is caused by a variety of users such as ski jets, water-skiers, swimmers, canoes, paddle boats, sail boats and fishing boats mixing in confined locations close to boat launches and beaches. These conditions are most apparent in the waters leading to and within the channel connecting Wood and Kalamalka Lakes, where there is speeding and a lack of consideration for others. In other locations rock hazards and the growing presence of buoys and water-ski courses disrupts the orderly movement of boat traffic. Throughout there is a shortage of marine police patrols and lack of enforcement under the Navigable Waters Protection Act.

Present trends indicate that in Wood and Kalamalka Lakes the number of boating craft, their speed and periods of operation are all likely to increase, resulting in increased conflict and hazards. Water safety may be improved by licensing of motorized vessels, by policing, and by designating certain activities within specified areas. The involvement of the District should be carefully considered, for while it may be possible to reduce the conflict and hazard, the measures required for enforcement and the assumption of responsibility would be substantial.

#### Policies:

3.3.1. The District shall advocate for improved boating safety, particularly through the channel and at other sections of the lakes where a high volume of marine traffic, and a variety of pleasure craft operate in confined areas.

3.3.2. The District shall examine means of regulating the speed of watercraft particularly within congested areas, within and adjacent to waterfowl nesting areas, and in areas or at times when wake action may damage structures and upland parcels. The District supports regional and provincial efforts to establish a shore zone speed limit for all lakes in British Columbia. The District recommends that vessels travelling within 30 metres of the shore would be restricted to a maximum speed of 10 kilometres per hour.

3.3.3. The District shall continue participation with regional efforts to co-ordinate regulations and to enforce safe boating regulations throughout the Okanagan Valley. This will include increased policing and public awareness activities such as those contained in Part 4 of this plan.

3.3.4. The District, in co-ordination with regional efforts, shall include provisions within Noise Regulation and Municipal Ticket Information Bylaws to provide a means by which a ticket can be issued if noise created by a motorboat or other motorized carrier such as snow mobile and ski jets) is affecting the upland area or if a motorboat is not muffled in accordance with the bylaw.

3.3.5. Public swimming areas will be designated and clearly marked with buoys to ensure safety.

### 3.4 HABITAT PROTECTION

A study on the environmental aspects of Wood Lake and the south end of Kalamalka Lake was completed in 1995 by Trumbley Environmental Consulting. It determined that one of the functions of the lakes is to provide habitat for fish and wildlife, and further that the prime areas are those in shallow water, wetlands, and grasslands. Because the loss of habitat is the prime cause for the endangerment of species, protecting these habitats is of vital concern.

The lakes offer a sport fishery of Kokanee, Rainbow and Lake Trout, and Whitefish. Provincial environment officials are closely monitoring fish stocks and are encouraging greater efforts to protect spawning grounds as well as water habitat for sport fish stocks. The wetlands act as nature's kidney as they provide a natural filtering system for nutrients entering the lake, thereby improving water quality. They also provide habitat for many species of birds, amphibians, plants and mammals including several species known to be endangered. Wildlife sightings provide an aesthetic feature contributing to the quality of the landscape.

The Trumbley study analyzed the perimeter of the two lakes and showed the features on an Environmental Habitat Classification Map. The features were classified by type, and importance, varying in degrees from one to five. The study also concluded that a substantial amount of land adjoining the lakes, especially Wood Lake, had been developed in the past two or three decades, in most cases at the expense of natural habitat. Development activities that threaten habitat are, most importantly:

1. Concrete or rock breakwaters, and docks and retaining walls in the foreshore.
2. Removal of natural vegetation required for habitat, for shading of spawning grounds, and for retention of storm water discharges.
3. Human encroachment on and disruption to wildlife corridors between the lakes and hillsides.
4. Fill of wetlands, marshes and swamps.

Natural areas are important to protect because they are high in biodiversity, and contain a variety of plant and animal species. In addition to its intrinsic and amenity values, biodiversity plays an essential role in maintaining ecosystems and is important economically for the development of industrial, agricultural and medicinal products. Biodiversity is better preserved in a large block than in smaller, isolated units. Protection also needs to be given to natural corridors through which wildlife species such as deer migrate on a seasonal basis.

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A tabulation of the environmentally sensitive areas of the lakes has been endorsed by the District, and lists five areas, one at the south east corner of Wood Lake, and four at the south end of Kalamalka Lake. These areas identified include upland features which are closely linked to critical foreshore areas.

**Policies:**

3.4.1. The District shall work with provincial agencies to increase the protection of endangered species, wildlife and fisheries habitat, and unique or representative ecosystems.

3.4.2. As new provincial guidelines are made available, the District shall review its Environmentally Sensitive Development Permit Area Designations and Guidelines, to ensure that sufficient protection is provided to endangered species, and to known shore spawning grounds.

3.4.3. Zoning amenity bonusing may be considered by the District, in order to protect environmentally sensitive areas within the shore zone.

3.4.4. Any development proposal adjoining the lakeshore, wetlands, or creeks designated as Environmentally Sensitive Area shall have an impact assessment, in accordance with Development Permit Area regulations of the District.

3.4.5. For protection of the natural environment, designation of the shore zone of Wood and Kalamalka Lakes as a Development Permit Area shall be maintained. All construction shall be undertaken in accordance with development permit area guidelines based on current Ministry of Environment "Land Development Guidelines for the Protection of Aquatic Habitat".

### 3.5 MANAGEMENT

There is a growing sense that, for a variety of reasons, all land use demands around Wood and Kalamalka Lakes cannot be accommodated. Residents are concerned about pending conflicts with highway expansion, privacy and enjoyment of shore zone properties during this period of rapid growth, higher densities and higher impact uses, and lack of safety and enforcement measures.

Important decisions need to be made, such as how much development can be supported from Oyama Road, particularly along the isthmus and at the intersection with Highway 97. Environmentally sensitive lands and future park sites need identification and protection in advance of development proposals. Adequate setbacks from the shoreline and construction guidelines need to be established for all uses.

Decisions should be made as to whether the public interest is best served by providing more boat launches and where they may be located. Contingency plans in the event of rail line abandonment should be determined. In addition, the question of supporting any development along the eastern shore of Kalamalka Lake needs to be looked at strategically by the entire region.

There is a growing support for the District of Lake Country to determine a future vision for the land uses surrounding the lakes, and then to implement community based measures which regulate land uses and shore zone practices in accordance with the vision.

There are a number of options for future shore zone management. The first is the option for the District to establish policies and to provide regulations which would guide provincial authorities in their management Wood and Kalamalka Lakes.

The second option is for the District to obtain approval authority over shore zone structures through the granting of a foreshore head lease. During the course of preparing this plan, the District participated with other local governments in the region at closely examining the Head Lease option. The District has expressed its intent to negotiate a foreshore head lease, upon resolution of staffing and liability questions, including liability for existing non licensed structures.

#### Policies:

3.5.1. Until the District assumes a foreshore head lease, development of the foreshore and use of the lakes will continue to be controlled through the issuances of licences, permits and leases by BC Lands as provincial authority. Approvals for foreshore structures and lake activities shall be consistent with policies and regulations of this Shore Zone Plan.



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3.5.2. The District shall undertake to co-ordinate policies respecting Wood and Kalamalka Lakes with provincial and federal authorities, as it has done in this plan. The District shall seek continued provincial and federal support for local objectives in the issuance of licenses, permits and leases.

3.5.3. Generally development which views the shore zone as a replacement for upland will not be supported by the District. This includes development such as floating restaurants, hotels or residential house boats, all uses which should be accommodated and are better serviced in upland areas.

3.5.4. Where it is considered that local objectives are not achieved through existing provincial guidelines, new guidelines have been developed and are contained in Part 4 of this plan.

3.5.5. The District shall work with major property owners, such as CN Rail, to require that foreshore tenure not be leased to third parties, and to encourage licensing of seasonal moorage facilities.

3.5.6. Development which requires dredging of the lake, which restricts public use and enjoyment of the lake, which requires construction of breakwaters, which modifies the shoreline, or which requires removal of shoreline vegetation will only be permitted with District and Ministry of Environment approval.

3.5.7. CN Rail and the Ministry of Transportation and Highways, as major property owners abutting the foreshore, shall be encouraged to respect and comply with the policies of this plan.

3.5.8. Recognizing the staffing requirements and liability issues, the District shall enter into a Foreshore Head Lease, and shall continue to participate in regional negotiations between the Province and local governments, to improve local management of all lakes within the region.

Management of commercial activities on the lake is a particular area of community interest. While the District supports economic development and increased opportunities for commercial recreation, few community guidelines exist. The following actions are supported:

3.5.9. The District will work with provincial and federal authorities to bring in regulations prohibiting any construction or moorage beyond 200 metres from the natural boundary.

3.5.10. Commercial activities shall be limited to marine, tourist and outdoor recreation uses and shall be situated only in the Commercial 1 or 2 Zones, in locations where commercial land use is approved by zoning on the upland parcel.

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3.5.11. Commercial business licenses for off shore uses beyond the 200 metre shore zone shall not be permitted.

3.5.12. Any commercial use within the shore zone shall provide adequate parking, washrooms, and other necessary facilities situated on the upland parcel, with a minimum 10 metre setback from the natural boundary.

3.5.13. Commercial recreation uses (including temporary moorage) shall not impede public foreshore access, and shall make provision for public walking trails along the full length of the foreshore.

3.5.14. Commercial development proposed within the shore zone shall be referred to owners of property situated within 500 metres in either direction along the foreshore and within 100 metres inland of the subject property, as part of the development approval process, including rezoning, strata conversion, development permit, and development variance permits. The District shall encourage BC Lands to undertake the same referral process in the issuance of commercial foreshore leases.

3.5.15. Commercial business licenses for offshore uses shall be limited to temporary uses, oriented to outdoor recreation, and shall not include the sale of off site alcoholic beverages. Offshore commercial activities which exceed three days in duration, shall require notification of all foreshore property owners prior to the issuance of a business license.

3.5.16. The District, in conjunction with the Regional District of Central Okanagan, shall seek to establish the hours of operation for watercraft rental operations, to be limited to the time between sunrise and sunset, and further that a rental business of this nature be required to obtain a business license.

3.5.17. The District, in conjunction with the Regional District of Central Okanagan, shall seek to include regulations relating to watercraft rental operations in their Business Licensing and Regulation Bylaw. Regulations will include the clear marking and identification of rental craft, education programs for watercraft renters, and participation in a voluntary restriction of rentals to persons without a valid automobile drivers license.

Note: the following suggested regulations are incorporated from draft recommendations of the Regional District of Central Okanagan Watercraft Committee.

1. That the rental agent provide basic operating, water safety and rules of the road instruction on the use and operation of the vessel prior to its use, and further that the rental agent be required to patrol the area of usage of the vessel while it is being operated.
2. That the rental agent require that vessels stay at least 100 feet (30 metres) away from all other watercraft that are on the water, including boats, and especially personal watercraft.
3. That the rental agent required that watercraft stay a minimum of 500 feet (150 metres) away from shore.
4. That the rental agent requires that jumping over wakes from other boats by rented watercraft, be prohibited.

3.5.18 Leases for new or expanded commercial moorage facilities will only be granted in areas designated in Part 4 as "Commercial Zone #1", and will be subject to consideration of the following:

- inclusion of holding tank pump out and public restroom facilities,
- upland parking facilities, including one parking space per boat moorage space, and additional parking adequate for day use and boat launching,
- safety of access to Highway 97, considering peak traffic volumes, provincial and municipal access design requirements, and the additional turning requirements of boat and trailer,
- natural attributes of the site, so that moorage may be built without alteration to the foreshore, without breakwaters, and without dredging or other alteration to the lake bottom.
- means of protecting the privacy and enjoyment of neighbouring lands, and
- development in accordance with Ministry of Environment guidelines such as the "Marina Development Guideline for the Protection of Fish and Fish Habitat, March 1995."

## **PART 4: GUIDELINES FOR SHORE ZONE STRUCTURES & ACTIVITIES**

The following sections contain local guidelines which are intended to be referenced in the issuance of foreshore permits, licenses and leases, and in the regulating of marine activity on Wood and Kalamalka Lakes, within boundaries of the District of Lake Country.

When the District's Zoning Bylaw is reviewed and rewritten, these guidelines will be incorporated as zones and permitted uses under the new bylaw. Where there is no regulation below, it is intended that current provincial and federal regulations and management guidelines fulfill local objectives and will also be incorporated as zoning provisions.

### **4.1 REGULATION OF FORESHORE STRUCTURES**

1. Activities that involve foreshore modification, such as dredging, construction of retaining walls, or deposit of fill, may only be allowed by permit. Fencing and rock groins shall be prohibited except as designed to restore wildlife or fish habitat.
2. The District must concur with the designation of the natural boundary as identified by a development proponent.
3. No structures shall be supported within the shore zone except licensed docks, uncovered boat lifts, and marine support services as approved by the District and subject to consultation with the Ministry of Environment and BC Lands.
4. Non conforming structures in place under valid permits at the time of the Shore Zone Plan approval shall become legal non-conforming structures, and may be repaired and maintained, but not enlarged, reconstructed, or replaced.
5. Structures shall be designed in accordance with the following criteria:

**Moorage:** Moorage shall include visibly painted float decks.

**Boat Launches:** In the case of strata development, one common boat launch area will be permitted, to be situated in an area where adequate boat and trailer parking is provided.

**Private Wharves:** The number of wharves permitted in association with each residential or agricultural upland lot shall be limited to one wharf, except that in the case of strata development, there shall be no more than one wharf for every 30 metres of foreshore frontage for the overall strata development.

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The construction of private non-commercial wharves shall be in accordance with the following criteria:

Maximum length: 15 metres measured offshore from the natural boundary.  
Maximum width: 3 metres  
Maximum height: One metre above the high water mark of the water surface.  
Shape: L-shaped and T-shaped wharves shall be permitted. The length of perpendicular sections shall not exceed five metres.,  
Siting: Perpendicular to the general direction of the natural boundary, and setback a minimum of 5 metres from each side property line of the upland parcel.

Construction and design of a wharf must not impede public passage along the foreshore or lake access to adjoining properties.

Wharf designs will be submitted to the district for approval, prior to issuance of a construction permit by provincial authorities. Where relaxation from the above structure guidelines is requested, Council may consider the request after notification of neighbouring property owners.

**Accessory Buildings and uses:** Accessory buildings and uses include boathouses, lifts, storage sheds, decks and pumphouses. No accessory buildings or uses are permitted within the shore zone or within 10 metres inland of the natural boundary. Outside of this area, size of accessory buildings shall be governed by the District Zoning Bylaw.

4.2 REGULATION OF USES AND ACTIVITIES:

**SCHEDULE OF PERMITTED USES AND ACTIVITIES**

Uses and activities which are either encouraged or discouraged, subject to Provincial and Federal regulations and approvals:

**Commercial zone 1: (Applies to approved marinas)**

Moorage and boat launch subject to provision of adequate parking, sewage disposal facilities, and signage

Wharves

Boat rental

Gas Sales

**Commercial zone 2: (Applies where tourist accommodation is approved upland use)**

Boating areas as specified

Swimming areas as specified

Private wharf

Private moorage and boat launch

**Shore Sensitive zone: (Applies in areas identified in the Trumbley report as sensitive shorelines)**

No disturbance, development or vehicular access

"No boating area" as designated within a certain distance from natural boundary

No wharves, boat launch or other structures

**Waterfront Park zone: (Applies where public park is approved upland use)**

Public wharf and boat launch subject to provision of adequate parking, sewage disposal facilities and signage.

Public access and recreation

"Swimming areas - no boating" as designated by signs and buoys.

**Public Waterway Zone: (Applies to Wood/Kalamalka channel)**

Public access

No swimming, boat launch, moorage or commercial use

**Lakefront zone: (Applies to shore zone areas not otherwise designated by above)**

Private wharf

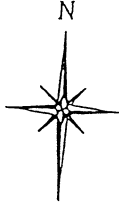
Public access and recreation

"Swimming areas - no boating" as designated by signs and buoys

**Navigation zone: (Applies to body of the lakes, 200 metres offshore)**

No commercial use or activity.

No moorage or structures.



Zoning Map C

TWP 14

KALAMALKA LAKE

MUNICIPAL BOUNDARY

Zoning Map B

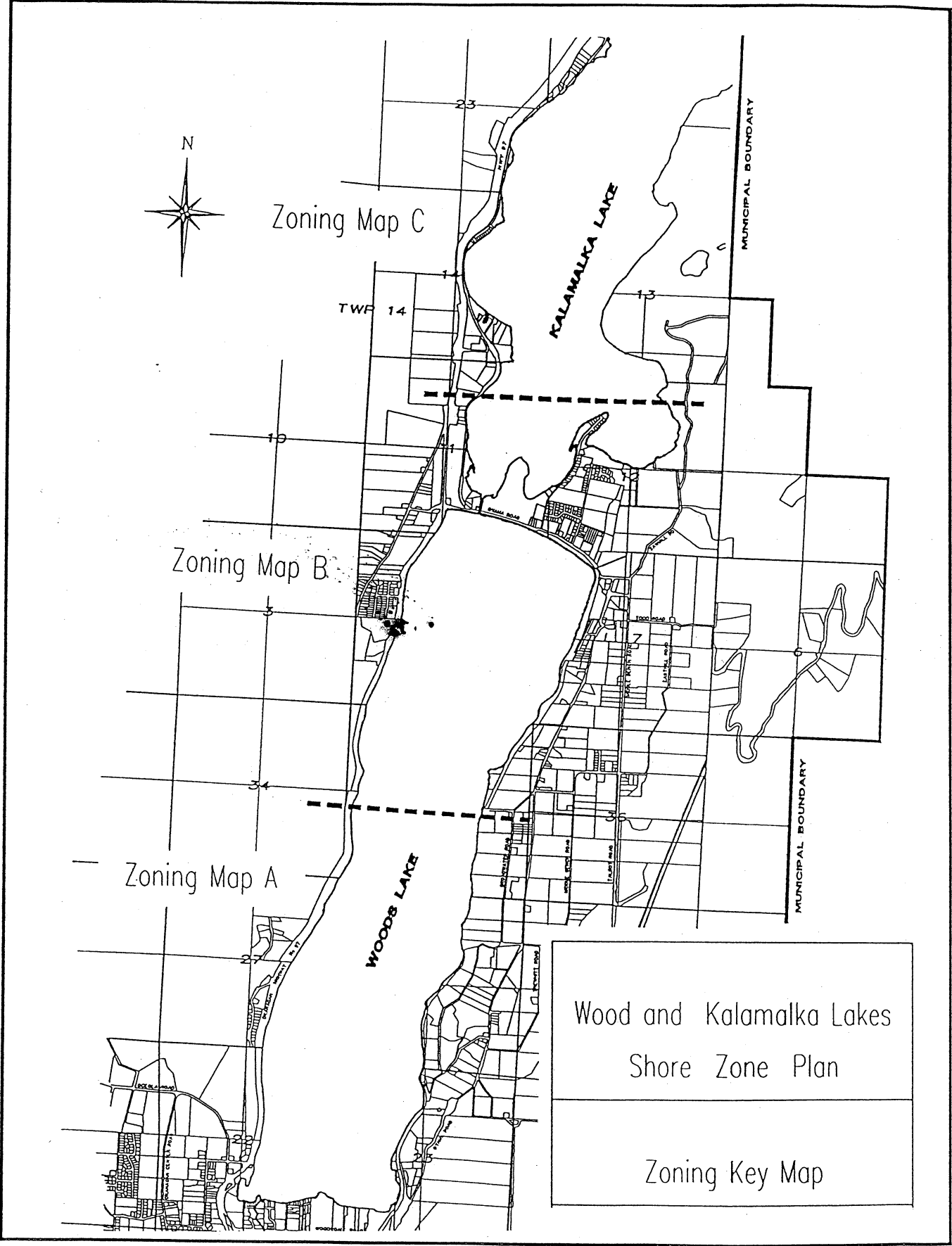
Zoning Map A

WOODS LAKE

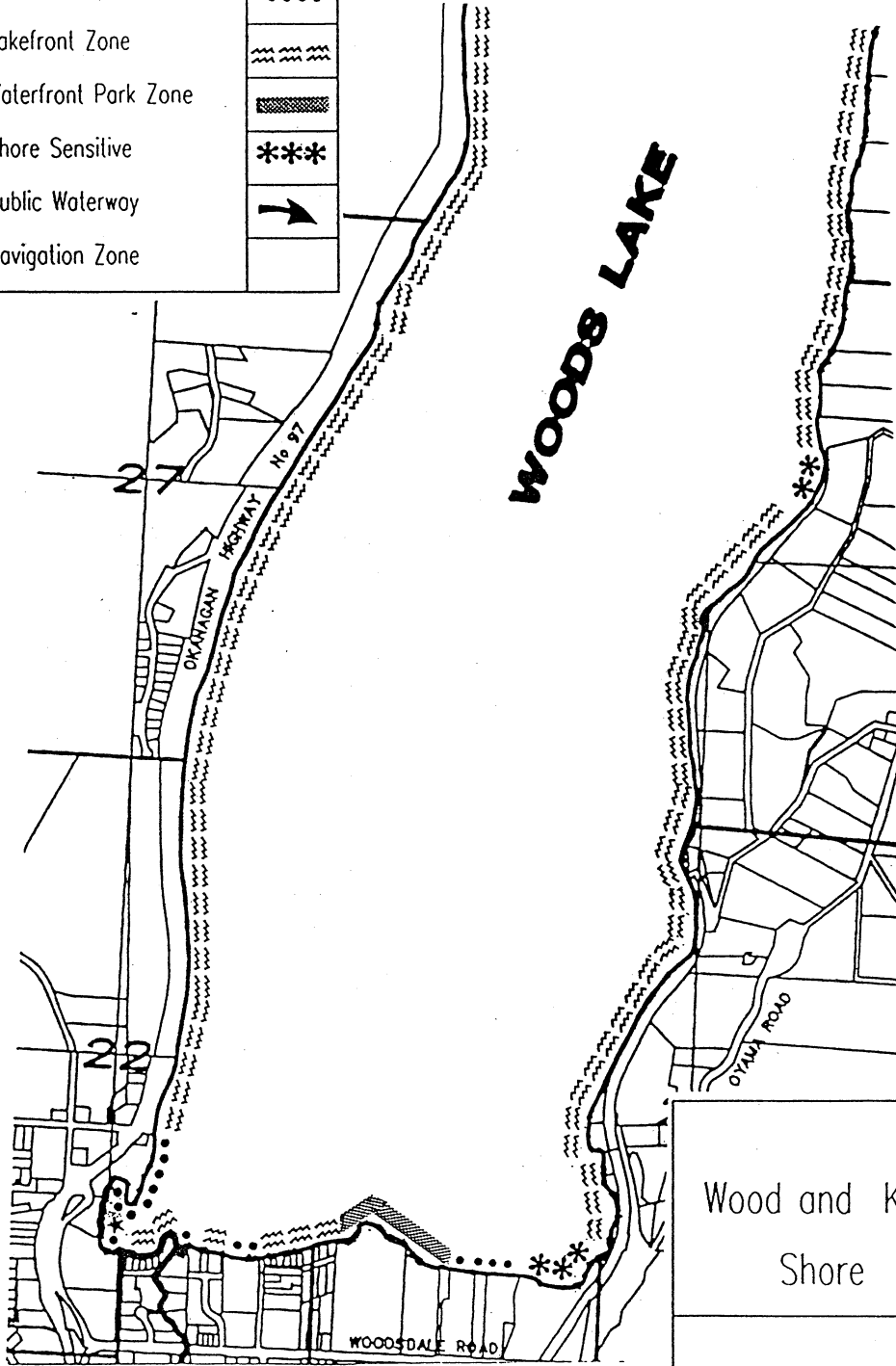
MUNICIPAL BOUNDARY

Wood and Kalamalka Lakes  
Shore Zone Plan

Zoning Key Map



ZONING	
Commercial 1	***
Commercial 2	....
Lakefront Zone	~~~~~
Waterfront Park Zone	▨▨▨▨
Shore Sensitive	***
Public Waterway	→
Navigation Zone	



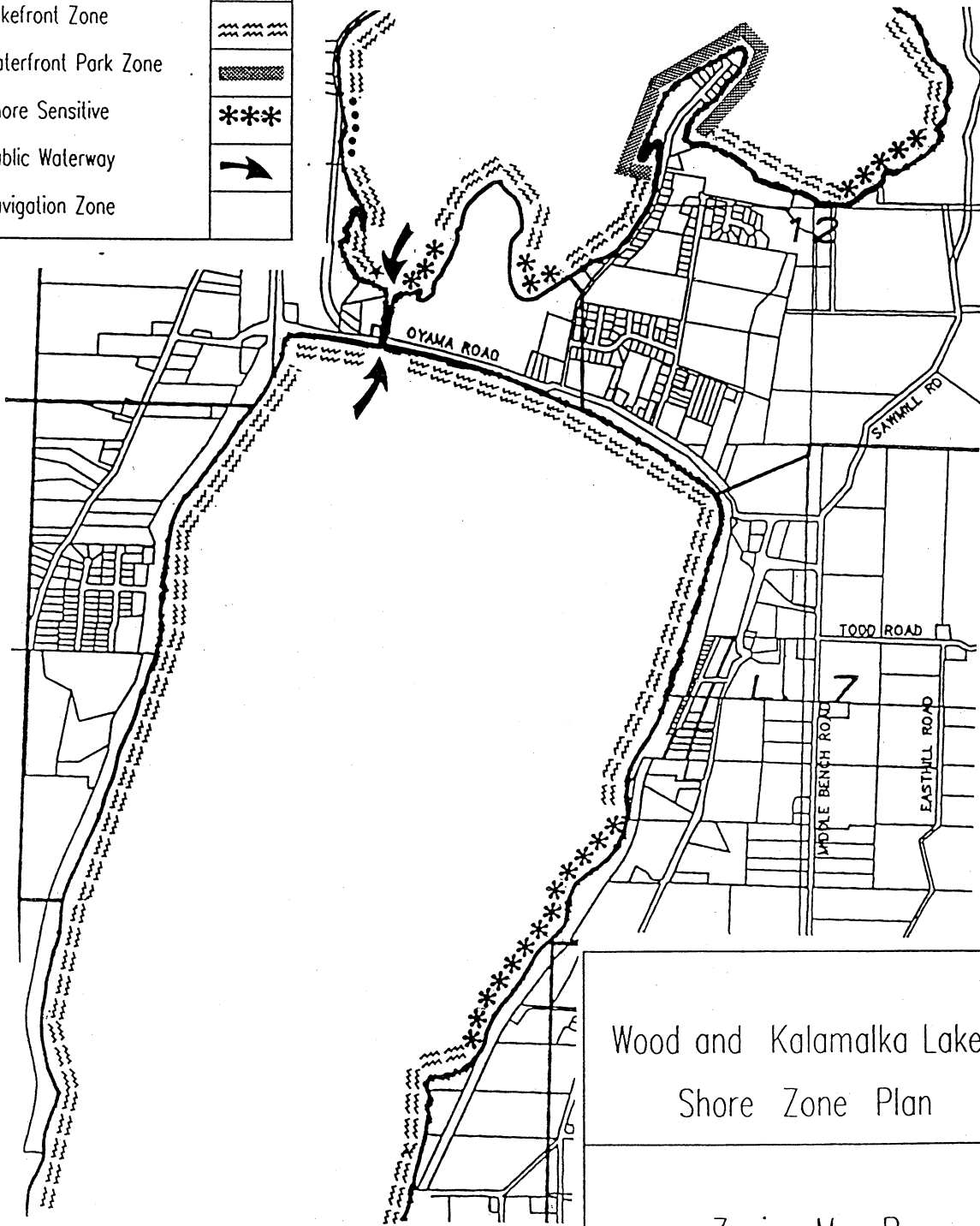
Wood and Kalamalka Lakes  
Shore Zone Plan

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Zoning Map A



ZONING	
Commercial 1	***
Commercial 2	...
Lakefront Zone	~~~~~
Waterfront Park Zone	▨▨▨▨
Shore Sensitive	***
Public Waterway	→
Navigation Zone	



Wood and Kalamalka Lakes  
Shore Zone Plan

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Zoning Map B

ZONING	
Commercial 1	***
Commercial 2	....
Lakefront Zone	~~~~~
Waterfront Park Zone	▨▨▨▨
Shore Sensitive	***
Public Waterway	➔
Navigation Zone	



Wood and Kalamalka Lakes  
Shore Zone Plan

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Zoning Map C