KAMLOOPS

Planning for the 21st Century

TOMORROW

BACKGROUND NEWSLETTER #5:

ENVIRONMENTAL

Information on the Backgrounder Series

The City has produced a series of background newsletters to provide some basic information and to help address some important questions now facing our community. For instance:

- *How do we retain or improve Kamloops' small city quality of life?*
- *How do we continue to provide services efficiently and economically?*
- *How do we respond to the emerging traffic problems?*
- *How do we address environmental impacts and ensure sustainability?*
- *How do we address regional growth and cost sharing issues?*
- *How do we resolve social concerns like public safety and affordable housing?*

Each Backgrounder is designed to focus on these major challenges, and to stimulate discussion on other related issues.

KAMPLAN 1995

Background: ENVIRONMENTAL

Kamloops Development Services

*This is one of five backgrounder reports intended to introduce and to provide information on the **1995 KAMPLAN** review.*

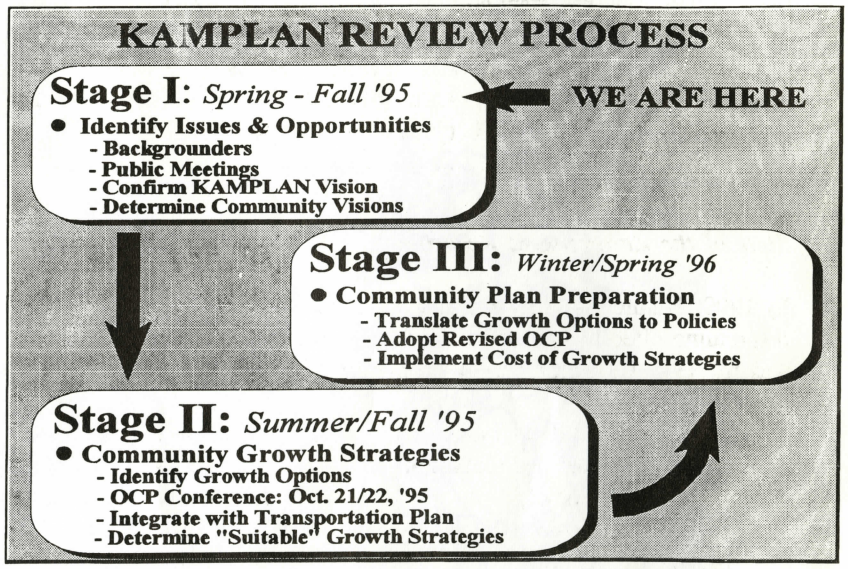
What is KAMPLAN?

KAMPLAN is the City's Official Community Plan. An Official Community Plan (OCP) is a community's ***"formal statement of the broad objectives of the local government respecting the form and character of existing and proposed land use and servicing requirements"*** (Municipal Act). **KAMPLAN** applies to all lands within the City of Kamloops and currently addresses several topics including:

- setting out in broad terms the location, type and density of future land use.
- providing guidance on municipal servicing needs.
- providing direction on preserving and protecting hazard lands and environmentally sensitive areas.
- promoting the conservation of important heritage features.
- providing guidance on the supply of parkland and open space.

Why is KAMPLAN being changed?

The City is reviewing and considering changing **KAMPLAN** for several reasons:



- the current version of **KAMPLAN** is five years old, typically the lifespan of a comprehensive plan of this nature.

- the significant growth and change that have occurred in the city since 1990 has had an impact on our community. Some existing **KAMPLAN** policies may require alteration.

- as a result of a number of amendments to the *Municipal Act* an OCP can or must address several issues, including: setting goals for affordable housing, rental housing and special needs housing; establishing social needs, social well-being and social development policies as they relate to the community; and, working towards a regional growth strategy.

KAMLOOPS TOMORROW: BE INVOLVED. PROVIDE INPUT!

URBAN GROWTH...AND THE ENVIRONMENT

The City of Kamloops has a total land area of approximately 29,000 hectares. Less than 20% of that space - 5,500 hectares - is considered to be urban. Despite the large amounts of undeveloped area, concern about the environment has grown as population grows and as we learn more about the importance of environmental protection. Continued urban growth has to be carefully balanced against the environmental costs.

BACKGROUNDER BULLETIN:

Four Major Landscape Types of Kamloops

Urban Areas: The built-up areas where the residents of Kamloops live, work and play. The urban areas also contain important green space, which is habitat for both indigenous and introduced plants and animals.

Grassland: Grassland is characterized by wide open space and low growing vegetation like sage brush and bunch grass. The City is built almost entirely on grassland. Pristine grassland is an important habitat for animals, birds and plants.

Forested Slopes: The steep north-facing slopes of Kamloops are rich with a mixed forest of Douglas fir and Ponderosa pine. This environment is home to a wide variety of plants and animals, including the Big Horn Sheep, and it provides important corridors for wildlife migration.

Riparian: The words "riparian habitat" are used to describe the land immediately adjacent to rivers, streams and lakes. The preservation of this habitat is critical for specific types of plants and animals.

Prior to the early 1800s, Kamloops was occupied by the Shuswap people whose lifestyle had virtually no negative impact on the environment. Similarly, European settlement into the early 1900s did little to disturb the environment. Water pollution became a problem in the 1800s with the arrival of gold miners and ranches. For nearly 100 years disturbance of stream beds and spawning habitat, along with contamination of water from agricultural operations went unchecked. Air pollution began to occur in the early 1900s from beehive burners at city sawmills, wood and coal heating and industrial emissions from brick works, canneries and the railroad.

State of the Environment Report

In 1990, Kamloops' City Council recognized the critical nature of environmental issues and the importance of responding effectively at the local level. In November of that year, the Mayor's Task Force on the Environment was formed. In addition to two members of Council, the Task Force included representatives from:

- Kamloops Naturalist Club
- Thompson Watershed Coalition
- Recycle Now Society
- Royal Inland Hospital
- Ministry of Health
- BC Environment
- Canadian National Railway
- Canadian Pacific Railway
- Kamloops & District Labour Council
- Pulp, Paper & Woodworkers Local 10
- University College of the Cariboo
- Weyerhaeuser Canada

The purpose of the Task Force was to prepare a State of the Environment Report for Kamloops identifying essential priorities that would make Kamloops a healthy community in which to live. They also undertook to provide an educational program which would keep the public current on new environment initiatives and issues.

In 1994, after much public consultation and work by various sub-committees the State of Environment Report was completed. Copies of this report may be obtained from the Public Services and Operations Branch, City of Kamloops. The document identified environmental problems and issues, made recommendations and suggested

implementation measures where appropriate. This backgrounder discusses the top three environmental issues identified by the Kamloops State of Environment Public Consultation Program as well as hazard lands, environmentally sensitive areas and parks and open space. The City of Kamloops has already implemented some of the initiatives suggested in the report and will continue to work towards a healthier city environment.

Air Quality

The environmental issue which was ranked number one by the Mayor's Task Force on the Environment was air quality. In 1906 the Kamloops Sentinel described the City's air quality as possessing "a clean crisp quality which gives it an invigorating, snappy effect, rather than the depressing effect so common at the coast". With the introduction of beehive burners, heating with wood or coal, and emissions from brickworks, canneries and the railway in the early 1900s air pollution became a problem.

Significant deterioration in air quality was not noted until the 1960s when rapid industrial expansion, and population growth along with an increasing environmental awareness among the general public, resulted in growing concern about the potential for environmental problems. The Gulf Oil refinery, Lafarge Cement plant, ore smelter at Afton Mines and Weyerhaeuser Pulp Mill were emitting sulphur dioxide, carbon dioxide, nitrogen oxide, and particulate emissions into the air. Kamloops air quality began to deteriorate.

Public perception is that the primary focus for air quality concern in Kamloops is the Weyerhaeuser Pulp Mill. The "rotten egg" odour of total reduced sulphur (TRS) is certainly a noticeable air emission. Low level thermal inversions coupled with valley topography trap these emissions in the valley bottoms, particulary during the winter months. A 1991 report by B.C. Environment states that "total reduced sulphur (TRS), a highly odorous by-product of kraft pulping is the only air quality parameter which routinely exceeds air quality objectives in Kamloops". Since then the pulp mill has installed new TRS control technology and these emissions have been reduced. However, the pulp mill is not the most significant contributor to air emissions in Kamloops.

Non-point sources (automobiles and back yard burning) represent a greater threat to human health than the more noticeable point sources such as the pulp mill. Cars contribute nitrogen oxide, volatile organic compounds (VOCs) and ozone while back yard burning and wood stove use contribute products of incomplete combustion (PICs) to the air. Wood smoke has been linked to increased respiratory ailments and the City has imposed a ban on most back yard burning. The City is also working to reduce our reliance on the automobile through the TravelSmart Program which is an integrated land use and transportation plan. TravelSmart includes such items as the new bike path over the Thompson River, extensions to the trail system east of downtown and installation of bike racks on B.C. Transit buses.

- **Will decentralization of office and retail space outside the downtown core lead to reduced automobile usage and improved air quality?**
- **What improvements can be made to the transit system to increase ridership?**
- **Do additional restrictions need to be placed on wood burning stoves?**
- **How and where should bike routes be established in Kamloops?**
- **Should the City encourage large employers/traffic generators such as Weyerhaeuser, University College of the Cariboo or the B.C. Government to institute parking pricing and incentive programs to encourage car pooling and transit use?**

ACTIVITIES IN SOUTH THOMPSON WATERSHED AND THEIR POTENTIAL IMPACTS

TYPE OF ACTIVITY	EXAMPLES	POTENTIAL ISSUES RELATED TO WATER QUALITY AND QUANTITY
Agriculture	▪ Grazing, Fodder Production, Horticulture (including ginseng), Livestock Wintering Area	▪ nutrient enriched run-off from feed lots ▪ cattle movement in and adjacent to streams ▪ use of pesticides, fertilizer and chemicals on crops ▪ irrigation demands
Forestry	▪ Road Construction, Harvesting, Silviculture	▪ increased run-off due to harvesting ▪ sedimentation of streams due to increased run-off and road building ▪ machine activity in and adjacent to streams ▪ use of chemicals in intensive silviculture
Mining	▪ Gravel Extraction, Raw Materials for Cement	▪ road construction into new areas of extraction ▪ run-off from operating/closed mines ▪ water use in processing
Recreation	▪ Boating, Fishing, Hunting, Off-Road Vehicles, Hiking	▪ road construction into new areas of extraction ▪ exhaust and other effluent from motorized boats ▪ disruption to streams and banks from off-road vehicle use ▪ effluent from sanitary and storm sewers
Settlement	▪ Primarily Rural Settlement, Concentrated Settlement Areas include Chase, Pritchard, Monte Creek, Rivershore/Del Oro and the City of Kamloops (including Campbell Creek Industrial Park)	▪ encroachment of development into natural drainage courses ▪ water use for residential, commercial, industrial (including manufacturing) and associated uses (i.e. irrigation) ▪ run-off into watercourse
Manufacturing	▪ Forest Product Processing	▪ effluent discharged to watercourses
Transportation/Utilities	▪ Trans Canada Highway, CP Railway, Pipelines	▪ Potential for accidental chemical spills into watercourses

Water Quality

Kamloops is located in a semi-arid region which receives an average of 269.5 mm of precipitation annually. By contrast, Blue River, located in the interior wet belt of B.C. receives 960 mm. The management of our water resource is, therefore, of critical importance to the environment and our health. The watershed of the North and South Thompson Rivers, which meet in the City of Kamloops, contains an area of 39,000 sq. km at the point where it enters Kamloops Lake. The rivers, lakes, streams and creeks are essential components of the watershed and support wildlife, fish, irrigation, recreation, industry and people.

Water quality is affected by the management of the watershed. The City of Kamloops draws its water directly from the South Thompson River watershed. Agriculture, forestry, mining, industry, transportation, utilities, recreation and residential development can all impact negatively on the water quality and quantity.

Water quality has also been affected by continued urban growth. There are two main sources of water pollution. One is point source discharge where effluent enters the stream at one or several identifiable points. The other is non-point source run-off from agriculture, logging, in-ground sewage systems and land fills which are harder to identify.

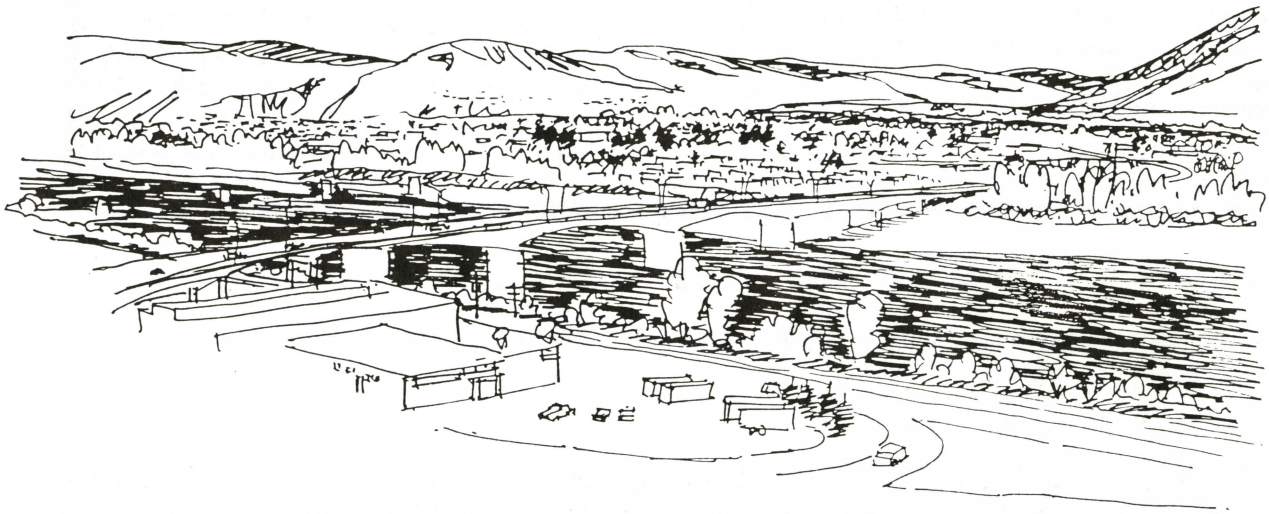
The City currently is working with the Thompson-Nicola Regional District (TNRD) under the direction of the Fraser Basin Management Program to study the impact of land use activities on the water quality of the South Thompson River. It is expected that the results of this study will be used to control land use and reduce potential degradation of water quality in the South Thompson River.

The Rivers Plan, initiated by the City in conjunction with the Kamloops Indian Band, also contained a number of proposals to address the impact of foreshore development on the river system. Currently, the Federal Department of Fisheries and Oceans is conducting a foreshore study to identify development impacts on riparian habitat.

The need to protect fish habitat highlights the complexity of environmental issues. On the one hand the City has embarked on the development of bicycle routes throughout the City, including a bike path over the Thompson River, to decrease our reliance on automobiles and to improve air quality. However, the need to protect riparian habitat has led to major modifications to the bike path off ramp and significant cost increases in the project.

A description of water quality concerns from a service delivery perspective is contained in the servicing backgrounder. From an environmental perspective a key question to be resolved is:

- **What form of development should be permitted adjacent to the rivers in Kamloops, especially upstream of the City's water intake?**



Thompson River at the Overlander Bridge

Solid Waste

The City of Kamloops collects solid waste from residential and commercial customers and deposits it in two city-owned landfill sites located at Mission Flats and in Barnhartvale. Provincial guidelines require that regional districts, including municipalities, reduce by 50% the amount of solid waste going to landfills by the year 2000. In order to meet the reduction requirements and because landfill space is in short supply the City of Kamloops is actively promoting solid waste reduction, including general recycling stations, Christmas tree recycling, and the Cinnamon Ridge yard waste composting facility.

COMPOSITION OF KAMLOOPS' SOLID WASTE

COMPONENT	OVERALL % COMPOSITION	COMPONENT	OVERALL % COMPOSITION
Organic Wastes (Food and Yard)	37.4	Rubber	1.9
Paper	28.9	White Goods (Large Household Appliances)	1.8
Plastic	6.0	Household Hazardous Waste (eg: Solvent)	1.5
Metals	5.0	Brown Goods (Electrical and Electronic Goods)	1.0
Glass	4.8	Bulky Goods (eg: Furniture)	0.8
Construction/Demolition Materials	4.2	Leather	0.2
Fine Residue (eg: Dust and Soil)	4.2	Other	0.2
Textiles	2.1	TOTAL	100.0

BACKGROUNDER BULLETIN:

Kamloops Solid Waste

Kamloops generates almost 1.9 kilograms of waste per person per day. This waste contains large quantities of reusable materials which regularly end up in the landfill.

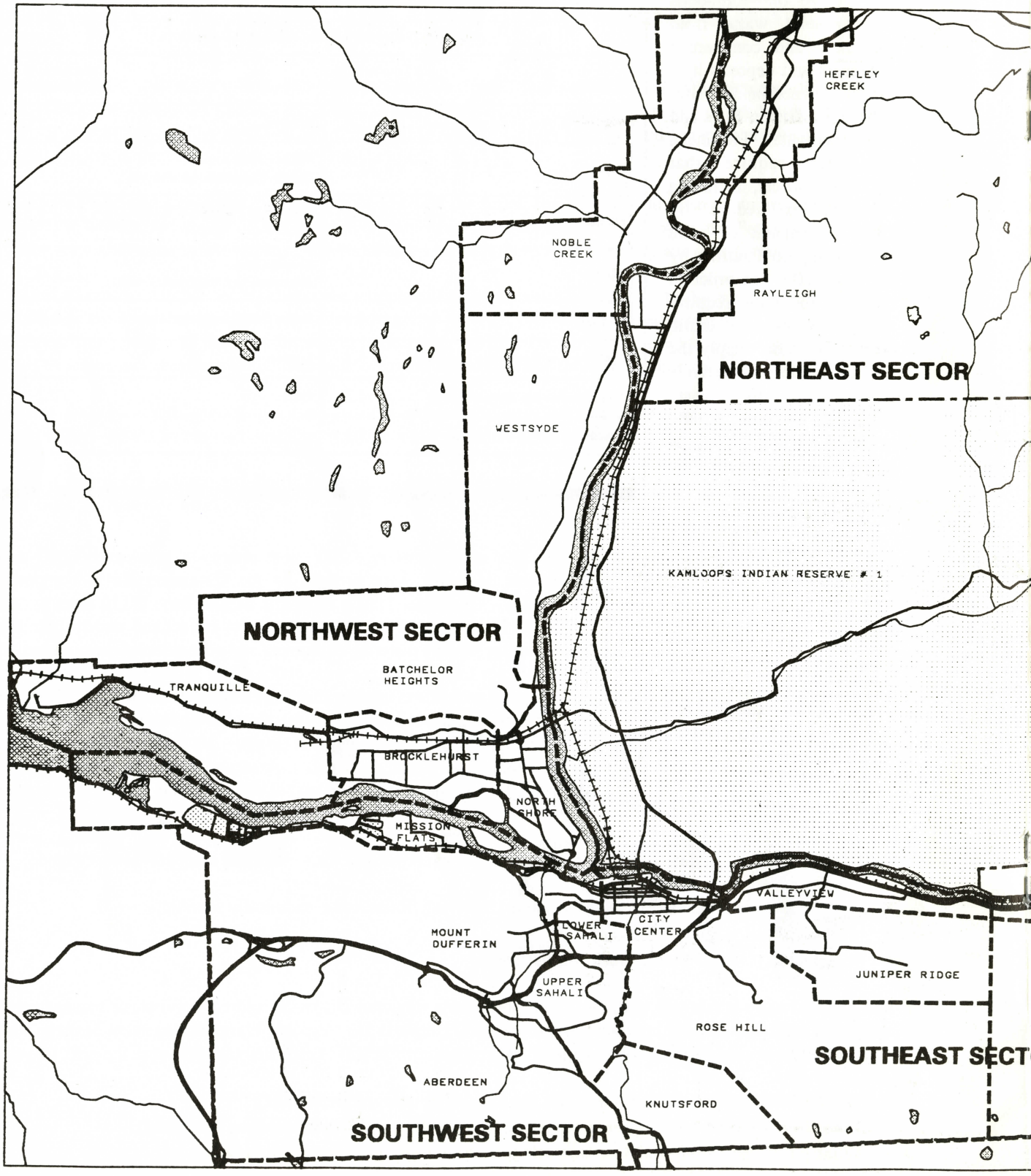
In 1994 approximately 1,200 cubic metres of grass and 5,000 cubic metres of brush were brought to the Cinnamon Ridge composting facility. Christmas Tree recycling increased from 7,110 trees in 1993 to 8,132 trees in 1994. The total cost to collect and mulch these trees including labour, material, equipment and promotion of the program was $1.00 per tree. The trees were chipped and produced 187 cubic metres of mulch which was used in shrub beds throughout the City. The drop-off recycling depot opened in September 1994 has already collected over 9.0 tonnes of glass, 4.4 tonnes of tin cans, 10.5 tonnes of newsprint and 5.2 tonnes of plastic milk jugs. A second recycling depot opened at McArthur Island in July 1995 and several more are planned. In the past most of this material would have been taken to the landfill.

As the Mission Flats landfill site nears its limits the principal options for solid waste disposal have emerged:

- expansion of the Mission Flats site, which a 1993 study found to be technically feasible;
- creation of a new landfill site; or
- export solid waste to Cache Creek, or elsewhere.

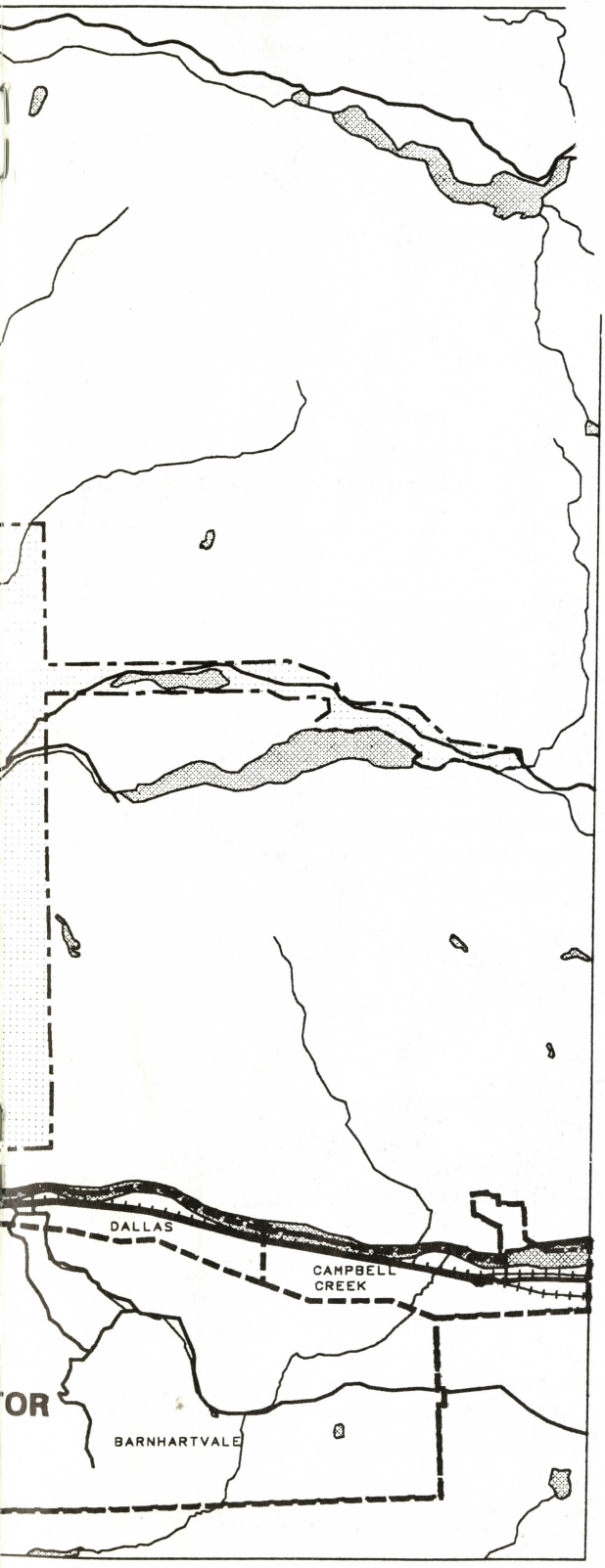
The City currently is working with the Thompson-Nicola Regional District to address solid waste management at a regional scale and recently approved Kamloops participation in the Regional Waste Management Strategy. It is anticipated that municipal solid waste disposal and reduction costs will exceed $20,000,000 over the next 10 years.

- **What additional recycling efforts can the City of Kamloops undertake?**
- **Does the City need to examine alternatives to current solid waste handling methods?**
- **What guidelines (design and/or operational) should apply to recycling depots?**


HEFFLEY CREEK
NOBLE CREEK
RAYLEIGH
NORTHEAST SECTOR
WESTSYDE
KAMLOOPS INDIAN RESERVE # 1
NORTHWEST SECTOR
BATCHELOR HEIGHTS
TRANQUILLE
BROCKLEHURST
NORTH SHORE
MISSION FLATS
VALLEYVIEW
CITY CENTER
LOWER SAHALI
MOUNT DUFFERIN
UPPER SAHALI
JUNIPER RIDGE
ROSE HILL
SOUTHEAST SECT
ABERDEEN
KNUTSFORD
SOUTHWEST SECTOR

KAMPLAN 1995

MAP 2
PLANNING NEIGHBOURHOODS



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METERS

Development above Peterson Creek ravine

HAZARD LANDS

The City of Kamloops has four types of recognized hazard land within its boundaries - steep slopes, silt bluffs, fire hazard lands and flood plains.

Steep Slopes. When a hillside has a slope of over 25% it is often considered "hazard land". This is land which is generally unsuitable for development. Before development can be considered on these lands it is critical to ensure slope stability in order to prevent the possibility of future landslides.

Silt Bluffs. Silt bluffs are highly unstable areas where the ground is susceptible to liquefaction. No development can take place within the most extreme areas, and detailed geotechnical reports are required prior to the development of areas adjacent to the silt bluffs to ensure the safety of residents and to prevent property damage.

BACKGROUNDER BULLETIN:

Environmentally Sensitive Areas Planning

The State of Environment Report identified environmentally sensitive areas preservation as the sixth most important environmental priority. In 1992, the Kamloops Naturalist Club identified fifteen key natural areas within the City boundaries that they recommend for protection. They include:

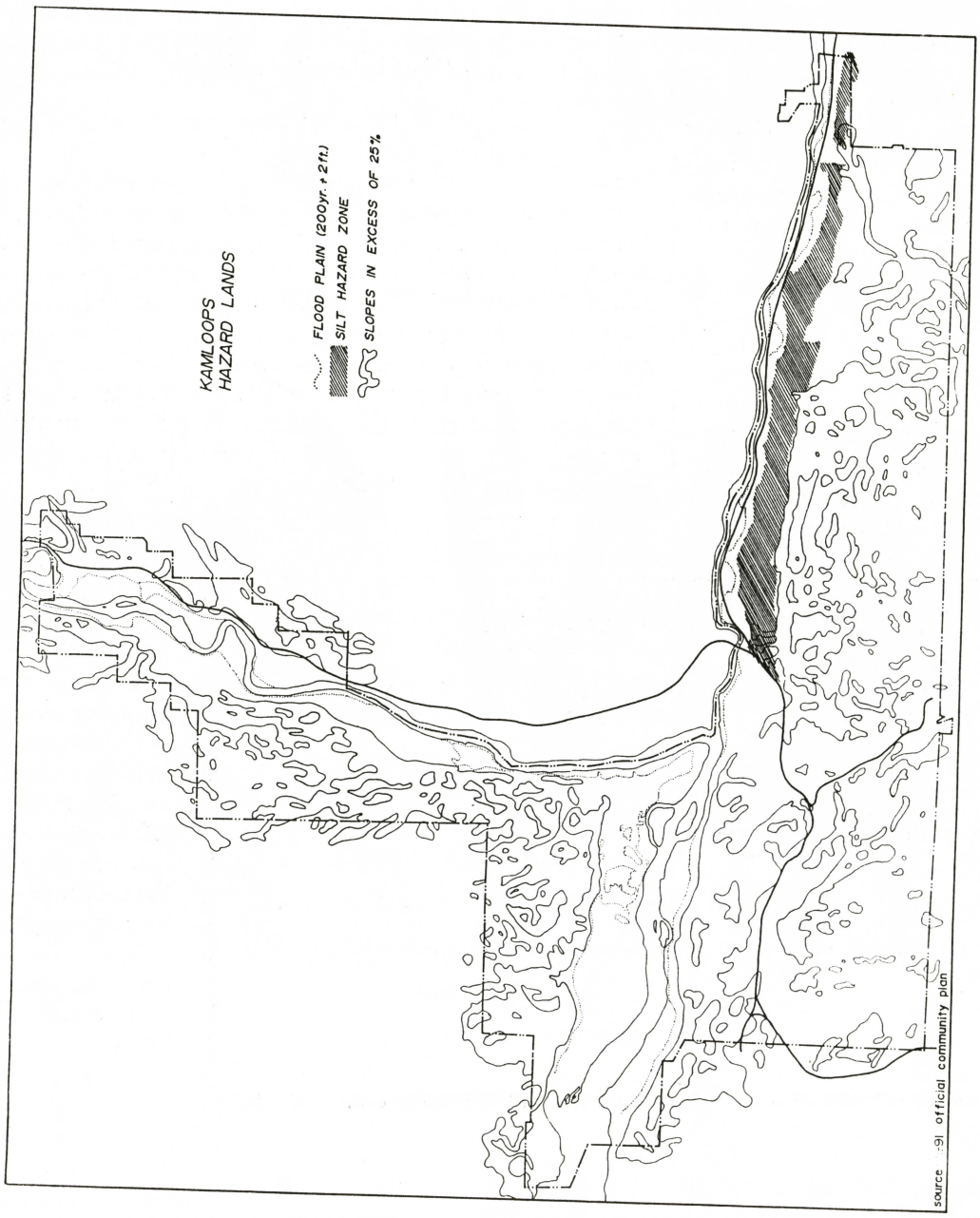
- Tranquille Bay - Kamloops Lake Foreshore (Cooney Bay)
- Lac du Bois Grasslands
- Mara Hill
- Ord Road Cliffs
- Balco Pond
- Thompson Rivers Riparian Area; Tundra Swan Wintering Grounds
- Campbell Creek Riparian Area
- Valleyview Grasslands and Silt Cliffs
- South Side Escarpment (hillside behind Juniper and Rose Hill)
- Peterson Creek Park Extensions
- Humphrey Pond
- Dufferin Hill
- Afton Ponds

These areas provide important wildlife habitat and recreational opportunities. The City of Kamloops is committed to the protection of natural space but recognizes that this initiative will require planning if it is to be successful.

Fire Hazard Lands. Where residential development is situated in brush land at higher elevations, there are serious potential fire hazards. This area is called the "Urban Wildland Interface". In areas adjacent to heavily treed ravines and combustible ground cover, it is critical that precautions be taken to prevent fires. These include the removal of combustible ground cover, the removal of trees around buildings to create a fire break, and the use of non-combustible building materials. The Fire Department and Ministry of Forests provide guidance for development in this type of area.

Flood Plains. With the confluence of two major rivers and numerous small creeks and streams located within City boundaries, there is a significant risk of flooding. Lands located within the provincially designated Flood Plain (200 year flood event plus 0.5m) are deemed hazardous. Development undertaken in flood plain areas is subject to Provincial Ministry of Environment requirements.

Peterson Creek Park


KAMLOOPS
HAZARD LANDS
FLOOD PLAIN (200yr. + 2 ft.)
SILT HAZARD ZONE
SLOPES IN EXCESS OF 25%
source: 91 official community plan

PARKS AND OPEN SPACE

The City of Kamloops has established and maintains 230 hectares of developed park and 330 hectares of open space. Maintained parks include 20 ball diamonds, 14 soccer pitches, 45 tennis courts, three stadiums, swimming pools and beaches. A favourite with the children is the water park which opened in Riverside Park in 1994. Though the initial development costs for this project were substantial, it had widespread community support and has been a huge success. It is important to note that the park uses recycled water as part of the WaterSmart initiative.

Another successful park development has been the bike path at McArthur Island. This path has become far more popular than originally anticipated. Casual walkers, joggers and rollerbladers all use the pathway. The popularity of this path points to the need to continue to connect the City through increasing linear park space. Extensions to the Jack Gregson Trail east to Dallas, a linear parkway along the Barnhartvale/Juniper/Rose Hill bench lands and trails in the Coal Hill area of Aberdeen are all possible trail developments.

BACKGROUNDER BULLETIN:

Mt. Dufferin - A Park in the Making

Since 1981, the Mt. Dufferin area has been recognized in planning documents as an important natural area and as desirable development land. The Mt. Dufferin area comprises 2,000 acres (which is twice the size of Stanley Park in Vancouver) of open forest land. The major landholders include BC Lands and BCBC as well as a number of private landowners. The City of Kamloops is working to achieve acquisition of this land and to ensure that the vast majority of the space is preserved in its natural state. At the same time, the City believes that residential development of about 10% of the area would be appropriate if properly planned. The successful integration of a modestly sized residential development into the natural open forest can be achieved with careful planning.

COMMUNITY RECREATION SYSTEM

PUBLIC COMPONENTS	PRIVATE NON-PROFIT COMPONENTS	COMMERCIAL COMPONENTS
City Parks, Recreation and Culture Divisions	Community 'Y'	Amusement parks and arcades
Parks, Recreation and Culture Commission	Boys and Girls Club and other youth groups such as guides, scouts, etc.	Theatres
School District No. 24	Church sponsored recreation	Bowling alleys and pool halls
University College of the Cariboo	Social and fraternal organizations	Racquetball courts
Library System	Athletic groups and clubs, arts and cultural associations	Fitness and health centres

Other residents find the many gardens in Kamloops' parks to be a favourite place for lunch or a stroll. The new Xeriscape garden at McArthur Island demonstrates how to effectively landscape for a semi-arid climate. The Rose Garden in Riverside Park is a popular place for photos. The major areas dedicated for parks and open space are identified below.

NAME	TYPE OF SPACE
Riverside and Pioneer Parks	Major passive, ornamental, historical and cultural park for the City. Includes Riverside Coliseum, tennis courts, rose garden, beach, children's water park.
McArthur Island	Major recreational and athletic facilities, xeriscape garden, butterfly garden, natural riverside vegetation restoration.
Exhibition Park	City-wide park developed with athletic facilities including Charles Anderson Stadium.
Gaglardi Square	Ornamental gardens in the urban core.
Memorial Hill (Cenotaph) Park	Ornamental gardens in the urban core.
Peterson Creek Park	Major natural open space just south of downtown.
Westsyde (Centennial) Park	River front district park in Westsyde area, paths for riding and walking along the Oak Hills dyke, picnic and beach areas.
Brocklehurst Recreation Centre Park	District park includes Brocklehurst Arena and pool as well as athletic facilities.
Albert McGowan Park	District park incorporating ball diamonds, playground and meeting facilities.
Valleyview Recreation Centre Park	Neighbourhood park includes Valleyview Arena and passive open space.
McDonald Park	Neighbourhood park includes pool, tennis courts and developed passive parkland.
Prince Charles Park	Neighbourhood park with accessible playground and wading pool.
Neighbourhood Parks	Fifteen other parks in addition to those noted above.
Kamloops Wildlife Park	Wildlife holding facility, major tourist attraction

Some of the innovative park and open space initiatives in Kamloops involve partnerships among the City, developers and other agencies and organizations. For example, the new Fraserview residential development incorporates a linear park with an enhanced pond and a community hall. At Albert McGowan Pond, the largest water feature in Kamloops besides the rivers, the City is working with Ducks Unlimited and the Ministry of Environment to ensure wildlife habitat is protected and preserved. At McArthur Island, lagoon enhancement, which has restored habitat, and the establishment of a butterfly garden to attract wildlife, has been a highly successful collaboration among the local Naturalist Club, Ducks Unlimited and the Ministry of Environment. Without the assistance of the naturalist club, this project would not have gone forward.

KAMPLAN 1995 BACKGROUNDER: ENVIRONMENT

TRENDS

KAMPLAN 1990 recognized the importance of sound environmental planning. In particular it identified the following:

- environmental issues are a priority
- water quality improvement was dependent on an improved sanitary sewage system
- natural urban areas needed to be preserved and enhanced
- air quality needed to be enhanced
- solid waste needed to be reduced
- flood plains needed to be managed and protected
- special wastes handling and storage were needed

In 1994, the Mayor's Task Force on the Environment, based on public input, identified the following environmental issues as needing attention:

- air quality
- solid waste
- water quality
- pollution discharge from industry
- pesticide use
- natural area preservation.

MAJOR ISSUES:

KAMPLAN 1995 needs to continue to address many of the environmental issues arising from the State of the Environment report. Priorities include:

- a "green plan". Natural and environmentally sensitive areas need to be designated and protection strategies identified prior to development occurring. Close cooperation with provincial and regional planning initiatives is important, as is internal coordination with the City Parks and Recreation Master Plan.

- land use planning which reduces the need for reliance on the automobile will assist in improving air quality and other environmental concerns.

- participation in regional watershed planning initiatives will assist in protecting quality of the rivers and Kamloops Lake. Cooperation and liaison with federal and provincial agencies and the KIB needs to be increased to address foreshore and river front development concerns.

The City of Kamloops would like your input into the KAMPLAN process. If you have any comments or concerns on this or any other backgrounder, or if you wish to make a general statement, please provide your comments below and submit them to:

Development Services Department - City of Kamloops
Attention: Greg Toma, Community Planning Manager
7 Victoria Street West
Kamloops BC V2C 1A2 Phone 828-3572 Fax 828-7848

Thank you.