



Arctic Development
Library

Ingraham Land Use Plan - Plan Options
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1.0 INTRODUCTION

1.1 BACKGROUND

The Ingraham Trail is a mix-use area which supports a diversity of land uses and activities. In order to identify appropriate land use strategies which reflect the range of user demands along the Ingraham Trail, three alternative land use options have been developed. These land use options form Phase II - Plan Development of the Ingraham Trail Land Use Plan study process.

The Plan Options are based upon the Phase I findings documented in the Situational Analysis. In addition to the information provided by the review of documentation, the Situational Analysis also identified important planning issues and recommendations made by key stakeholders in the Ingraham Trail. This information was then utilized in the development of the three Land Use Plan Options.

1.2 INFORMATION SOURCES

Information from several maps were also utilized in developing the Land Use Plan Options. Of particular importance, was the recently completed mineral mapping which indicated areas of high to low mineral potential. The delineation of these areas was critical in determining land use strategies since the potential for conflict between mining and other land uses is high. These areas are indicated on the maps illustrating the three land use options. Other mapping utilized includes the Land Use Information Series (1975), air photo mosaics, and information from several planning documents (e.g., *The Ingraham Trail Master Plan [1985]*, *Ingraham Trail Area Planning Study [1978]*), as well as numerous master plans for specific areas along the Trail).

Prior to the development of plan options, a series of base maps have been generated to reflect salient characteristics of the Ingraham Trail. These maps represent the synthesis of information gathered during the Situational Analysis process. In addition to the Minerals Potential map, recreational and environmental features along the Ingraham Trail have been represented as base maps respectively. These base maps are available under separate cover.

**2.0 PLANNING
GOALS**

**2.1 PLANNING
PHILOSOPHY**

The overriding planning principle or vision shared by each of the Land Use Plan Options was that land use proceed in a manner which recognizes the character of the Ingraham Trail and which accommodates growth by encouraging and facilitating traditional and contemporary development. This balanced approach thereby seeks to maintain, enhance and complement the existing and future quality of the man-made and natural environments.

2.2 GOALS

Several planning goals influenced the development of the three Land Use Plan Options for the Ingraham Trail. The overall goals are based upon key planning issues or considerations which affect land use in the study area. These goals are reflected in each of the three Plan Options and their respective policy directions. These goals include:

- To encourage the appropriate long-term management of renewable and non-renewable resources.
- To protect the pursuit of traditional land uses along the Ingraham Trail by aboriginal groups.
- To encourage a mix of land uses which contribute to the economic, social, recreational and environmental well-being of the area.
- To minimize potential conflicts between non-compatible land uses in the Ingraham Trail.
- To conserve and protect the natural environment, scenic quality and ecological balance of the Ingraham Trail.
- To enhance opportunities of diversified development thereby promoting sustainable and stable economic growth and activity.

3.0 LAND USE PLAN OPTIONS

3.1 PREAMBLE

Three land use options have been proposed for the Ingraham Trail. These three options represent alternative development strategies for the study area. Each option or strategy illustrates a different degree of planning priority assigned to one of the three major land uses in the Ingraham Trail: mining, recreation and residential development. All of the options accommodate each of these major land uses to varying degrees, although for each option particular land uses are clearly favored. Aboriginal or traditional land use (e.g., hunting, trapping, wood gathering) is common to all options. Likewise, the protection and conservation of the natural environment is a land use approach shared by each Plan Option.

The planning philosophy and objectives of each Plan Option including the rationale or approach to land use in the Ingraham Trail is described in the following sections. Policy considerations consistent with the planning approach represented by each Plan Option are also discussed. These policy considerations are intended to reflect the general approach to land use proposed by each Option and do not represent definitive policies for the Ingraham Trail. Detailed land use policies for the Ingraham Trail will be developed for the Draft Plan or Phase III of the study process. In addition to the policy considerations, some of the major positive and negative implications of adopting each of the land use options are also highlighted. Maps illustrating the land use concept for each Plan Option are located in pockets at the back cover of this document.

3.2 COMMON PLANNING CONSIDERA- TIONS

3.2.1 Environment

All of the land use options proposed for the Ingraham Trail incorporate key planning goals with respect to the environment and traditional land uses. As illustrated on maps of each of the land use options, lands indicated as Environmental Protection Areas are highlighted. These sensitive environmental areas include such natural

features as cliffs, wetlands, scenic views and major wildlife corridors. Two primary areas are identified as Environmental Protection Areas - the Yellowknife River and the Cameron River/Hidden Lake area and the Terry Lake to Reid Lake rapids. These rivers represent wildlife corridors, particularly for wintering caribou, and feature rapids and falls as well as important wetlands for nesting and migrating birds.

Policy considerations which support the overall planning goal of conservation and protection of the environment are listed below and are incorporated into each Land Use Plan Option. Proposed environmental policies considerations include the following:

- Environmental Protection Areas are recognized as areas of ecological and recreational significance and sensitivity. Future planning for lands which include Environmental Protection Areas shall ensure the preservation and maintenance of the natural conditions and functions of these environments.
- All policies pertaining to the Yellowknife Watershed Development Area Regulations will be enforced.
- Traditional aboriginal land uses shall be protected along the Yellowknife and Cameron River corridors.
- Low impact recreation, especially nature interpretation, is an appropriate land use in Environmental Protection Areas.
- Development within this corridor shall be prohibited except if deemed in the best interests of the public.
- Commercial development shall be prohibited.

Other environmental policy considerations common to all Land Use Options include:

- An environmental impact study may be required of any major development proposed along the Ingraham Trail.
- Water quality shall be monitored annually for phosphorous and chlorophyll concentration in lakes and rivers designated for intermediate/day use and

resort recreation use. Monitoring will also be conducted on lakes designated for serviced cottage lot development.

- Areas identified for their aesthetic and ecological significance shall be protected.
- Ensure that wildlife and fish reserves are managed in a manner which protects the natural productivity of the species by appropriately adjusting the number of licenses and catch limits permitted.
- Management of environmental issues shall be a joint responsibility of GNWT and the federal government in consultation with aboriginal groups and residents of the Ingraham Trail.
- Establish an Environmental Advisory Review Committee to review and make recommendations regarding the environmental impacts of current and future land uses.
- Preserve existing tree cover and promote increased tree cover and other conservation strategies throughout the Ingraham Trail.
- All future development shall incorporate fire protection and prevention measures in its design and operations.
- Enforce building regulations and waste disposal controls to minimize environmental degradation resulting from current and future development.
- The degree of intensity of use of an area shall be governed by its physical and biological capabilities and limitations.

3.2.2 Traditional Land Use

Several policy considerations which ensure the protection of the continued pursuit of traditional land uses in the Ingraham Trail and recognize the rights of aboriginal groups in the region are indicated below:

- With the exception of the Ingraham Trail Transportation Protection Corridor and in areas of concentrated residential development (e.g., Cassidy

Point) hunting, trapping and fishing is permitted throughout the region.

- Harvest limits for the general public shall be enforced in order to conserve and appropriately manage wildlife and fish reserves in the Ingraham Trail.
- The Yellowknife River and Cameron River corridors shall be reserved for traditional aboriginal activities, particularly winter caribou hunting.

3.23 Ingraham Trail Transportation Protection Corridor

The third common policy consideration represented in each of the three Land Use Plan Options is the Ingraham Trail Transportation Protection Corridor. The Corridor is a 1.5 km band extending from either side of the Ingraham Trail (Highway #4) from the Yellowknife River Bridge to Tibbit Lake. The objective of the Transportation Protection Corridor is to control development adjacent to the Ingraham Trail and to protect the potential future widening of the highway.

Policies considerations protecting the integrity of the Transportation Corridor include:

- Any new access routes from the Ingraham Trail shall be located according to the least environmental and visual impact.
- A rehabilitation program approved by the GNWT's and Environmental Advisory Review Committee shall be undertaken to the satisfaction of the Transportation Department following road construction and borrow pit excavation.
- Areas designated in the Ingraham Trail Master Plan (1985) as Visual Resource Management Zones shall not be considered for potential development or access road construction except in areas of high quarrying potential.
- Proposed quarry sites shall be designated as single use areas.
- Quarry sites adjacent to the Ingraham Trail shall be visually buffered from travelers on Highway #4.

- Because of safety concerns, no hunting shall be permitted within the Transportation Corridor.
- New access roads will be constructed only under the approval of the GNWT's Transportation Department. Roads providing public access to recreation sites will be the priority.
- The construction and maintenance of all private access roads shall not be the responsibility of the GNWT unless by special arrangement. There is no commitment or requirement by any public authority to assume responsibility for ownership or maintenance of any private road.
- An allowance for a bicycle/path system shall be incorporated into the Transportation Corridor Zone from the Yellowknife River Bridge to Reid Lake Campground.
- When possible, new development shall utilize existing access roads rather than be permitted to construct a new road with direct access to the Ingraham Trail.
- Quarry sites adjacent to the Ingraham Trail and located in close proximity to the City of Yellowknife shall be developed prior to the proposed quarry sites located near Reid Lake and Prelude Lake Campgrounds.

**3.3 LAND USE
DESIGNATIONS**

The land use designations proposed for the three Plan Options include the following:

Residential Zones

- **Permanent Residential:** Fully-serviced, all-season dwellings constructed as a primary residence with gravel road access off the Ingraham Trail (Highway #4).
- **Seasonal 1:** Seasonally-serviced cottages designed for seasonal occupation for recreational purposes. Access is provided primarily by existing access roads. Strict waste disposal and site clearing regulations enforced. Fly-in fishing and hunting lodges permitted.

- **Seasonal 2:** Unserviced, seasonal cottages permitted. Access is by water or air only. No access roads will be permitted to areas designated for Seasonal 2 Residential use. Strict waste disposal and site clearing regulations enforced. Fly-in fishing and hunting lodges permitted.

Recreation Resource Zones

- **Zone 1 - Low Impact:** No permanent tourism or recreational facilities permitted. Fly-in fishing and hunting camps permitted. Non-motorized boating, hunting, fishing and other recreational activities are permitted. Access roads are not permitted.
- **Zone 2 - Intermediate/Day Use:** Recreational facilities accommodating vehicular access (campgrounds, boat launches, pull-outs) are permitted.
- **Zone 3 - Resort Recreational:** Commercial tourism activities and tourism accommodation services permitted. Marinas, concessions and wilderness outfitters are appropriate land uses.

Access and Dispersal Areas

- Sites designated to provide safe and effective access to remote wilderness areas. Some small-scale commercial activity such as boat rentals, fishing supplies and guides is also permitted to service recreational users of the surrounding area.

Commercial

- Small-scale highway commercial services (e.g., gas station, general store, restaurant) are permitted.

Mineral Potential Zones

- **High:** Proven mineral or sand and gravel (i.e., quarries) reserves with high extraction potential. Conflict with other land uses is high. Development is restricted.

- **Medium:** Mineral potential is medium high and conflict with other land uses is moderate. Limited, regulated development is permitted.
- **Low:** Potential conflict between mineral resource uses and other uses is low. Development is essentially unrestricted.

Transportation Protection Corridor

- A 1.5 km band on either side of the Ingraham Trail. The Corridor protects access to adjacent quarry sites, the visual impact of development, accommodates future widening of the Trail and controls access roads off the Trail.

Environmental Protection Zone

- Areas of ecological, environmental or scenic quality and sensitivity which may include traditional aboriginal hunting and trapping corridors. Residential and mining activities are prohibited. Low-impact recreation is permitted.

Special Policy Areas

- Mix-use areas where the potential for conflict between proposed land uses is high thereby requiring a greater degree of regulatory control.

3.4 OPTION 1: RESOURCE- BASED LAND USE CONCEPT

3.4.1 Philosophy and Objectives

The resource-based option represents a land use strategy which acknowledges the economic importance of the mining industry. The planning philosophy for this land use option emphasizes the planning priority assigned to the protection and promotion of mining and quarrying activities in the Ingraham Trail. The objectives of the resource-based land use option are:

- To minimize potential conflict with non-compatible land uses.

- To ensure mining access to areas of high mineral and quarrying potential.
- To permit the appropriate interim use of surface lands in areas of high and medium resource potential.
- To ensure that all mining and quarrying activities are undertaken with a minimum of disturbance to existing recreational, traditional and residential activities.
- To ensure that all mining activities proceed in an environmentally responsible manner.

3.4.2 Description

The maps illustrating the resource-based land use option are located at the back of this document.

The resource-based option identifies areas of high, medium and low mineral (including sand and gravel) potential. Areas of high mineral potential are primarily concentrated at the east (Tibbit Lake) and west ends of the Ingraham Trail. Existing and proposed quarry sites are identified as high potential zones and are located primarily in the Ingraham Trail Transportation Protection Corridor. Medium potential mineral areas are located near Prelude Lake and Bighill Lake. All other areas are considered low potential zones for mining or quarrying activity.

Recreation areas of intermediate/day use and resort recreational use are located primarily near existing sites presently accommodating these land uses. Low-impact recreation is permitted throughout the Ingraham Trail, although areas west of Prosperous Lake, the Tibbit Lake region, Hidden and Bighill lakes are designated solely for low impact recreation use. Day use or intermediate recreation is predominantly located in Prelude and Reid Lake Territorial Parks and near the two Cameron Falls pull-out areas. Resort recreation is confined to the Prelude Lake campground and marina area, which also serves as an Access and Dispersal Area. The other Access and Dispersal Area includes the Powder Point Area which would service the Hidden Lake Park recreation users.

Residential land use, including recreational cottages are primarily located in areas of existing cottage development. Permanent residential development would

only be permitted near Cassidy Point and on the east side of the Yellowknife River. The Yellowknife River site has been identified in the City of Yellowknife's General Plan (1988) as a future growth area. Prelude Lake is designated for the majority of both Seasonal 1 and 2 cottage development. Reid Lake, Pontoon and Madeline Lakes are also designated for additional serviced seasonal cottage development near existing access roads. Seasonal 2 or non-road accessed, non-serviced cottage development is designated along the eastern edge of Prosperous Lake, throughout Prelude Lake and Reid Lake.

Commercial development is permitted at the Detah-Ingraham Trail junction. Other sites for commercial land use are not permitted in this land use option. Access and Dispersal Areas are also not permitted.

Four Special Policy Areas have been identified for all three land use options. As indicated, a Special Policy Area represents an area where the potential for conflict between mining and other land uses is high. These areas include the two sites proposed for permanent residential development and the Reid Lake area. Potential conflict between the mining industry and the existing and future residents is high. Policy Areas 1 and 4 are located near the Walsh/Banting Lakes region and throughout the Tibbit Lake area. Policies to minimize conflict in these areas are identified in the following subsection.

3.4.3 Policy Considerations

General Land Use

- Land within the Ingraham Trail shall remain leased to the public. The practice of granting title to public lands shall be prohibited.
- Mining and related activities shall be the primary land use on all lands designated as high potential mineral or quarry sites.
- Access onto lands currently leased for a non-mineral use shall be ensured. A minimum of two weeks notice and negotiated compensation as per the Territorial Lands Act, Chapter T-7 (1985) and the Canada Mining Regulations, Section 70 - 72 (1987) shall be enforced.

- Areas of low mineral potential shall be considered as the preferred location for intermediate/day use or resort recreational and all forms of seasonal residential development.
- In areas of potentially high future conflict between mining and other and land uses, the designation of portions of the Ingraham Trail as a mining district as per Section 23 of the Territorial Lands Act, shall be considered.
- Hidden Lake and Ryan Lake shall be considered wilderness areas. Development along these lakes shall be prohibited.

Recreation

- Low impact recreation shall be considered an appropriate interim use of lands designated as a high potential mineral area.
- Future intermediate/day use recreation shall be permitted in medium and low potential mineral areas.
- Future intermediate/day use recreation shall be concentrated in existing Territorial Parks and day use areas located adjacent to the Ingraham Trail.
- Reid Lake and access points into the Cameron River area shall be designated for expanded day use/intermediate recreational activities.
- Expansion of park boundaries shall be undertaken in consultation with the mining industry regarding the mining potential of adjacent park lands.
- Resort recreation uses shall be permitted only in lands adjacent to Prelude Lake Territorial Park.

Residential

- Seasonal 2 (unserviced, non-road accessed) cottage lot development shall be permitted on lands designated as medium potential mineral areas.

- With the exception of Special Use Areas, no permanent residential development shall be permitted in lands designated as high potential mineral areas.
- Land east of the Yellowknife River bridge shall be considered for future permanent residential development and designated as a Special Policy Area.
- A buffer zone of undeveloped land shall be designated between areas of permanent or Seasonal 1 residential development and low impact recreation or Environmental Protection Areas.

Special Policy Areas

- *Special Policy Area 1:* Walsh and Banting lakes area represents a proven high mineral potential zone. Existing cottages may not incorporate improvements which would permit full-time residency. Future cottage development would not be permitted.
- *Special Policy Area 2:* The Yellowknife River Bridge - East, located in high potential mineral lands is designated for future permanent residential development. Identified by the City of Yellowknife's General Plan (1988) as a Potential Growth Area, this Special Policy Area shall be set aside for permanent residential development until either residential or mineral demand warrants a detailed examination of its future use.
- *Special Policy Area 3:* Cassidy Point/Prosperous Lake represents an area of mixed seasonal and permanent development within a high potential mineral zone. Mining within this area shall be avoided when possible, particularly during periods of high recreational use. Access to mineral leases adjacent to this Special Policy Area will be protected.
- *Special Policy Area 4:* Tibbit Lake area lies within a high potential mineral zone. Further cottage development shall not be permitted in this area.

Special Policy Areas

- Mines and quarries shall be visually buffered from traffic on the Ingraham Trail.

- A buffer zone shall be designated between areas of existing residential and recreational development and future mines or quarries. The width of the buffer zone shall be determined by the intensity and timing of the mining or quarrying activity.

3.4.4 Advantages and Disadvantages

The primary advantages associated with the resource-based land use option include:

- Potential conflict between mining activities and high intensity, recreation-oriented and residential land use is substantially reduced since these land uses are separated.
- Traditional land use and low impact recreational users benefit from large tracts of land in proximity to the Ingraham Trail (and especially the City of Yellowknife) which are designated as high mineral potential areas. These areas prohibit extensive development. This in turn creates a greater "wilderness" experience and promotes traditional activities within a short distance from the City of Yellowknife.
- Policies governing Special Policies Areas will act to lessen the degree of existing and future conflict between cottagers and recreational users and mining and quarrying activities.
- Compensation to surface lease holders and other associated costs resulting from the mining industry's right to access and work leased lands is reduced, thereby increasing the economic feasibility of some mineral extraction activities.
- Residential development (permanent and Seasonal 1) is limited, thereby reducing the potential for additional burden on services and facilities provided by the City of Yellowknife.

The major disadvantages associated with the resource-based land use option are:

- Areas appropriate for higher intensity recreational use and serviced residential development are limited

and may not satisfy future demands by tourists or City of Yellowknife residents.

- Commercial tourism development is restricted to the Prelude Park area. This may in turn prohibit entrepreneurial tourism commercial ventures and economic diversity in the Ingraham Trail.
- Proposed cottage development along Banting and Walsh Lakes is prohibited, thereby creating additional service and access demands on Prelude Lake Park. The possibility of conflict between day users and seasonal serviced cottagers also increases.
- The greater concentration of intermediate/day use and cottagers on both Reid lakes and Prelude Lake may also lessen the quality of the recreational experience for many Yellowknife residents and visitors.

**3.5 OPTION 2:
RECREATION-
BASED LAND
USE CONCEPT**

**3.5.1 Philosophy and
Objectives**

The recreation-based land use option emphasizes the Ingraham Trail's role as an important recreational amenity for visitors and Yellowknife residents. The planning philosophy for this land use option recognizes recreational activities as the primary land use in the Ingraham Trail.

Some key objectives of the recreation-based land use option are:

- To promote a range of recreational and development opportunities along the Ingraham Trail.
- To ensure that visitors and residents of Yellowknife have equal and safe access to major recreational amenities.
- To encourage sustainable, long-term economic activity based upon recreational and tourism-oriented development.
- To promote the interpretive and tourism value of the unique physical, scenic and cultural features of the

Ingraham Trail in an environmentally sensitive manner.

3.5.2 Description

The second land use option highlights a greater diversity of both seasonal residential and recreational development opportunities than is presented in the resource-based land use option. The land use designation known as an Access and Dispersal Area has been included in this and the residential-based land use option.

An Access and Dispersal Area represents a mix-use area of both day use/intermediate recreational activity and facilities (e.g., picnic areas, parking, toilets) as well as some small-scale tourism commercial development. The main function of these areas is to provide a controlled access point for recreational users entering wilderness areas of the Ingraham Trail. Such access and dispersal points may provide services to day users and cottagers in more remote areas of the Ingraham Trail. Five locations have been designated as Access and Dispersal Areas including:

- Vee Lake Road and Vee Lake to provide access to Walsh and Banting Lakes;
- Prosperous Lake at Cassidy Point to provide improved access and services to existing cottagers and more remote cottage locations on Prosperous Lake;
- Prelude Lake Park is a currently developed and recognized Access and Dispersal Area for Prelude Lake;
- Power Point road pull-out currently used for access to the Cameron River and Hidden Lake Park as well as an eastern access onto Prelude Lake would be expanded to provide services for canoe parties and day hikers; and
- Tibbit Lake (end of Ingraham Trail) would provide services to current cottages on Tibbit and Peninsula Lakes.

In addition to the five Access and Dispersal Areas, a greater number of intermediate recreation/day use areas have been designated along the Ingraham Trail. These

areas include Walsh and Banting lakes, Bighill Lake and Tibbit Lake which were designated as low impact recreation in the resource-based land use option. An additional day use area has been located on the Yellowknife River at its origin on Prosperous Lake. Hidden Lake Park remains designated for low impact recreation in all three land use options. The Cameron River as well as the Yellowknife River are designated for low impact recreation. Existing access points onto the Cameron River would be expanded to accommodate additional day use by visitors or tourists. Reid Lake as well as Prelude Lake have been designated for resort recreational development. The Detah Road junction on the Ingraham Trail has been designated for highway commercial activity.

As part of the overall planning philosophy of this land use option, additional lands designated for recreation-oriented residential development are identified. Serviced, road-accessed seasonal cottages are designated in the following locations:

- Cassidy Point to the south eastern tip of Prosperous Lake between the shoreline and the Ingraham Trail;
- all of Madeline, Pontoon and Pickeral lakes;
- the western edge of Peninsula Lake (near existing cottages);
- the south eastern edge of Prelude Lake to the Ingraham Trail; and
- the northern edge of Reid Lake.

Seasonal 2 or non-road accessed, non-serviced cottage development is permitted in other areas of existing cottage lots including:

- the western edge of Prosperous Lake;
- the northern and western edge shores of Prelude Lake; and
- the southeast shores of Reid Lake.

Areas designated as Special Policy Areas include those identified for the resource-based land use option. These areas include:

- Policy Area 1 - Walsh/Banting Lakes
- Policy Area 2 - Yellowknife River Bridge
- Policy Area 3 - Cassidy Point on Prosperous Lake
- Policy Area 4 - Tibbit Lake

Policies governing these high conflict zones are discussed in the following subsection.

3.5.3 Policy Considerations

General Land Use

- Recreation shall be the primary land use. Other proposed land uses must demonstrate that their social and economic benefit will be greater than the impacts upon the environment or diminished value of the existing recreational land use.
- The environmental capability of lakes designated for intensive use or resort recreational development will be monitored annually.
- Upgrading existing day use areas will be phased according to demonstrated demand and priority shall be given to areas of tourism-oriented use or interpretive value.
- Access onto leased mineral sites is ensured following appropriate notification and compensation is negotiated with the surface lease holder.
- Hidden Lake and Ryan Lake shall be considered wilderness areas. Development along these lakes shall be prohibited.

Recreation

- Low impact recreation is considered an appropriate land use throughout the Ingraham Trail.
- Intermediate/day use recreation is permitted in high mineral potential areas.

- Appropriate commercial activities within Access and Dispersal Areas include boat rentals, seasonal concession stands, fishing and bait stands and other small scale commercial services considered appropriate by the approving authority.
- Resort recreational development shall be confined to areas adjacent to Prelude Lake and Reid Lake Territorial Parks. Development of Prelude Lake shall precede that proposed for Reid lake when possible.
- Interpretive trails and signage, particularly within Hidden Lake Park and along the Cameron and Yellowknife Rivers, shall be encouraged.
- Prelude Lake shall be the preferred location for a future joint-use facility combining both administrative and interpretive services for the Ingraham Trail.
- Hidden Lake and Ryan lake shall be considered wilderness areas. Development along these lakes shall be prohibited.
- A trail linking Reid Lake to other recreational amenities along the Ingraham Trail, particularly throughout the Cameron River area, shall be a development priority.
- Industrial traffic on the Ingraham Trail shall be restricted to non-peak time periods during the peak tourism/recreation season.

Residential

- A variety of cottage leases shall be available to encourage a broader range of both short-term and long-term residential tenure for visitors and residents alike.
- Small-scale bed and breakfasts may be located within areas designated for serviced, Seasonal 1 cottage lot development.
- Commercial tourism accommodation development and short-term leased cottages shall be clustered in or adjacent to resort recreational areas.

- Lands designated for permanent residential development shall be appropriately buffered from day use or commercial tourism-oriented activities.
- Lodges (water or air access only) may be considered in high potential mineral zones on such lakes as Walsh, Banting and Tibbit Lake.
- Seasonal, serviced cottage lots shall be developed first in areas with an existing access road. Priority locations are Prosperous and Madeline lakes.

Special Policy Areas

- In Policy Areas 1, 2 and 4, intermediate/day use recreation is permitted.
- Seasonal tourism commercial activity is permitted at Access and Dispersal Areas located in high potential mineral zones.
- Industrial traffic on the Vee Lake Road is not restricted during the peak recreation season.
- Information regarding possible mining activity in day use areas will be distributed at Access and Dispersal Areas located throughout the Ingraham Trail.
- Limited cottage development (Seasonal 1) shall be permitted in Policy Areas 3 and 4 adjacent to existing cottages. Additional access roads off the Ingraham Trail will not be permitted to future cottage sites in these zones.

3.5.4 Advantages and Disadvantages

Some of the advantages of the recreation-based land use option are:

- A variety of land uses are permitted within the Ingraham Trail thereby satisfying both recreational, residential and commercial demands.
- The City of Yellowknife's interest in preserving the Ingraham Trail as an important recreational amenity for its residents is enhanced.

- Commercial activity emphasizing tourism and recreation-oriented services is encouraged, thereby creating additional economic opportunities along the Trail.
- A greater number of cottaging opportunities are permitted in the form of viable lease arrangements and commercial cottage development thereby satisfying Yellowknife's current pent-up demand for cottage lots.

Potential disadvantages of the recreation-based option include:

- The increase in the number of cottages and commercial developments may exacerbate difficulties in achieving the consistent application of the Public Health Act and the Yellowknife Watershed Development Area Regulations.
- Potential conflict between day users and cottage owners may be increased, particularly near locations designated as Access and Dispersal Areas.
- Potential conflict may be increased between the mining industry and seasonal cottage owners, particularly if restrictions placed on industrial traffic and the timing of exploration activities are not implemented.

**3.6 *OPTION 3:
RESIDENTIAL-
BASED LAND
USE CONCEPT***

**3.6.1 Philosophy and
Objectives**

The third land use option for the Ingraham Trail emphasizes residential development as the planning priority. As discussed in the Situational Analysis, demand for cottage lots is increasing. Also, concern regarding unregulated cottage development and growing permanent residency is also increasing. The philosophy of this planning option is to maximize opportunities for both permanent and seasonal residential development.

Objectives for this land use option include the following:

- To create additional opportunities for Yellowknife residents and visitors to reside in a non-urban environment.
- To increase longer-term residential opportunities and extended visits to the Ingraham Trail.
- To provide alternative permanent residential options for residents of Yellowknife.
- To minimize the burden on services provided by the City of Yellowknife to permanent residents in the Ingraham Trail.

3.6.2 Description

The residential-based land use option expands areas designated for both permanent and seasonal residential development throughout the Ingraham Trail than was identified in either of the previous options. In this option, a greater degree of integration between future seasonal cottage development and recreational land use is encouraged.

Several mix-use areas are identified which concentrate on the combination of recreation and seasonal cottage lot development. The Walsh and Banting Lakes (Special Policy Area 1) and Tibbit Lake (Special Policy Area 4) are two major areas of mixed low-impact recreation and Seasonal 2 cottage lot development. Another key area of mixed cottage and recreational land use is throughout the Reid Lake extending to the east end of Pickeral Lake which has been designated for both intermediate/day use recreation and expanded Seasonal 1 (serviced, road accessed) cottage development.

Areas designated for Seasonal 1 Residential (SR1) representing road accessed, serviced cottage lot development are greatly expanded with this land use option. Large tracts of SR1 land include a band extending from the southeast end of Prosperous Lake to the western edge of Prelude Lake Park and encompasses all of Madeline and Pontoon Lakes. The eastern arm of the southern shore of Prelude Lake is also designated for Seasonal 1 residential land use. The third major block of land allocated to serviced cottage lot development is the Reid Lake/Pickeral Lake region. Additional SR1 land use is also permitted along the western edge of Peninsula

Lake adjacent to current cottage lot development accessed from the Ingraham Trail.

The emphasis upon providing additional residential opportunities for the residents of Yellowknife is most evident in the increase of land designated for permanent residential development. Three major areas have been identified for permanent residential land use. These include: the area east of the Yellowknife Bridge (designated by the City of Yellowknife as a Future Growth Area); the land between Cassidy Point to the Ingraham Trail road; and a portion of the land surrounding the Prelude Lake east access road. Existing serviced cottage lots occupied on a permanent basis are currently located at the latter two sites.

Recreation areas of intermediate/day use remain concentrated in Prelude Lake and Reid Lake Territorial Parks. Resort recreation land use is concentrated solely at Prelude Park in order to minimize potential conflict with adjacent residential development. Access and Dispersal Areas to service low-impact recreational users and non-serviced cottage development are located at Vee Lake, Powder Point (east end of Prelude Lake) and at Tibbit Lake.

Commercial land use remains designated to the Detah junction of the Ingraham Trail.

Special Policy Areas 1 through 4 remain in the Walsh/Banting lakes area, Yellowknife Bridge East, Cassidy Point (Prosperous Lake) and Tibbit Lake area.

3.6.3 Policy Considerations

General Land Use

- All development shall be in conformance with the Yellowknife Area Development Act and Watershed Development Area Regulations.
- Residential land use, particularly in areas of existing cottage lot development, shall be encouraged throughout the Ingraham Trail.
- Seasonal 1 and 2 residential land use opportunities shall be concentrated in areas of existing cottage development.

- The City of Yellowknife and the approving authority shall establish a servicing plan for future permanent residential development along the Ingraham Trail. The servicing plan will include the level of financial compensation awarded the City of Yellowknife for municipal services (e.g., schooling) rendered to permanent residents of the Ingraham Trail.
- Hidden Lake and Ryan Lake shall be considered wilderness areas. Development along these lakes shall be prohibited.

Recreation

- A balanced mix of seasonal residential and recreational land use is encouraged.
- In areas of recreational and residential land use, priority shall be given to preserving and enhancing the residential quality of the region.
- Intermediate/day use is appropriate for areas primarily designated for Seasonal 1 Residential development.
- Low impact recreation is appropriate for areas primarily designated for Seasonal 2 development.
- A buffer zone of non-developable land shall be designated between areas of permanent residential development and all other land uses.
- Access and Dispersal Areas shall be buffered from all other adjacent land uses.

Residential

- An Area Structure Plan detailing road access and maintenance, layout, environmental impact and servicing of all permanent residential development shall be required.
- Existing summer cottages may be converted to permanent residences whenever an appropriate level of garbage and sewage services can be provided.

- When possible, public access through permanent residential development areas shall be avoided.
- A variety of cottage leases shall be available to encourage a broader range of both short-term and long-term tenure available to visitors and Yellowknife residents.
- Seasonal 1 Residential development located adjacent to existing day use areas or Territorial Parks shall be appropriate for short-term (1 year) residences or small scale tourism commercial accommodation such as bed and breakfasts.
- Commercial tourism cottage development shall be clustered in or adjacent to resort recreational areas.
- Lots shall be sized and designed to recognize the environmental and physical constraints of the Ingraham Trail.
- Lots for residential development which do not directly front onto the water shall be permitted to be substantially increased in size.
- Design guidelines governing fire protection and prevention, aesthetic considerations and visual impact (particularly on waterfront lots) shall be established for all forms of residential development in the Ingraham Trail.
- No residential development shall be permitted in Environmental Protection Areas.

Commercial

- Commercial development shall be located at the junction of the Detah road and the Ingraham Trail. Appropriate uses include highway commercial services such as a general convenience store, gas station, craft shop or restaurant (seasonal).

Special Policy Areas

- Seasonal 2 Residential land use shall be permitted in high potential mineral zones.

- No serviced, road accessed or permanent dwellings shall be permitted in Policy Areas 1 and 4.
- Excavation of gravel sites and mining activity shall be restricted in areas designated for Permanent Residential Development.
- Access routes to quarries and mines shall attempt to avoid areas of Seasonal 1 and permanent residential development.
- Industrial traffic shall be restricted to Policy Areas 2 and 3. Seasonal restrictions shall apply in Policy Areas 1 and 4.
- Information regarding possible mining activity in the Ingraham Trail will be distributed at all Access and Dispersal Areas.

3.6.4 Advantages and Disadvantages

One of the major advantages of the residential-based land use option is that it alleviates the growing demand for additional residential development permitted in the Ingraham Trail. Other advantages include:

- A range of residential alternatives are proposed which enable both long-term and short-term tenure available to visitors and Yellowknife residents.
- Flexibility in areas designated for Seasonal 1 residential development may encourage the provision of bed and breakfasts and small-scale tourist accommodations which will increase the tourism potential of the Ingraham Trail.
- The mix-use areas will enable a greater proportion of Yellowknife residents to utilize the recreational opportunities (i.e., day use and cottage recreation) of accessible lakes along the Ingraham Trail.

The major disadvantages associated with the residential-based land use option is the increased potential for conflict between seasonal cottagers and permanent residents and other established users of the Ingraham Trail. Potential areas of conflict include:

- Permanent residential development, particularly in Special Policy Areas 2 and 3, may result in conflict

with the mining industry. Legislation ensuring the mining industry's right to access and work their mineral leases cannot be revoked and compensation to surface lease holders would be time consuming and costly.

- Conflict between recreational day users, particularly large groups of vacationers, motor boats, etc. and long-term cottage residents in mix-use areas is high. Appropriate buffering between adjacent land uses and ensuring compliance with Park regulations (e.g., overnight camping, noise and curfews) would require additional enforcement effort.
- A greater sense of ownership engendered by higher concentrations of residential development may foster conflict and safety concerns regarding aboriginal access to traditional use areas for hunting and trapping activities.
- A greater degree of residential development may result in a lack of consistent enforcement of building and waste disposal regulations. The potential for environmental degradation (e.g., water and soil contamination, uncontrolled road access), visual blight and fire hazards is also increased.
- A unique "wilderness experience" many visitors travel to the North to partake in may be diminished if the Ingraham Trail becomes overly developed along the shorelines.

**4.0 COMPARATIVE
EVALUATION
OF OPTIONS**

4.1 INTRODUCTION The criteria selected to evaluate the land use options were based on a multi-objective approach. This approach was adopted to provide a broad evaluation that recognized: existing concerns and issues; the potential for conflict between various land uses; potential social and economic impacts; and, factors affecting the implementation of the land use options. A description of the evaluation criteria applied in the comparative assessment of the three land use options is discussed in the following section.

Section 4.3 describes the results of the comparative overview of the options. Each of the three land use options are evaluated relative to each other in terms of fulfilling the evaluation criteria. A matrix (Exhibit 4.1) of the criteria and land use options illustrates the ranking of each option relative to one another. A numerical value of one represents the most advantageous option, while a rank of three indicates the least favorable land use option with respect to a particular criterion.

**4.2 EVALUATION
CRITERIA**

The evaluation criteria was based on the ability of each land use option to effectively meet the objectives of four general categories for evaluation: Issues Addressed, Potential for Conflict, Social and Economic Impacts and Plan Implementation. These four categories and the specific evaluation criteria associated with each of them are outlined in the following subsections.

**4.2.1 Issues
Addressed**

The evaluation criteria categorized under "Issues Addressed" refers to the degree a specific land use option effectively mitigates negative implications associated with key issues affecting land use in the Ingraham Trail. These issues have been grouped as either residential, recreation or environmental evaluation criteria and are discussed in greater detail in the Situational Analysis document.

The specific issue categories include:

- **Residential Issues:** Demand for additional cottage lot development has been increasing over the last

several years. Presently, concerns regarding the provision of services to permanent residents and the control of existing and new cottage development is growing. The objective of this criteria category is to evaluate an option's ability to both satisfy residential demand while addressing environmental and regulatory concerns.

- **Recreation Issues:** Demand from a variety of users (e.g., visitors, residents) for a broader range of recreational opportunities from resort-oriented development to a "wilderness experience" is increasing. Safety concerns with respect to hunting practices and traffic congestion is also growing. The evaluation objective of this evaluation category is to determine the relative ability of each land use option to satisfy diverse recreational demands while addressing concerns related to safety.
- **Environmental Issues:** Although each land use option will respect the environmental integrity and capability of the Ingraham Trail, the potential for negative environmental impacts is greater with particular options. The evaluation criteria seeks to identify those land use options which may best promote sustainable development with a minimum of potential negative environmental impact.

4.2.2 Potential for Conflict

Each of the land use options are evaluated based on an overall land use goal; that is, to minimize potential conflict between major land uses in the Ingraham Trail. The criteria recognizes that each option does not exclude a particular activity, but rather provides a strategy which includes all major land uses. For this reason, the potential for conflict between mining, residential development, recreational users and traditional use activities is evaluated.

4.2.3 Social and Economic Impact

The Social and Economic Impact criteria category describes the potential degree of negative or positive implications associated with each land use option relative to each other. It is recognized that each land use option will provide positive and negative social and economic implications for residents of the Ingraham Trail and the City of Yellowknife. The specific criteria include:

- **Promote Economic Growth:** Relates to the potential of a particular option to support local economic growth and prosperity.
- **Potential for Economic Diversification and Stability:** Refers to the potential of a land use strategy to promote a variety of economic opportunities over the long-term in a sustainable manner.
- **Burden Upon City of Yellowknife Services:** The degree to which a particular land use option will create facility and service demands upon the City of Yellowknife.
- **Provision of Amenities to Yellowknife Residents:** The ability of a particular land use option to successfully satisfy the recreational and residential demands of Yellowknife's resident population.

4.2.4 Plan Implementation

The fourth criteria category attempts to evaluate the ability of a particular land use option to be successfully and effectively implemented. The criteria includes:

- **Ease of Implementation:** Refers to the degree of administrative complexity and inter-jurisdictional coordination required to implement the policies associated with each land use option.
- **Ability to Enforce Regulations:** Land use options which promote either a greater diversity of land uses (mix-use area) or higher degree of use require a greater degree of land use control and enforcement, particularly to minimize conflict and maintain environmental integrity.
- **Additional Plans/Studies Required:** Areas of greater intensity of use than currently accommodated will require a variety of initial environmental studies (e.g., environmental impact assessments) as well as more detailed planning (i.e., area structure plans, socio-economic impact studies).

**4.3 COMPARATIVE
EVALUATION
OF OPTIONS**

4.3.1 Introduction

The criteria described in the previous section was applied to the three land use options: Option 1: Resource-Based; Option 2: Recreation-Based; and Option 3: Residential-Based. The development strategies or approaches were ranked relative to each other in terms of their ability to fulfill each of the evaluation criterion. A matrix (Exhibit 4.1) was chosen to illustrate the results of the ranking of land use options for each of the four evaluation categories. Individual criterion or categories of criteria were considered equally important and therefore no weighting was assigned.

**4.3.2 Issues
Addressed**

A comparison of land use options identified that both the resource-based and recreation-based land use options were equally favorable approaches to addressing many of the issues affecting development in the Ingraham Trail. Option 1's planning approach which limits development in high potential mineral areas while restrictive, was also thought to contribute to a greater degree of control and regulated land use. The recreation-based land use approach (Option 2) ranked favorably in terms of its ability to address a range of recreational and residential demand with a comparatively lower degree of environmental impact than either Option 1 or 3.

The residential-based land use option (Option 3) while satisfying recreational demands, was also considered to be difficult to regulate and control growth and environmental impacts (particularly with respect to fire hazard and access road construction). Option 3's emphasis on residential development was also considered to be less compatible with, and therefore less able to maintain traditional uses in the Ingraham Trail than either of the other land use options.

**4.3.3 Potential for
Conflict**

The potential for conflict is greatest with the residential-based land use option (Option 3). The increased permanent and seasonal serviced cottage lots was considered to be a source of conflict between mining, day use recreation users and those groups wishing to pursue traditional land use activities (e.g., hunting, trapping, etc.). Again, the restrictive approach to development in

the resource-based option which permits only low-impact recreational land use in areas of mix-use designations has the least potential for conflict with other land uses in the Ingraham Trail. Option 2's provision of a broad range of recreational and residential opportunities indicates a potential for land use conflict relative to comparable to that of Option 3.

**4.3.4 Social and
Economic Impact**

Various strengths and weaknesses of each of the land use options was indicated by this evaluation category. Each option was recognized as contributing to the economic and social well-being of both residents of the Ingraham Trail and the City of Yellowknife. Overall, Option 2 - Recreation-Based was ranked the most favorable land use option since it was thought to contribute most to economic diversification and the social/amenity value the Ingraham Trail provides to Yellowknife residents and visitors. Option 1's ability to generate economic growth and individual wealth from mining is well-recognized. Also, Option 1's limited residential and recreational development potential was considered to create less of a demand upon City services and facilities. Option 3 - Residential-Based land use development approach was ranked as the least favorable option in terms of generating economic growth and prosperity; while at the same time burdening the City of Yellowknife with demand for services originating from an increase in permanent residents in the Ingraham Trail.

**4.3.5 Plan
Implementation**

As discussed in the previous evaluation categories, the restrictive development policies of the resource-based land use option is considered to represent the least difficulty in terms of implementation and enforcement. The increase in residential development emphasized in Option 3, particularly with respect to permanent tenure and consequent demands for services and compensation-related issues (i.e., for the City and between the mining industry and residents) suggests this is the least favorable land use option.

4.4 CONCLUSION

Based on the evaluation criteria described in Section 4.2, both the resource and recreation-based land use options are the most viable development approaches for the Ingraham Trail. However, the relative strengths and weaknesses of all three land use options suggests that a mix or hybrid land use and development strategy would

best meet increasing demands for residential and recreational opportunities while accommodating such established and important land use activities as mining and traditional aboriginal pursuits.

A more comprehensive review of the three proposed Land Use Options will also be undertaken during Phase II of the Ingraham Trail Land Use Plan Study process. The further evaluation of the relative merits of either the resource, recreation or residential-based land use options will better indicate the preferred approach to land use in the Ingraham Trail. The results of this cumulative evaluation of the options by the Management and Steering Committees and the public will then be incorporated into Phase III of the Study - the development of a Draft Plan and specific land use policies for the Ingraham Trail.

EXHIBIT 4.1
COMPARATIVE EVALUATION OF LAND USE OPTIONS

EVALUATION CRITERIA	LAND USE OPTIONS		
	1	2	3
	Resource-Based	Recreation-Based	Residential-Based
Residential Issues:			
• Increasing Demand for Cottage Lots	3	2	1
• Unregulated Cottage Lot Development	1	2	3
• Enforcement of Development Regulations	1	2	3
• Increasing Demand for Services by Residents	1	2	3
Sub-Total	6	8	10
Recreation Issues:			
• Increasing Recreational Demand by Visitors	3	1	2
• Increasing Demand for a Range of Recreational Opportunities & Services	3	1	2
• Safety (Hunting Practices)	1	2	3
• Safety (Traffic Congestion on Ingraham Trail)	1	3	2
Sub-Total	8	7	9
Environmental Issues:			
• Protection of Environmental Integrity	3	1	2
• Watershed Protection	3	1	2
• Maintenance of Traditional Use Areas	1	2	3
• Wildfire Protection and Prevention	1	2	3
• Unregulated Access Road Construction	1	2	3
Sub-Total	9	8	13
TOTAL	23	23	32
Potential for Conflict:			
• Between Mining and Residential Users	1	2	3
• Between Mining and Recreational Users	1	3	2
• Between Residential and Recreational Users	1	2	3
• Between Residential and Traditional Uses	1	2	3
Sub-Total	4	9	11
Social and Economic Impacts:			
• Promote Economic Growth	1	2	3
• Potential for Economic Diversification & Stability	2	1	3
• Burden Upon City of Yellowknife Services	1	2	3
• Provision of Recreational Amenities to Yellowknife Residents	3	1	2
Sub-Total	7	6	11
Plan Implementation:			
• Ease of Implementation	1	2	3
• Ability to Enforce Regulations	1	2	3
• Additional Plans/Study Required	1	2	3
Sub-Total	3	6	9
GRAND TOTAL	37	44	63

NOTE: A value of 1 denotes the most advantageous land use option, while a value of 3 denotes the least favorable option. Evaluation criteria was not weighted to indicate planning priorities or values.

- OPTION 1:** Resource-Based Land Use Option
OPTION 2: Recreation-Based Land Use Option
OPTION 3: Residential-Based Land Use Option