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SMITH, GEOFF.
PROPOSED RECONSTRUCTION OF THE

PROPOSED
RECONSTRUCTION OF
THE
BEAVER PICNIC SITE / BEAVER GRAVEL PIT
TRAIL

GLACIER NATIONAL PARK

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Prepared by : ✓ Geoff Smith
Date: May 4, 1986.

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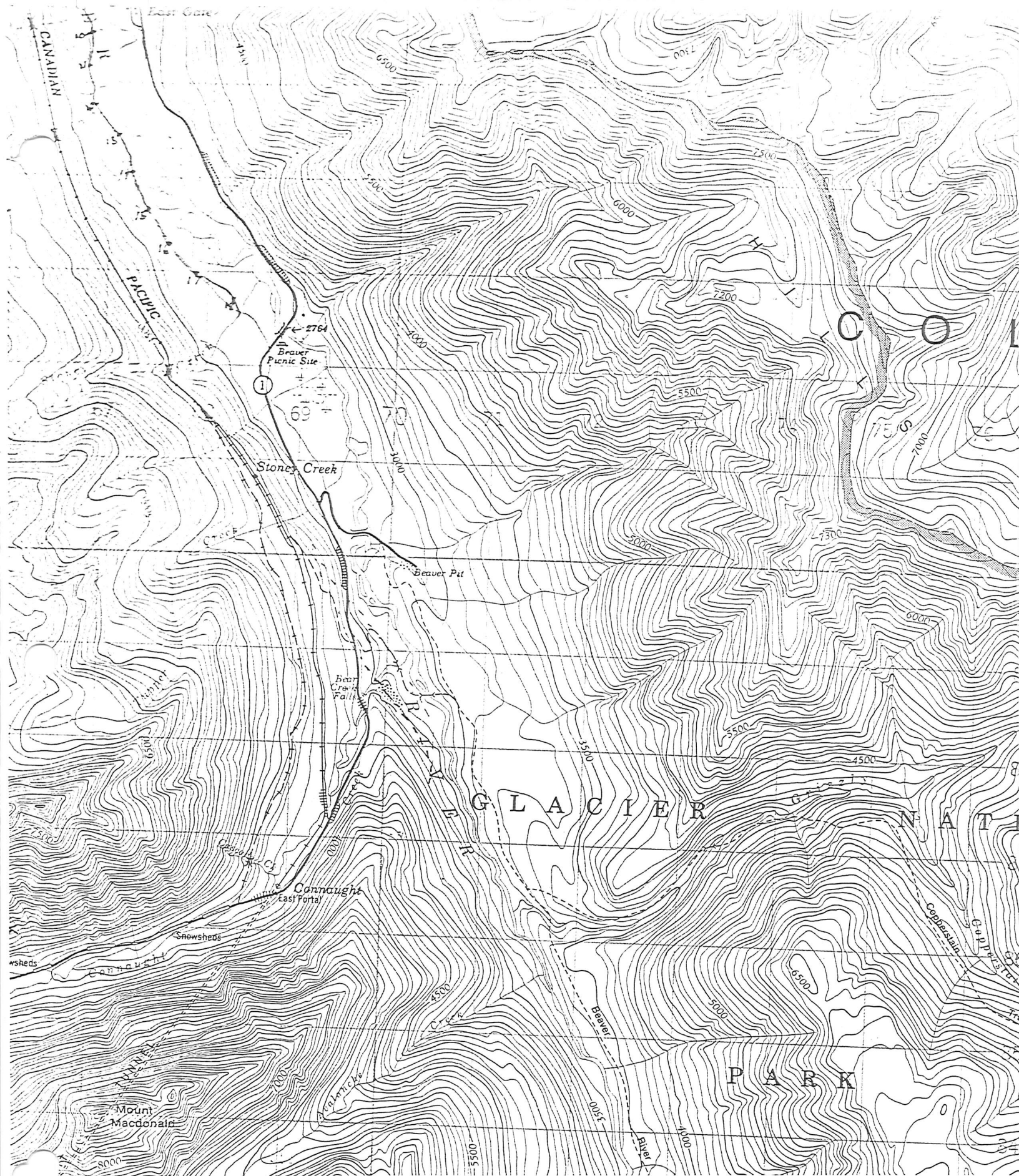
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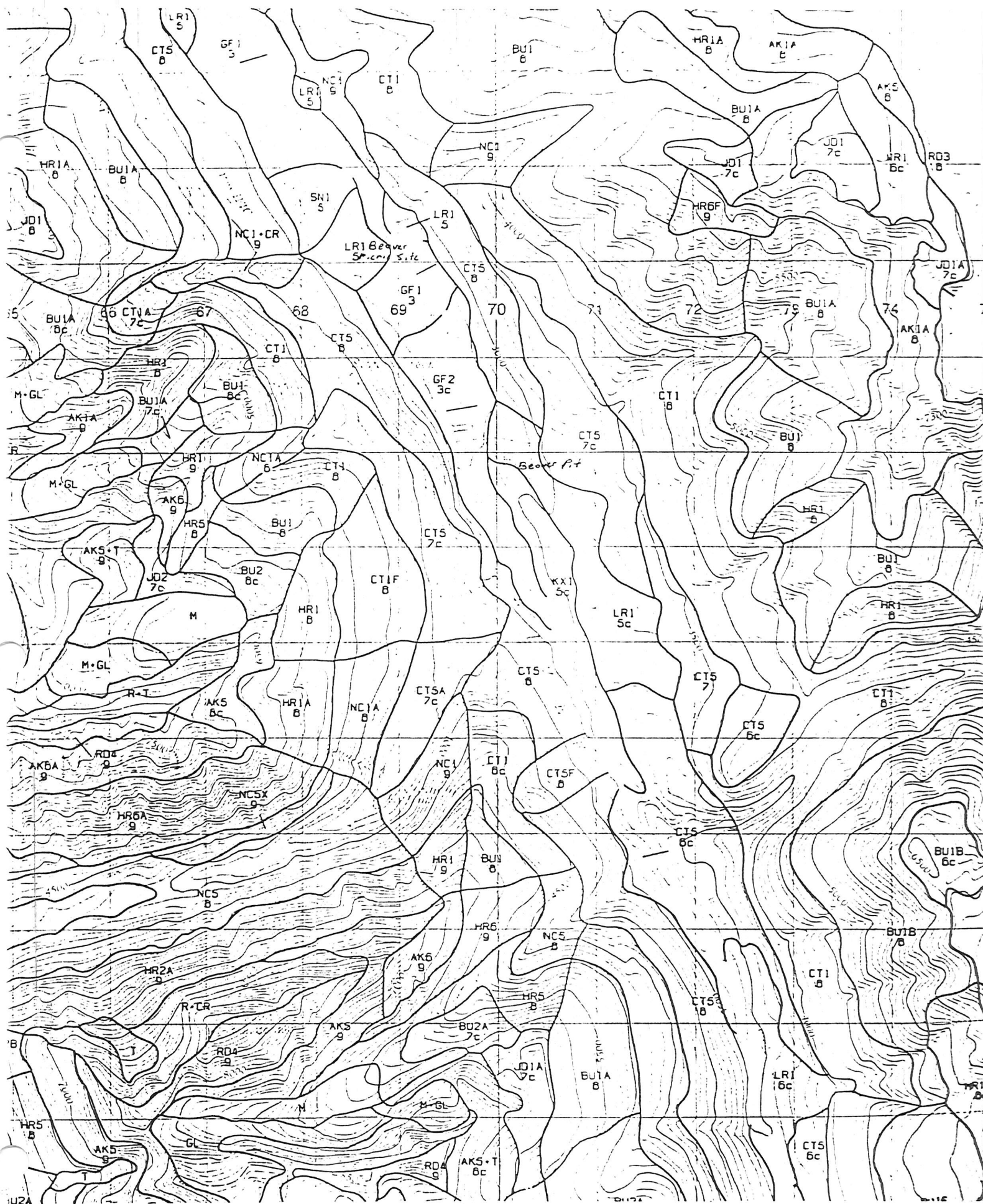
REFERENCES



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Proposed BEAVER PICNIC SITE / GRAVEL PIT TRAIL



ECOLOGICAL (BIOPHYSICAL) LAND CLASSIFICATION OF
GLACIER NATIONAL PARK

Proposed BEAVER PICNIC SITE / GRAVEL PIT TRAIL

INTRODUCTION

In 1985, Glacier National Park wrote a report on the long range management plans for the park. This report, titled "Plan Concepts", covered every aspect of the park including developments, operations, protection and resource conservation.

One of the proposed developments included the re-opening of an old trail that is located between the proposed Beaver Picnic site (where there is currently a chip shed) and the Beaver gravel pit. This trail would be an extension of the Beaver Valley Trail, and would also establish a new trailhead for the Beaver Valley Trail at the proposed picnic site.

This report will present and explain the environmental damages that the trail will cause and also some of the problems that will be encountered when it comes time to reconstruct this trail. I have also presented some possible courses of action and options that are available when these problems are met.

SOURCES OF INFORMATION

A lot of the environmental information such as soils, wildlife and climate has been researched from the "Ecological Land Classification of Mount Revelstoke and Glacier National Park, British Columbia". (Alberta, 1984.)

A breakdown of the microsites on and beside the trail is located in the appendix.

GENERAL DESCRIPTION AND ENVIRONMENTAL EVALUATION

The proposed Beaver Picnic Site / Beaver Gravel Pit Trail is approximately 3 - 4 km. (No proper survey has yet been done.) The first kilometer is heavily overgrown with Subalpine Fir regeneration and Devil's Club. The width of the trail is very wide (3-4 meters). It appears as if there has been a "Cat" or other type of machine that has cleared the first kilometer, years ago.

The drainage in this first kilometer is poor in spots, but overall the trail is suitable for backpacking and horse use provided that the wet / bog areas have some kind of corduroy or water drainage system. The second kilometer is very dry. The overall condition of this section is excellent. There is little clearing needed. Although this part of the trail is the steepest, with one switchback at about 5-6% grade, this leads up and away from the $\frac{LR1}{5}$ ecosite which is very swampy and wet, to the dryer $\frac{CT5}{8}$ ecosite.

The last two kilometers get lower in elevation and lead into some fairly wet areas again. I counted one intermediate stream, one ground spring and a year round creek in this section. A ground spring has created a very wet, marshy area of about five square meters. The trail will have to be re-routed around this.

BEAVER GRAVEL PIT PROBLEM AREA

The major problem for this new trail extension is the Beaver Gravel Pit. The pit is currently being used to supply the gravel needed for the highway. The problem is that in order to join the new Beaver Gravel Pit Trail up with the Beaver Valley Trail, it has to go directly through the middle of the gravel pit. There are three possible options

that the trail can take during construction in order to lessen the impact of coming across a gravel pit on the trail.

- 1) re-route the beaver pit trail around the gravel pit.
- 2) re-locate the new trailhead for the Beaver Valley trail behind the 'Cana' cement mixing site. Once that site has been reclaimed and cleaned up.
- 3) route the Beaver pit trail through the gravel pit.

PROBLEMS

The first option has a serious problem in that the $\frac{KX1}{5C}$ ecosite in which the gravel pit is located consists of the glaciofluvial material that is required for highway sand. A second problem with this option is that the $\frac{KX1}{5C}$ ecosite extends down along the Beaver Valley Trail for about three and a half kilometers, so theoretically the beaver gravel pit could extend South for three and a half kilometers. This is highly unlikely, but since there is no current plan for the amount excavated, or the time period the pit will be in operation, there is no telling how far the pit can or will be dug.

The second option is quite feasible in that once the 'Cana' cement mixing plant, (located right beside the current trail head) is closed and cleaned up, this area could be used as a picnic / parking area. A new trail head could be located just behind this area.

This option would mean that there is really no need for the proposed Beaver Picnic Site / Beaver Pit Trail, except to just lengthen the Beaver Valley Trail.

The third option would be to locate the trail through the gravel pit. This would mean a major restoration for the pit area and proper placement

of the trail through the pit so the visual impact would not be too severe.

It is almost impossible to say at this time exactly where the trail should be located through the pit, since the reclamation of the pit and cement site will drastically change in appearance. Any trail relocation should wait until this is done. At that time a decision could be made on site by the wardens.

1.0 CLIMATE

Glacier National Park receives extremely heavy precipitation due to the Northwest - Southeast running Dogtooth mountain range. When the eastward moving moist Pacific air reaches the Columbia mountains, it tends to rise and condense, then precipitate out as rain or snow depending on the season.

The Beaver Valley area receives less precipitation than the rest of the Park because it is on the eastward side of the Columbia Mountain range. The proposed trail is also located in the Interior Cedar Hemlock Zone. This area of the Park tends to receive less snow compared to the Englemann Spruce Subalpine Fir and Alpine ecoregions, which are situated at the higher elevations.

2.0 HYDROLOGY

The trail is located through some very wet areas. Most of this water does not come from streams as much as it comes from underground seepage and general overland flow into lower lying areas. Most of the bog / marshy areas are not seriously affecting the trail although it will be necessary to corduroy or channel the water downslope.

The field study was done in early May, which was the beginning of the spring runoff. I had a good chance to observe the areas that are receiving the runoff and how well these areas are channeling the water downslope. There were a few spots that appear to be wet most of the year. This was indicated by the horsetail and Queen's Cup herbs that were growing in the small bogs. Most of these small bogs were located in the first and last kilometers of the trail.

There were at least five permanent creeks crossing the trail. Four of these creeks appear to be fairly stable although there was some bank undercutting and streamside erosion in all five creeks. The stream beds had a good layer of consolidated gravel, however there is still a lot of potential for stream instability due to erratic levels of flow due to the high density of snow and rain.

All five streams will need small bridges built because of their high banks and to deter the stream erosion caused by hikers and especially horses. The fourth stream is very unstable, with severe undercutting and erosion. There is no solid bed material.

This stream was believed to have been created by a flood that went through the area in 1983. Crossing this stream is no problem now but I recommend a bridge be built and some kind of 'Rip Rap' be installed in the bank for safety reasons and to lessen erosion.

3.0 GEOLOGY

The trail is located right on the border between two ecosites. The ecosite closest to the river $\frac{LR1}{5}$ is a flat swampy fluvial fan, with very poor conditions for a trail. The ecosite where the trail is actually located is $\frac{CT5}{8}$. This area is ridged and hummocky over inclined rock. (Alberta 1984) The trail runs along a small bench that has been cut into the slope just above the swamp area.

The cut into the slope appears to have been done about 10 - 15 years ago. Since then, the bank has not slumped and there appears to be little damage caused by erosion. This side slope cut will very easily support heavy levels of hiker and equestrian use.

The trail continues southward into the $\frac{LR1}{5c}$ ecosite which starts to bring the trail into a fluvial fan. This is where the trail begins to get wet with more bog areas and a very unstable stream. (mentioned under Hydrology)

4.0 SOILS

Overall the soils will support moderate use from hikers / backpackers and light use from horses. The trouble areas are at the beginning and the conclusion of the trail, where the soils are poorly drained and wet in some spots. The majority (middle) of the trail has very stable dry / shedding soils. There are a lot of fine gravels just under the litter layer which are excellent for trail use and for shedding water. According to the ecological land classification for Mount Revelstoke and Glacier. (Alberta 1984.) The ecosite $\frac{CT5}{8}$ consists of eluviated Dystric Brunisols and Orthic Humo Ferric Podzol soils. The ecosite $\frac{LR1}{5c}$ which is

near the end of the trail consists of the same soils, but has less slope and drainage of the CT5
8 ecosite.

5.0 VEGETATION

Western Hemlock, Western Red Cedar and Western Yew, are the main dominant tree species. The understory largely consists of Subalpine Fir, which is extremely thick along the trail.

The main shrubs that are growing along the trail are Devil's Club, Alder and some Tall Bilberry. These shrubs aren't too abundant because they have been outcompeted by the Subalpine Fir Regeneration.

Queen's Cup and Common Horsetail are most abundant in the wet / boggy areas. The presence of these herbs gave me an indication of whether or not the area was wet all year round.

The current successional status of the area is mature climax Cedar / Hemlock Forest. The trees are also heavily infested with rot and disease. Most of the stand is very dangerous due to the high amount of windfall, and a tree hazard evaluation should be completed before construction begins.

6.0 WILDLIFE

According to the Ecological Land Classification (Alberta 1984), the areas along the trail contain some prime habitat feeding areas for breeding birds. The swampy open area that borders most of the trail is frequently visited by Moose, Mule Deer, White-tail Deer, and even some Elk and Caribou use the area.

The breeding bird community is made up of the floodplain complex, (Alberta 1984), which contains Brown-headed Cowbird, Northern Yellowthroat, Black Headed Grosbeak, American Redstart, MacGillivray's Warbler, Lincoln's Sparrow and the Red-Winged

Blackbird. The Hemlock Cedar Forest complex, (Alberta 1984), contains the Golden-Crowned Kinglet, Warbling Vireo, Chestnut-Backed Chickadee, and MacGillivray's Warbler. The breeding bird density ranges from high to medium.

During the field study, I noticed a number of moose pellets along the trail and some evidence of Bear in the area. The presence of bears along the trail will probably cause no major concern as long as the vegetation is cut back from the edge of the trail, for more visibility. Some deer tracks were also noted, which means the deer are returning to this area earlier than in previous years. Due to the minimal use this trail will receive, (approximately 100 - 150 people per year), the animal populations will not be affected. There will likely be few human / animal encounters. Most of the wildlife use the lower swamp area and, because the trees are well spaced, the wildlife populations won't need to travel on the trail. If, in future, visitor use starts to increase, there is potential for a human / animal problem to develop. Then, serious consideration should be given to closing all or parts of the trail during certain times of the year, when animals are migrating, breeding, or denning.

7.0 HUMAN REQUIREMENTS

This new proposed trail makes an excellent addition to the Beaver Valley Trail or for visitors who just want to take a short hour-long walk. Another feature of this trail is that there is parking available at both ends, so the trail can be walked one way, provided the hikers have arranged transportation back to their base. Since the trail will commence from a proposed picnic site, it provides a perfect opportunity for visiting

people to use the trail.

The scenery along the trail varies from the open floodplain (swamp) type area into the Interior Cedar Hemlock Forest. There is no real outstanding landscape feature, which may be a drawback, since the travelling public can view more outstanding features from the highway. The trail has some very good potential for interpretive talks or a self-guided trail. It should be mentioned that probably only the first 100 meters of the trail will be used by the majority of the people who stop.

8.0 MAJOR IMPACTS

8.1 HORSES

The most damaging impact by far will be the use of horses on the trail. Extra construction and maintenance will be required to cover the small bog / wet sections with corduroy or small bridges. Extra attention should also be given to ditching and channeling the water away from the surface of the trail.

8.2 WILDLIFE

A second impact will definately be on the wildlife. This is where most of the monitoring will also have to take place. The moose and bird populations are most abundant on the $\frac{LR1}{5}$ (swamp) ecosite and, although this ecosite is not directly on the trail, the users and the trail construction itself will scare the moose and birds as well as upset breeding times.

8.3 VEGETATION

Any damage to vegetation will be contained

just to the area that has already been cleared years ago. The Subalpine Fir regeneration and Devil's Club shrubs are the only major vegetation species that will be affected.

8.4 AESTHETICS

The Beaver Gravel Pit is perhaps the biggest problem for the proposed trail. A visual impact and a major environmental impact, the Beaver Pit should be replanted and made presentable in the areas of the pit that are no longer being used.

8.5 HYDROLOGY

The streams will receive some sediment from trail construction and erosion due to the hikers and horses, although the proposed bridges and banking should lessen the impact on the streams.

9.0

MITIGATING MEASURES

- Before anything more is done on the trail, a hazardous tree evaluation should be completed. Hazardous trees are a public liability and those trees that are found to be exceedingly dangerous should be removed.
- In order to avoid bear / human encounters, the vegetation along the trail should be cut back so there is proper visibility in order to avoid any conflicts.
- Special attention should be given to the Fourth Stream, (coming from the proposed Picnic Site). This stream has been severely undercutting its bank and should be stabilized by constructing a "rip rap" along the stream edge or by channeling the water into a better stream.
- Constructing corduroys and small bridges will eliminate the damage to the wet / bog sections. The corduroys should be constructed from materials

on site, (preferably Cedar). All streams should have bridges.

- Where bogs and water puddles are located year round on the trail, channels and ditches should be built to direct the water downslope. These channels should look as natural as possible and the ditches should only be as deep as necessary so as not to create an eyesore.
- The trail should be well marked, for areas where it is not absolutely clear just where the trail leads.
- Signs should be posted along the highway to inform users of the new trailhead location for the Beaver Valley Trail.
- The Wardens should monitor the effect on the wildlife populations caused by the trail.

CONCLUSION

The proposed Beaver Picnic Site / Beaver Gravel Pit Trail will not cause much environmental damage provided the construction and maintenance follow the mitigating measures outlined in this report. I must stress that the construction of bridges and corduroys are the key to minimal impact on the soils. There is no sure telling just how much impact the trail will have on the wildlife population. If it is found that the populations are being forced to move, or that the trail is upsetting breeding cycles, (especially for the breeding birds in the $\frac{LR1}{5}$ ecosite), then the trail should be closed during those times of year. This factor should be continually monitored.

This trail is going to provide a quick leg stretching spot for picnikers and travellers in the first 100 meters. It will also provide a proper parking

area and trail head for the longer Beaver Valley Trail Hikers and equestrians.

SUMMARY

The most important concerns for the Beaver Picnic Site / Beaver Gravel Pit Trail are the soils, wildlife and hydrology. Each one of these topics provide some very unique problems for the trail.

The soils are poorly drained and wet in some areas along the trail and extra construction (bridges and channels) is needed to lessen the impact. The breeding birds and moose have some dense populations in the area surrounding the trail. If the human usage becomes too high, the habitat and nesting areas could be destroyed. The Wardens should monitor the use levels.

The streams that cross the trail are unstable due to a flood that occurred in 1983. At present the streams seem to be running smoothly, especially the first three streams and the last stream. The Fourth stream is severely undercutting the channel and needs to be stabilized for safety purposes.

The Beaver Gravel Pit is a major aesthetics problem and needs a master plan written for its future use before one of the options that has been outlined can be chosen.

Beside the points I have mentioned, I do not envision any other major environmental impacts. I believe Trail construction could start as soon as a plan is made for the Picnic Site, Gravel Pit and Hazardous Tree Evaluation.

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Achuff, P.L., W. D. Holland, G. M. Cohen and K. Van Tighem. Ecological Land Classification of Mount Revelstoke and Glacier National Parks, British Columbia. Volume 1: Integrated Resource Description. Alberta Institute of Pedology. Publication No. M-84-11 1984.

Parks Canada, 1986, Plan Concept Glacier National Park. Canada.

Van Tighem, K.J. and L. W. Gyug. Ecological Land Classification of Mount revelstoke and Glacier National Parks, British Columbia. Volume II: Wildlife Resource. Produced by Canadian Wildlife Service for Parks Canada, 1984.

APPENDIX I ECOSITE DESCRIPTIONS

Taken from the "Ecological Land Classification
of Mount Revelstoke and Glacier National Parks,
British Columbia

ECOSITE - $\frac{LR1}{5}$

Ecosection - Louretta

Ecoregion - I.C.H.

Landform - Fluvial Fan, apron, level, eroded.

Calcareousness - Non to weakly calcareous

Texture - Stratified

% Coarse Fragments - 50 / 70

Associated bedrock - various

Soils - Eluviated Dystric Brunisol

Orthic Humo - Ferrie Podzol

Vegetation - Western Red Cedar, Western Hemlocks

Devil's Club, Oak Fern, Mountain Hemlock

Slope Class - 5-15% Imperfectly Drained

WILDLIFE

Caribou - High in winter, Medium in summer

Mule Deer - High in Winter, High in summer

Whitetail - High in winter, high in summer

Moose - High in winter, low in summer

Elk - Has been sighted in the area

Coyote - Medium in winter

Marten - Medium use

Weasel - High use

Mink - Low use

Wolverine - Low use

Lynx - Medium use

Varying Hare - medium use

Beaver - medium

Porcupine - Low use

Small Mammal Association - Western Hemlock - cedar forest.

Deer Mouse, red-backed vole

Alder Shrub, deer mouse, voles.

Small Mammal Density - High

Breeding Bird Community - Floodplain complex.

Brown Headed cowbird, Northern

Yellowthroat, Black-headed

Grosbeak, American Redstart,

$\frac{LR1}{5}$ continued

Breeding Bird community - continued-
Macgillivray's Warbler,
Lincoln's Sparrow,
Red-Winged Blackbird.

Breeding Bird Density - High.

ECOSITE - $\frac{CT5}{8}$

Ecosection - Cutbank

Ecoregion - I.C.H.

Landform - Ice contact stratified drift, ridged
and Hummocky. Also Ice contact
stratified drift blanket over inclined
rock, gullied.

Calcareousness - Non

Texture - Variable

% Coarse Fragments - 35-70

Associated Bedrock - Various

Soils - Eleviated Dystine Brunisol, Orthic Humo
Ferrie Podzol.

Vegetation - Western Hemlock, Western Red Cedar,
Western Yew, Oak Fern.

Accessory Characteristics - Lodgepole Pine, False
Acala, Grouseberry, Englemann Spruce,
Subalpine Fir.

Slope Class - 45 - 70%

WILDLIFE

Caribou - Present in Winter

Muledeer - Medium in Summer, High in Winter.

Whitetail - Medium in Winter, Low in Summer.

Moose - Low in Summer

Elk - Present

Coyote- Low

Marten - Medium

Weasel - Low

Wolverine - Low

Lynx - High

Varying Hare- High

Porcupine - Present

Columbia Ground Squirrel - Present

Red Squirrel - High

Small Mammal Association - Western Hemlock - Cedar Forest

Deer Mouse, red-backed vole.

Small Mammal Density - High

Breeding Bird Community - Hemlock Cedar Forest,

Golden Crowned Kinglet,

Warbling Vireo,

Chestnut Backed Chickadee,

MacGillivray's Warbler.

Breeding Bird Density - Medium

ECOSITE $\frac{GF1}{3}$

Ecosection - Griffith

Ecoregion - I.C.H.

Slope Class - 5-15%

Landform - Fluvial level - Horizontal fan over
Fluvial Level

Calcareousness - Non to weakly

Texture - Stratified

% Coarse Fragments - 0 -70

Associated Bedrock - Various

Soils - Orthic Gleysol

Rego Gleysol

Terric Fibrisol

Vegetation - Alder, Skunk Cabbage, Beaked Sedge,
Water Sedge, Western Red Cedar,
Hemlock, Devil's Club, Oak Fern.

Drainage Class - Poorly drained to very poorly
drained.

Slope - 0 - 5%

WILDLIFE

Caribou - Present in Winter

Mule Deer - Medium in Summer, Medium in Winter.

Whitetail - High in Winter, High in Summer.

Moose - High in Winter, Present in Summer.

Coyote - High

Weasel - Medium

Mink - High

Elk - Present

Wolverine - Low

Varying Hare - Medium

Beaver - High

Porcupine - Present

Columbia Ground Squirrel - Present

Red Squirrel - Medium

Small Mammal Association - Alder Shrub

Deer Mouse, red-beaked
Vole, Long tailed Vole,
Western Jumping Mouse.

Small Mammal Density - High / Medium

Breeding Bird Density - Very high

Breeding Bird Community - Floodplain complex,
Brown Headed Cowbird,
Northern Yellow Throat,
Black Headed Grosbeak,
American Redstart,
MacGillivray's Warbler,
Lincoln's Sparrow,
Red Winged Blackbird.

ECOSITE $\frac{GF2}{3c}$

Ecosection - Griffith
Ecoregion - I.C.H.
Landform - Fluvial Fan Eroded
Calcareousness - Non to Weakly
Texture - Stratified
%Coarse Fragments - 0 - 70
Associated Bedrock - Various
Soils - Orthic Gleysol
 Rego - Gleysol
 Gleyed Dystric Brunisol
Slope - 0 - 5% Complex
Vegetation - Western Red Cedar, Western Hemlock,
 Devil's Club, Oak Fern, Alder,
 Skunk Cabbage.
Drainage Class - Imperfectly drained to poorly
 drained.

WILDLIFE

Caribou - Present
Mule Deer - Medium in Winter, High in Summer
Moose - High in Winter, Low in Summer
Whitetail - Very high in Winter, High in Summer
Coyote - High
Marten - High
Weasel - High
Mink - Medium
Wolverine - Low
Elk - Present
Lynx - High
Varying Hare- High
Beaver - High
Porcupine - High
Red Squirrel - Present

GF2
3c continued

Small Mammal Association - Alder Shrub

Deer Mouse, red backed
Vole, Heather Vole,
Western Jumping Mouse.

Small Mammal Density - Very High

Breeding Bird Community- Floodplain Complex

Brown Headed Cowbird,
Northern Yellowthroat,
Black Headed Grosbeak,
American Redstart,
MacGillivray's Warbler,
Lincoln's Sparrow,
Red- Winged Blackbird.

Breeding Bird Density - High

Ecosection - Lauretta

Ecoregion - I.C.H.

Slope Class - 5-15%. Complex Slope

Landform - Fluvial Fan, apron, level, eroded.

Calcareousness - Non to weakly

Texture - Stratified

% Coarse Fragments - 5 - 70%

Associated Bedrock - Various

Soils - Eluviated Dystric Brunisol

Orthic Humo - Ferric Podoel

Vegetation - Western Red Cedar, Western Hemlock,
Devil's Club, Oak Fern (C51) /
Western Hemlock, Western Red Cedar,
Western Yew, Oak Fern.

Accessory Characteristics -

Orthic Eutric Brunisol

Gleyed Dystric Brunisol

Engelman Spruce - Subalpine Fir,
Tall Bilberry, Liverwort.

WILDLIFE

Caribou - High in Winter, Medium in summer

Mule Deer - High in Winter, High in Summer

Whitetail - High in Winter, High in Summer

Moose - High in Winter, Low in Summer

Coyote - Medium

Marten - Medium

Weasel - High

Mink - Low

Wolverine - Low

Lynx - Medium

Varying Hare - Medium

Beaver- Medium

Porcupine - Present

Columbia Ground Squirrel - Present

Red Squirrel - Medium

LR1

5c continued

Small Mammal Association - Western Hemlock - Cedar
Forest - Deer Mouse,
Red Headed Vole,

and

Alder Shrub
Deer Mouse, Red Backed
Vole, Heather Vole,
Long Tailed Vole,
Western Jumping Mouse.

Small Mammal Density - High

Breeding Bird Community - Floodplain Complex
Brown Headed Cowbird,
Northern Yellowthroat,
Black Headed Grosbeak,
American Redstart,
MacGillivray's Warbler,
Lincoln's Sparrow,
Red-winged Blackbird.

Breeding Bird Density - High

Ecosection - Kuskonox

Ecoregion - I.C.H.

Slope Class - 5 - 15% (Complex)

Landform - Glaciofluvial Terraced

Calcareousness - Noncalcareous

Texture - Coarse

*Note - the only ecosite with coarse texture.

% Coarse Fragments - 35 - 70%

Associated Bedrock - Various

Soils - Eluviated Dystric Brunisol

Orthic Humo Ferric Podzol

Vegetation - Western Hemlock - Western Red Cedar-
Western Yew - Oak Fern - Mountain
Lover.

Accessory Characteristics - Mountain Hemlock,
Douglas Fir, Subalpine
Fir, Englemann Spruce,
Rhododendron, Tall
Bilberry.

WILDLIFE

Caribou - Present Winter and Summer

Mule Deer - Medium Summer - High in Winter

Whitetail - Low in Summer and Winter

Moose - Medium in Winter- Low in Summer

Elk - None

Goat - None

Coyote - Low

Marten - Medium

Weasel - Medium

Varying Hare- Medium

Porcupine - Present

Columbia Ground Squirrel - Present

Red Squirrel - Present

KX1

5c Continued

Small Mammal Association

Western Hemlock - Cedar Forest

Deer Mouse, Red Backed Vole.

Small Mammal Density - High

Breeding Bird Community - Hemlock - Cedar Forest

Golden Crowned Kinglet,

Townsend's Warbler,

Chestnut Backed Chickadee,

Vaux's Swift,

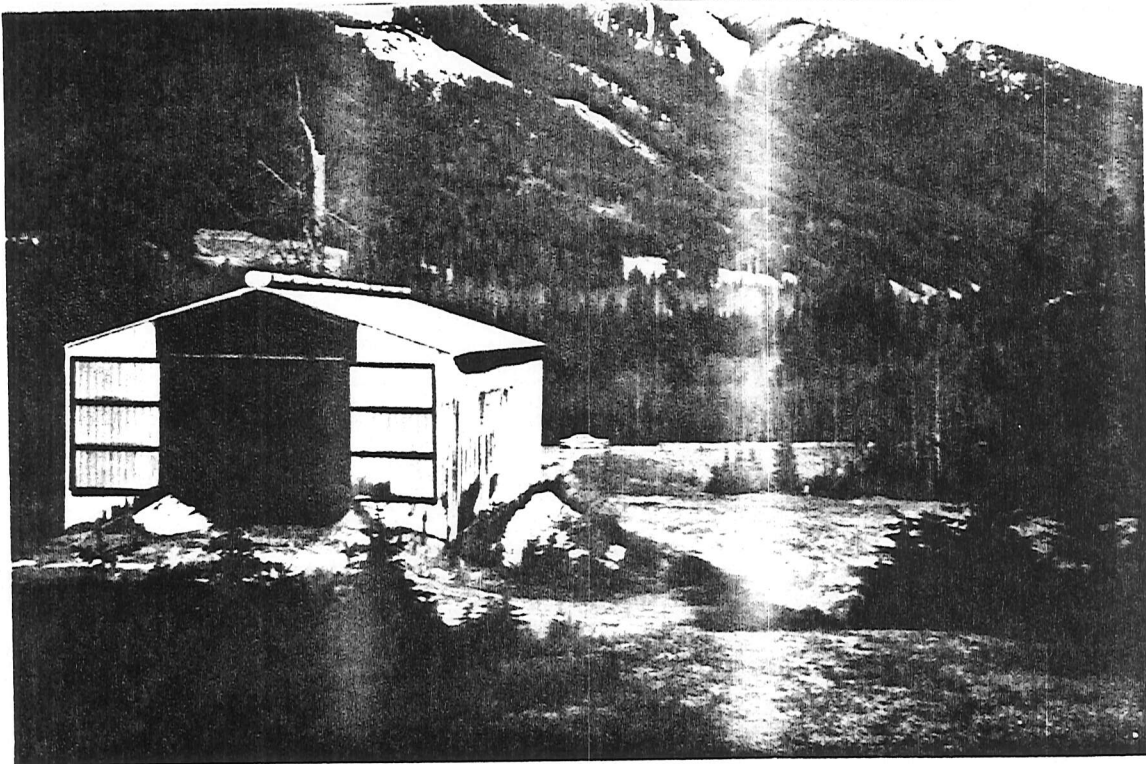
Brown Creeper,

Evening Grosbeak.

Breeding Bird Density - Low

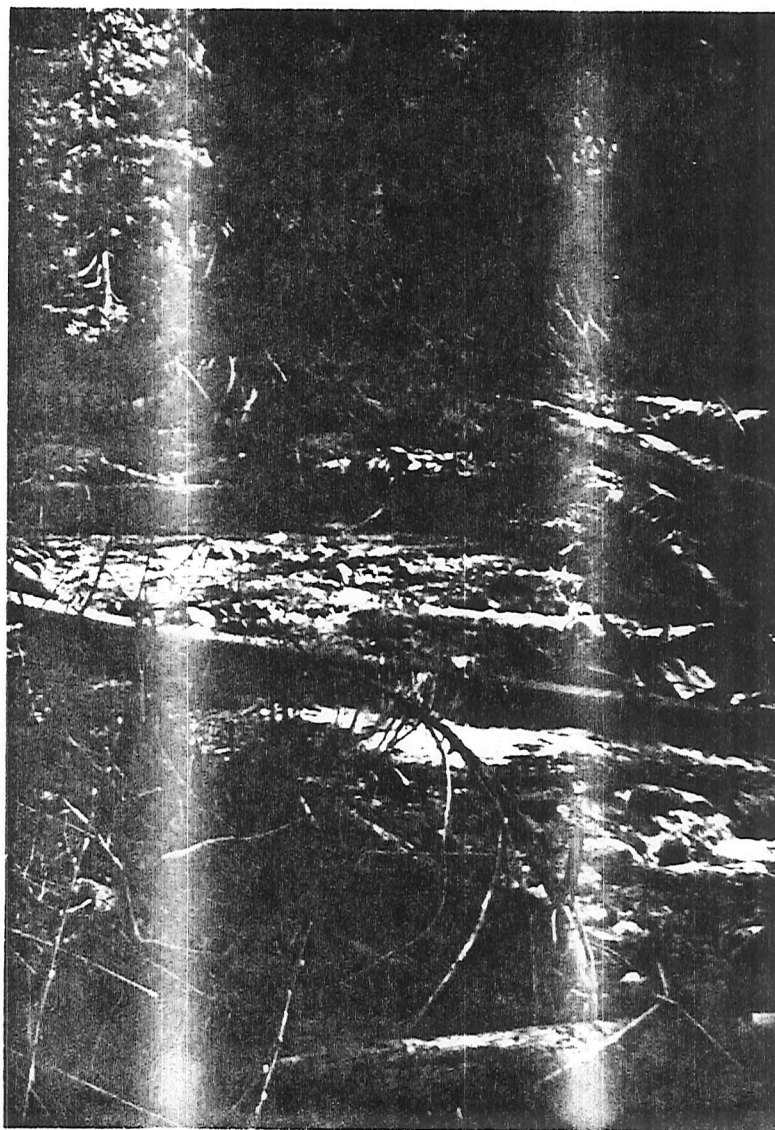
APPENDIX II

Photographs

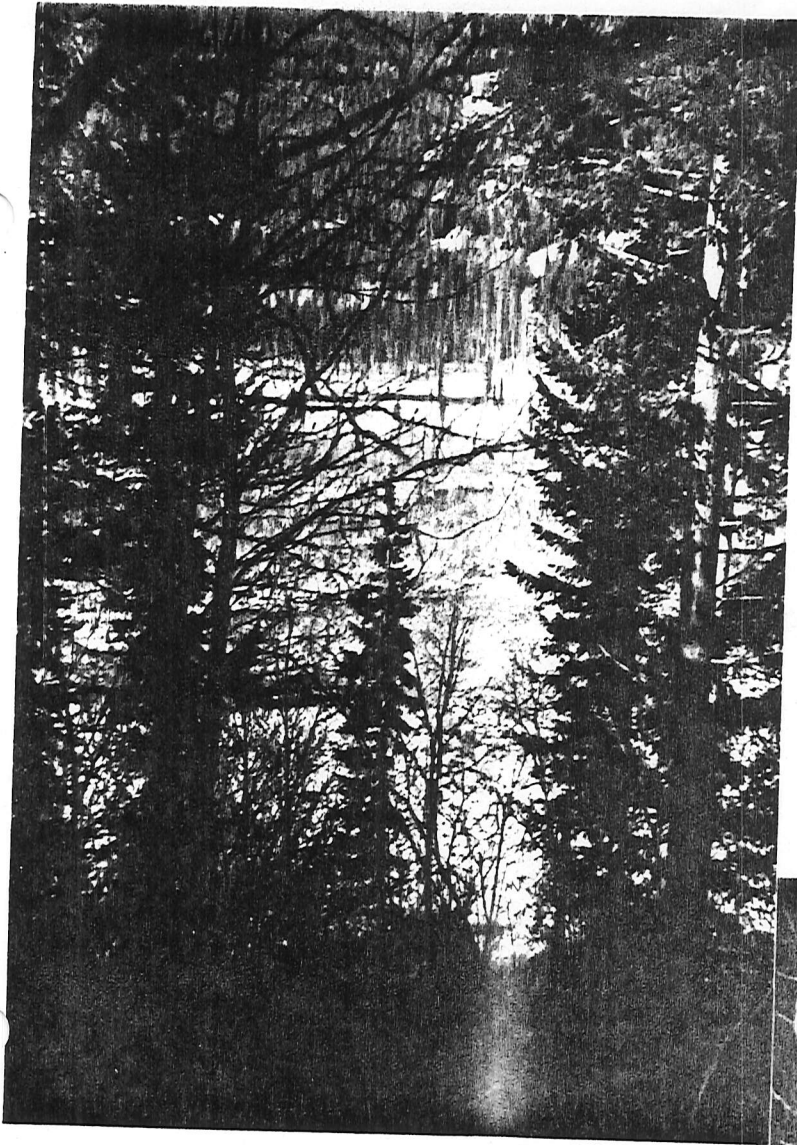


Proposed Beaver Picnic Site (Chip Shed will be removed).

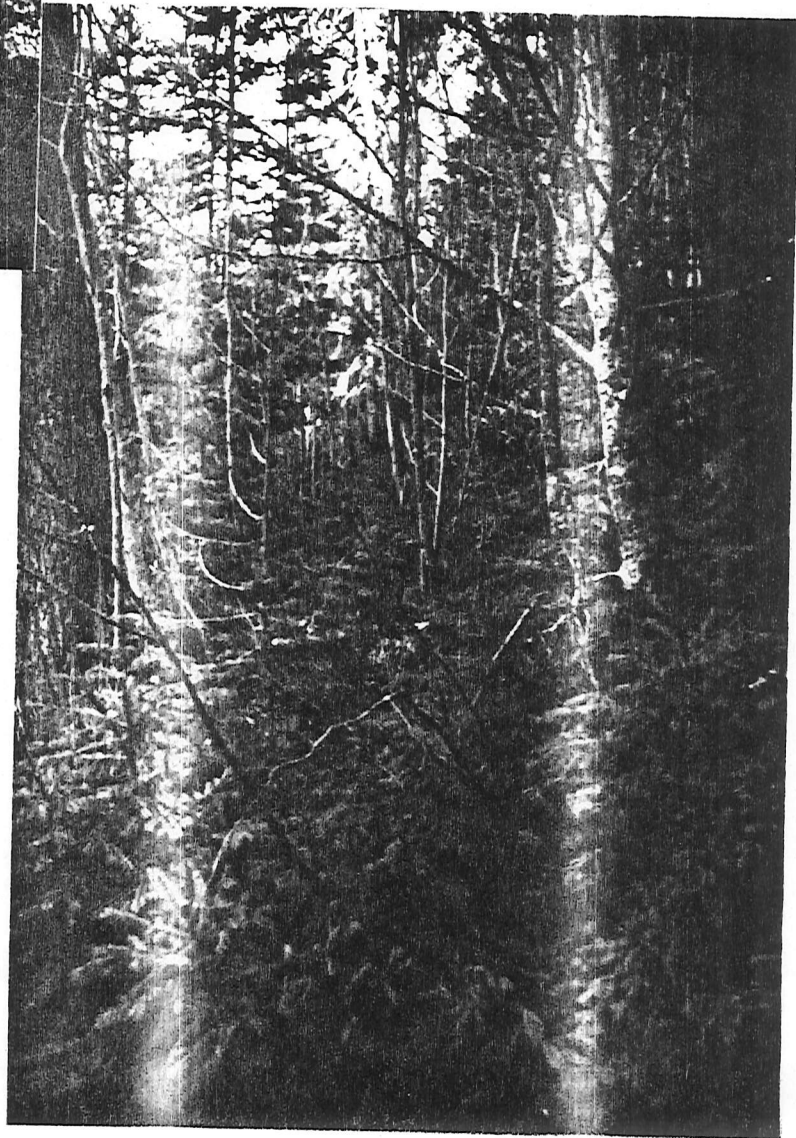
First Stream
Located just along trail
from the Picnic Site.



View of the Swampy Area
from the Trail (Ecosite $\frac{LR1}{5}$)



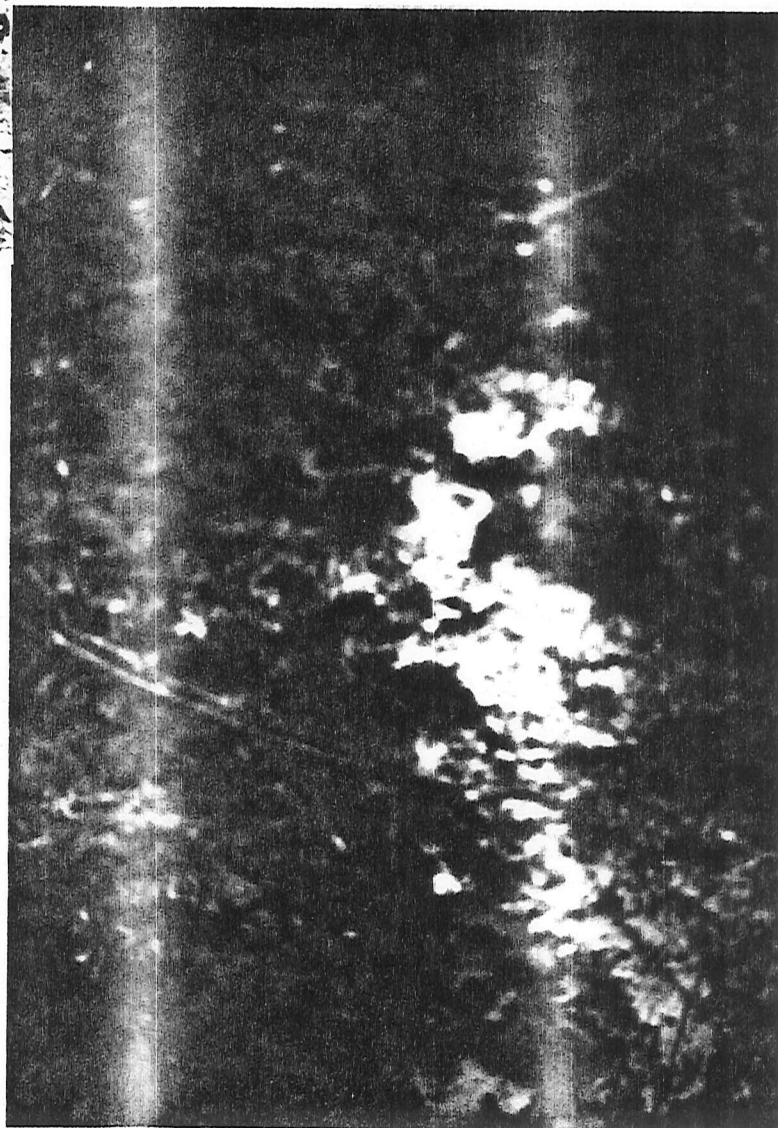
Extremely heavy
regeneration and
shrubs along the
trail.

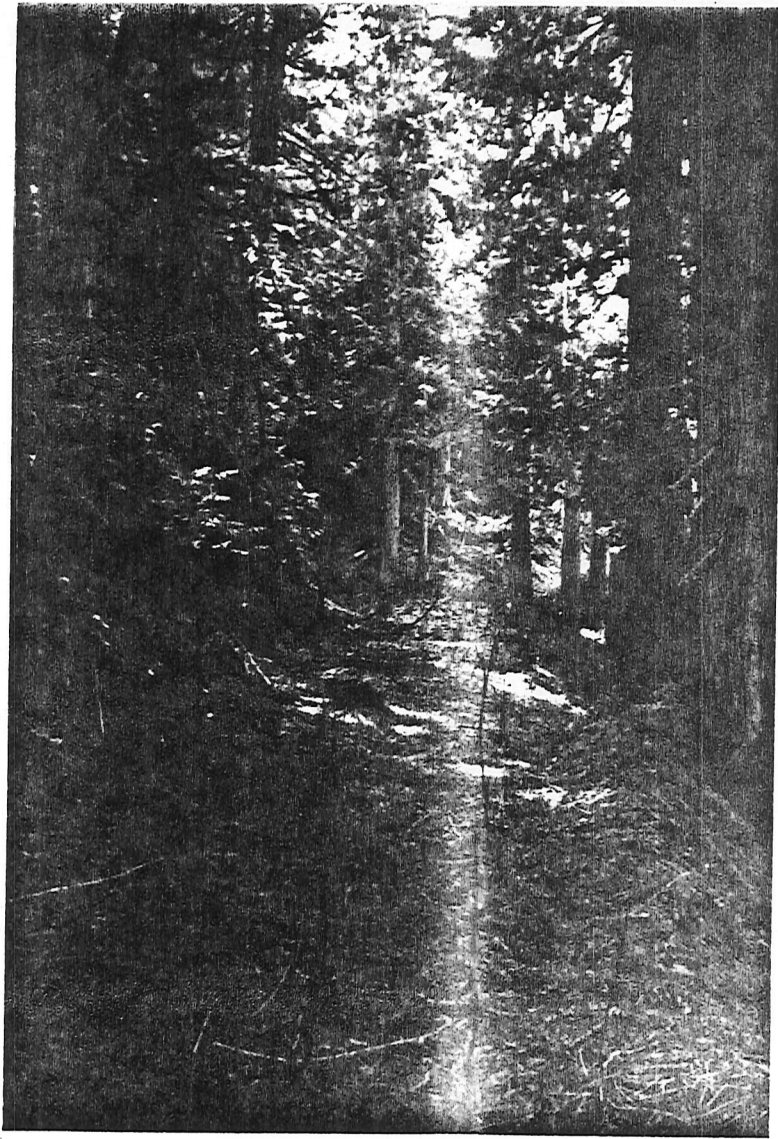




Hazardous Trees are a top priority for the proposed trail.

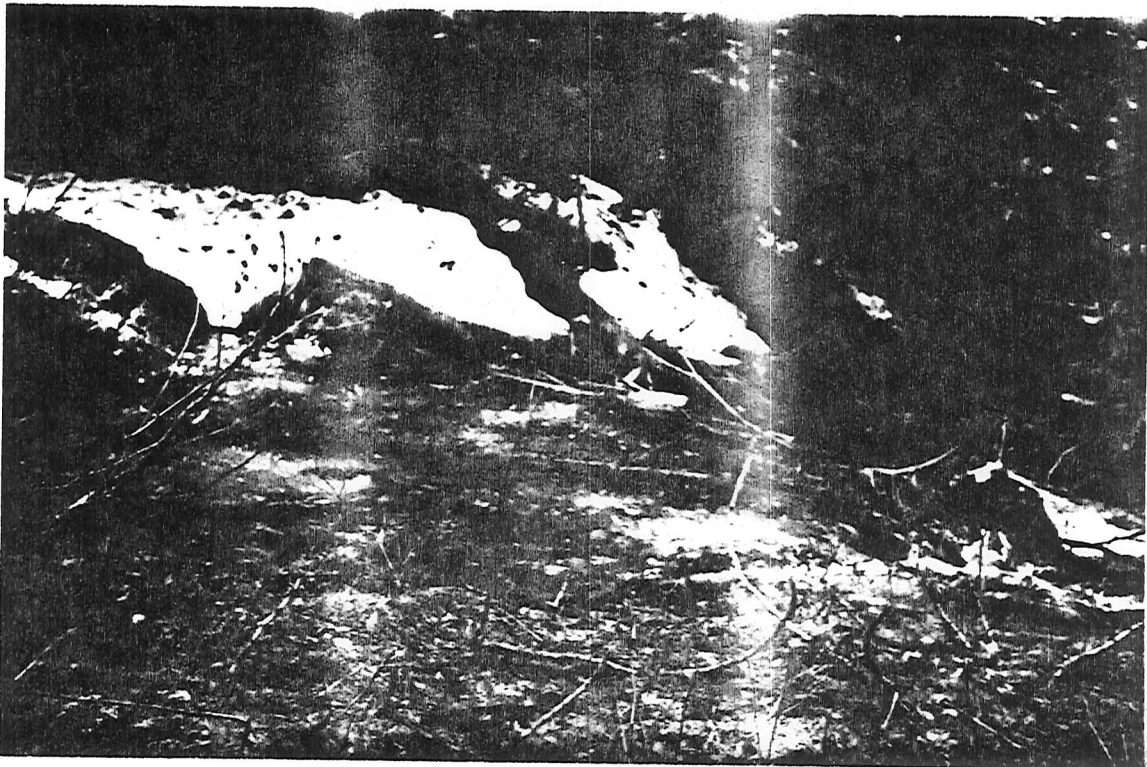
One of the wet, muddy areas along the first kilometer of the trail. These should be corduroyed.





The trail begins to clear
in the second kilometer.
(Note the width of the
cut in the bank.

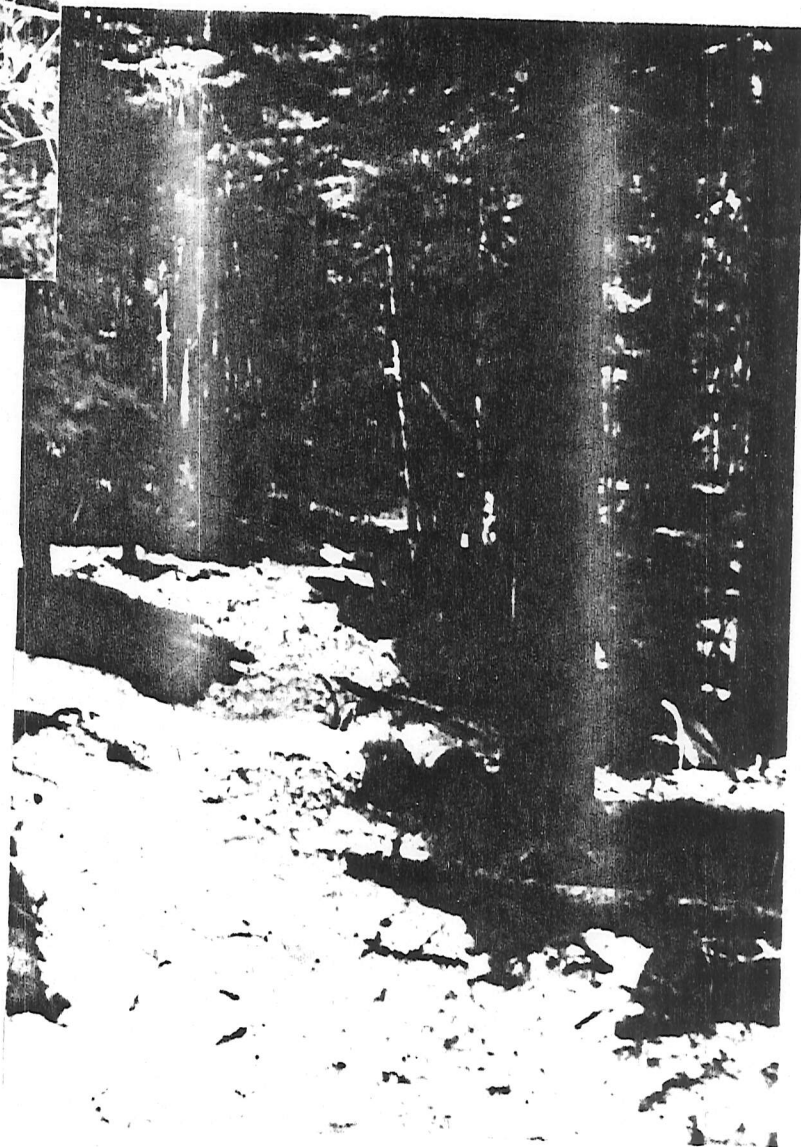
The second stream. Fairly unstable and in need of a bridge.

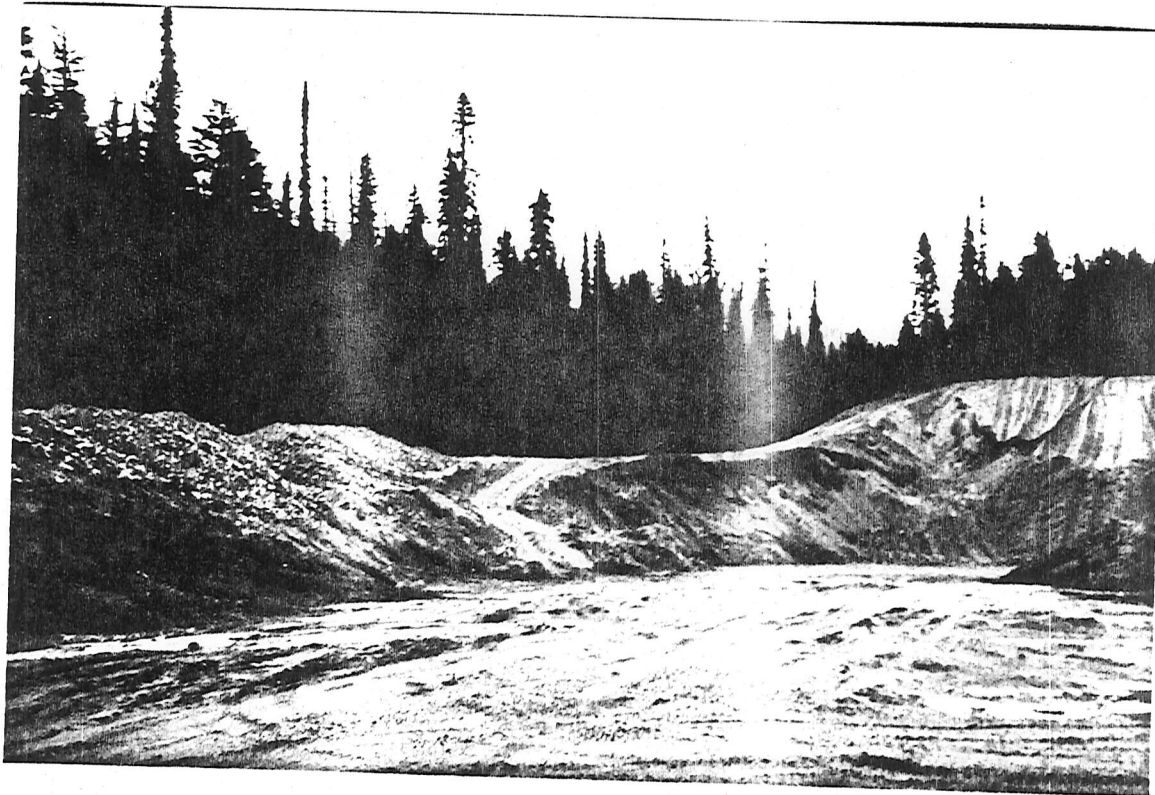




The fourth stream in from the Picnic Area. Very unstable. This stream was formed by a flood that went through the area in 1983.

The third kilometer is in very good shape. Little clearing is needed and the width is adequate.





The Beaver Gravel Pit.

Before any trail construction starts, the Park must decide whether the trail is going around or through this area.

