R 217
RECONNAISSANCE
PINE & MISINCHINKA WATERSHED
1914-15
RECONNAISSANCE

PINE & MISONCHINKA WATERSHED

1914 - 15

N.F. Murray.
RECONNAISSANCE

SOUTH PINE & MISINCHINKA WATERSHED

1914

N.F. Murray

(Forest Guard.)

Reconnaissance
File 217.
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COUNTRY EXPLORED

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3,349,120 Acres (5233 sq. miles)

9

Berren, Swamps, Muskegs

680,320 Acres

Bums

1,335,680 "

Agricultural land

195,071 "

Non-statutory timber land

412,029 "

Statutory timber land

726,217 "

STAND OF TIMBER.

Non-statutory

1,070,611,000 ft. B.M.

Statutory

7,189,301,000 " " "

CALLAZON CREEK.

Statutory timber

150,428 Acres

Stand

1,713,108 M.B.M.

BURNS. Old repeated 20 years and over -

<table>
<thead>
<tr>
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<th>RESTOCKING.</th>
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<tbody>
<tr>
<td>386,133</td>
<td>386,133 acres - Poplar</td>
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<tr>
<td>264,448</td>
<td>&quot; - Poplar &amp; Willow</td>
</tr>
<tr>
<td>162,150</td>
<td>&quot; - Poplar &amp; Spruce</td>
</tr>
<tr>
<td>30,053</td>
<td>&quot; - Poplar &amp; Pine</td>
</tr>
<tr>
<td>94,822</td>
<td>&quot; - Poplar, Spruce and Pine</td>
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Missinchinka 52,020 " - Pine very sparse

Recent 1914, 3 & 8 years

345,634 " - Not restocking.
LOCATION OF AREA.

The country explored lies South, South-west and West of the Peace River Block, comprising the East, Middle and West Pine branches of the South Pine River with their various tributaries, Moberly River and the Missinchinka River, otherwise generally known as the Pine Pass route to the Peace with the country adjacent thereto.

ROUTE OF RECONNAISSANCE.

Entered country by canoe by way of the Peace River. Outfitted at Hudson's Hope with pack and saddle horses, established base lines from Bull Head Mountain and Southwest corner of block to post 36-76-24 on south boundary of the Block and from Southwest corner block to Northwest and Southwest corners of Lots 1153 and 1152 Pine River respectively. Triangulation done with Box Compass. Timber estimation by blocking out and with hand level.

Explored country from Southwest corner block to Middle Pine Forks. Followed Middle Pine to point about 10 miles above Burnt River, distance about 55 miles; returned to MacDonell's Flat; thence through the Pass to Rocky Mountain Lake; down Moose River to the East Pine and down the East Pine to the East Pine Forks; thence to Huson's Hope by way of the South Pine, Fish Lakes Plateau and Moberly West
trail. En route ascending accessible mountains and obtaining all data possible for the work as planned. Good stations on plateau near Southwest corner Block above post 36-76-24, Table Mountain, mountain at first rapids on the Middle Pine on Bull Moose Mountain near Rocky Mountain Lake and on Scott Mountain. Re-outfitted at Hudson's Hope, two pack-horses and additional provisions but no saddle horses. Pine Pass proper has a bad name as a horse killer. Reached Southwest corner block by way of Sucker Lakes trail, Moberly Lake and river.

Examined the country Southwest block corner to the end of the surveyed land on the West Pine ascending Hasler Creek—one and one-half day's trip; followed up the West Pine to Summit Lake; thence down the Missinchinka to the Parsnip River and over MacLeod Mountain to Fort McLeod; thence by canoe to Giscombe.

On this second stage of the work explored part of the Moberly country—Bioford and Le Moray Creeks, Callazon, Quartz and Canyon Creeks and for some distance up the heads of the Pine and Missinchinka Rivers. Found good stations at the Northwest corner Lot 1153, on Mount Bioford, Pyramid and the various peaks of the main Rockies, from the bend of
the Pine to near the head of the Missinchinka. On account of snow was unable to ascend Mount Hunter and Old Friend and so to satisfactorily complete the work. Also had snow storm on last ascent on peak near to and level with Hunter and was followed down Missinchinka by snow, rain and fog. Consequently obtain poor sights. Lost further time on account of fires.

DESCRIPTION OF AREA.

The section of country examined is mainly mountainous. The plateaux of the Peace District lie north of the Southern boundary of the Peace River Block and east of the East Pine. The main range or backbone of the Rockies strikes about N, 42° West--S, 42° East. Hunter is the highest peak in this section, elevation 8500 feet. The mountains fall away to the North and East; are very low at the Pine Pass 5500 feet and between the Middle and East Pine Rivers for 50 miles of their length and on the East of the East Pine. They rise again in the same general line to the North of the Pass and to the South of Mount Hunter. The Middle and East Pine in their upper lengths about 50 and 60 miles respectively from their junctions with the West and South Pine turn westerly into the higher mountains; so that the valleys are narrow and deep and the rivers generally rapid with canyons and
falls.

The East Pine is especially a deep and very narrow valley opening in the lower 10 miles to a plateau at this point 400 or 500 feet above the river.

The Middle Pine for 40 miles has a valley from one to three miles wide with generally low rolling hills. The pass through to the East Pine by way of Rocky Mountain Lake is through rolling hills for the greater part of its length but the Moose River Valley, Rocky Mountain Lake to the East Pine is narrow and deep.

The South Pine Valley to the junction of the Middle and West Pines is a deep gorge cutting through the plateau to two miles, generally with very steep sides. Above Mountain Creek where the river enters the Pass, the valley narrows and the mountains are very precipitous. Hasler Creek, Le Moray and Mountain Creeks have narrow river bottoms but long gently slopes on one or both sides. These are covered with a luxuriant growth of young Spruce running from 6 to 12 inches. Callazon Creek River bottom varies from half to two miles with long timbered slopes. This is the best lot of timber to be seen in this section and I understand that the same growth continues to the Clearwater Valley to
within 10 miles of the Peace, where it is burned and for some distance down the Cariboo River. These three rivers head together. Canyon Creek has fine timber in bunches on the steep sides and on the benches and upper slopes but for three miles the valley is a gorge with walls several hundred feet high, in some places overhanging, while the creek itself narrows in rock walls in places to three feet.

On the East, Middle and South Pine with the exception of the reported timber at the forks of the East Pine, the timber is negligible, a few sections of the fine old growth destroyed finally eight years ago being left. These few remains consist of Spruce two to three feet diameter with immense cottonwoods. The greater part of this area has been destroyed by recurrent fires of decades past and would need only one more fire to bring conditions the same as in the Prairie districts to the North and East. The restocking is mainly Poplar and Willow. This whole district of hundreds of thousands of acres is covered with down timber. Travel, save by the few Indian hunting trails is almost impossible.

In the Rocky Mountain Lake country is a certain amount of timber. In the Pass it is very difficult of access, swampy, muskeg country, rolling hills and no drivable streams. About the lake the haul
would generally be very long. The Moose is a good drivable stream with no timber jams. The East, Middle, South and West Pine Rivers and Callazon Creek are fine drivable streams for the spring and half the summer months; the East Pine for some distance above the Forks which is about 60 miles from its junction with the South Pine; the Middle Pine for about 50 miles; the West Pine to a point about 5 miles above the mouth of Callazon Creek where timber jams begin and Callazon and Hasler Creeks for about 20 and 15 miles of their course. The South Pine is navigable for light draught steamers to a point midway between two mouths of the East and Middle Pine where a canyon may stop navigation. The Missinchinka is drivable for many miles of its upper length, also for 20 miles of its lower length. Between is much sluggish water and many timber jams, but almost all the statutory timber noted above which is not on loggable streams, save that on Canyon Creek and on the heads of the West Pine, Missinchinka and some small feeders along the proposed line of the railway.

TRAILS.

The trails of the Pine and Missinchinka valleys are probably the worst in British Columbia and should be closed until trails are built. They are horse and man killers. It would be a good pack
horse that could make the round trip in continuous travel. There are many miles of down timber, some swamps and bluffs and many miles of fording in places in very deep water. In fact, in some of the wide parts of the Missinchinks and West Pine each outfit of travellers have slashed their own way by different routes through the luxuriant willow groth, so that often parties are lost for days in a comparatively narrow valley. The feed places are few and in some cases hard to find so that many of the parties have to tie up for the night in heavy timber. Should a proper trail be cut through, this objection would pass as good or fair horse feed could be made each night, in some places of a limited amount but in others there is plenty. The trail with additional travel such as there was this year is not being improved to any extent, rather more confused. The recent fire on the Pine has rendered over five miles of it impassable so that a traveller must follow on the river. In this reach of the river, the water is for the most part of the season deep so that travel will be greatly hampered. Off the main route up the Missinchinka and down the Pine to the Moberly trail forks at Peavine, there are no signs of trails. To go off to the side, one must take the creek beds or
climb to the barren mountain tops. Down timber and luxuriant growth of willow and devil clubs, render travel very discouraging and labourious. The main streams of this section are of an even light grade generally under one foot to the hundred. There are, however, several available water powers. The West Pine dropping from the Summit runs through a deep canyon and over a waterfall of 25 feet. Here the river is very small about 125 miners inches in September.

WATER POWER.

Quartz Creek at its mouth on the Pine Valley Creek could furnish with a ditch of half a mile a stream of 100 inches under a 500 ft. pressure in September. Falls Creek has a 75 ft. fall five miles from its mouth but not over 50 inches water in September. On the Middle Pine, three-quarters of a mile above Burnt River is a canyon with a drop of 70 feet in 2000 feet, 3 falls of 15, 12 and 10 feet and several smaller. On July 6th, there was about 30 feet of water 6 feet deep rushing over these falls. Above this canyon and above the forks of the East Pine there
is much swifter water but this would be in the very high country. On the South Pine above and below the Middle Pine Forks are canyons where much power could be obtained.

MINERALS.

The country immediately below the main chain of the Rockies is pre-eminently a coal country. The belt 40 to 50 miles wide probably crosses the Peace and follows down the Eastern slope of the Rockies. Little locating has been done until the present season. Now claims have been staked on Beaudette, LeMoray, Falls, Hasler and the South Pine. I saw seams of coal from 2 to 11 feet thick. I believe the coal is all semi-anthracite but more will be known of it this winter. Quartz has been found in the main chain which is the centre of the upheaval. The nature of this will also be determined this winter. Some coal assessment has been done in the last two years and there is one party of quartz prospectors at work on the Upper Missinchinka this winter. I have more hopes of the country as a mineral proposition a little farther south of Mount Hunter. There is much lime and sandstone in sight; indications of iron on
one creek in the Pass and reports of much quartz as well as stream tin or platinum in the country south of Hunter.

GAME.

I found Moose and Cariboo in almost unbelievable numbers on the East of the Rockies. Last year the pass was full of Moose. This year they have moved on but all over the East, Middle Pine, Rocky Mountain Lake, Moberly and Fish Lake countries were evidences of the presence of large bands of Moose and Cariboo driven North probably from the Fraser Valley. The Indians, of course, slaughter everything in sight, then blame the advent of the white man for subsequent scarcity. I know cases where Cariboo have been cut down like Germans 10 to 26 at a time. In the Peace country they generally use most of the meat, as it is a purely meat diet among the natives but it is not always so. The desire to kill everything, however, can not be resisted in any case and the Biblical teaching is followed. There are also in this section many Bear, Beaver, Fox, Martin, Mink, Weasel, Fisher Otter, Lynz, Rabbits, Grouse and Prairie Chickens.

AGRICULTURAL POSSIBILITIES.

In regard to Agriculture in this section
little can be said or little is known. On the valley of the West Pine 42 square miles of surveyed land have been alienated but not settlement made or work done.

At the Middle Pine Forks are several settlers who located in 1914. Up the East Pine are three agricultural leases. There are in all about 119800 acres of agricultural land available mainly on the Middle Pine. The block of agricultural land and range east of the East Pine to the provincial boundary was not examined and is not included. As one ascends the Middle Pine from the mouth the snow in winter increases but the country is partly in line of the Chinook, though largely sheltered by the high peaks of the Rockies. The soil is black loam overlying sand, gravel and clay. The available land on the West Pine runs up a stream from the end of the purchased land for probably twelve miles; river is alluvial generally covered with light Popler and Willow in places Spruce and Cottonwood. All this land is apparently well suited to agriculture and is close along the railway location or adjacent to it. I found also 56000 acres of fine range land, well grassed with luxuriant peaswine, red top, wild timothy and buffalo grass in two blocks on the East Pine. Along the West Pine and the steep slopes of the plateau and several of the mountains are well
grassed and will make good pasturage for small
herds belonging to settlers in the limited amount
of agricultural land of the West Pine Valley. All
this land will be suited for mixed farming as is the
nature of the country of the Peace River block South
of the Peace.

FIRE PROTECTION.

In regard to Patrol Stations, I would say
that their necessity is self evident and their proper
use would be of valuable service to the country and
the district.

Almost all the timber noted lies in the
valley of the Missinchinka and the Pine circling
the main chain of the Rockies and in Callazon Creek
lying along the foot of the main chain to the North.
This chain is an unbroken narrow line of high land
from 8500 feet at the Hunter and to about 5500 at the
Northern end with peaks rising at regular intervals.
It is easily travelled except around one peak where
a trail can be cut. The whole distance can be
patrolled in a few hours and any fire in the neigh-
bouring valleys easily seen and reached in one to
two and a half hours from the mountain top. This
patrol line commands the whole Pine Valley from Trail
Creek to Mt. Hunter besides 6 miles of the Missinchinka
from Talkanus Creek South to the first bend and many
miles of Callazon Creek.

This Creek is off the line of travel and may be safe for a while though the fire in 1914 worked up stream almost into the Callazon Valley. This Creek can also be patrolled on the cup top which is open and comparatively level and commands Callazon Creek, Quartz Canyon and country draining to the Parsnip River.

I found in 1914 that each party of travellers was responsible for one fire each on an average. Should there be much travel or railroad work in the Pine hereafter it would be almost suicidal not to put at least two guards on this Patrol line. A trail could be made up into the mountain and either one or two shelters put up, either one in the center or one at each end of this line. It is the intention of the railroad surveys in distributing their caches to cross this mountain by a trail to the mouth of Mountain Creek or Le Moray and so cut off the long bend of the Pine. There might also be one Guard on the Lower Pine River and one on the lower Missinchinka, but the two on the mountain are, I think, absolutely necessary. Horses could be kept on the summit or in a valley on the mountain top but with provisions packed
up on the mountain would not be of further necessity for the patrolman on the summit. As I stated before the river trails are horse killers at present and on account of the scarcity of feed and down timber would render a patrolman's work almost farcical. There are in these sections good lookout stations; several high points on the Missinchinka and Bigford or Pyramid and others on the Pine from which most of the remainder of the railway line can be observed.

"N. F. MURRAY."

Forest Guard.

South Fort George, B.C.

November 9/1914.
RECONNAISSANCE

PEACE RIVER DISTRICT

PINE RIVER

1915

N. F. Murray
SUMMARY

Area covered by reconnaissance - 2,995,200 acres 
(4,680 square miles).

Burns, 8 years old - 270,720 acres (423 square miles).

Quantity merchantable timber - 277,760 acres (434 square miles). 
(4,166,400 M.B.F.)

Barrens, mountain tops - 76,800 acres (120 square miles).

Lakes - 11,733 acres (18.33 square miles).

Timber land under 5,000 f.b.m. per acre consisting of land burned over about 25 years ago and reforesting - 2,235,307 acres.

Agricultural land - 192 square miles. Tillable land and meadows with Salt Creek and Tupper Creek ranges. Other land partly open, partly timbered included in timber lands reforesting.

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REPORT ON RECONNAISSANCE

PEACE RIVER DISTRICT, 1915.

This work was a continuation of that of season 1914. Throughout June and July it was greatly hampered by the heavy floods which occurred on the eastern slope of the Rockies at that time - the highest, in the section where I was, that had occurred for over 60 years. There appeared to be two cloud bursts or a continuation of very heavy rains, which cleared almost all of the snow off even the highest peaks. Water covered the Cut Bank and East Pine bottoms to a depth of over 4½ feet over a width of 2 miles, and attained a depth of 10 feet where the valley was under one mile and the banks low.

This has almost completely changed the aspect of the river bottoms, obliterating trails, silting up sloughs and low ground, cutting new channels and shifting fords.

The flat plateau country, where the water could not get away fast enough, was little better than a swamp.

For three weeks in August, the smoke from the Coast forest fires and fires to the northwest of us, made it difficult to get observations, sometimes impossible and
always doubtful. Several ascents were wholly without results. This made it impossible to get the country south and west of Bull Moose Mountain to the main divide, or the country south of the head of the Wolverine - very little in the way of trails south of the mouth of the Wolverine and progress became very slow. Turned back September 4th, as my packer was afraid of being lost in the Wapiti mountains and flats.

ROUTE FOLLOWED.

Secured data on south boundary block, Cut Bank to Pine, on independent trip in April. Left Pouce Coupe June 4th, with pack train of five horses. Travelled to Swan Lake west over Tupper Creek trail to Cut Bank River - a stream of 100-150 feet wide - north to boundary block, back to ford and south to forks of West Branch of Cut Bank. Built cache and followed river south-east a few miles, thence across plateau to the east fork of Cut Bank, finding what was apparently unknown, that the river had two branches, each one larger than the river is lower down on its course, due probably to water sinking; followed the river down beyond the Indian cabins, missing the Horse Lake trail, circled around on plateau, got bearings from post of surveyed land marked "T29, S13", etc., made Horse Lake, thence to Beaver Lodge by the north fork of Beaver Lodge
and Indian trail, obtained fairly good sketches on Beaver Lodge hill of mountains subsequently located as Starboard, picked up outfit and sent down by stage and travelled west via south fork Beaver Lodge and Aspen Lake to Cut Bank River, east branch, up stream and across country to Cache camp on west branch, north-west by Muskeg Lake and hunting trail to East Pine River over plateau, followed up river to Sunshine Basin, thence up Wolverine to Teepie Camp over divide to Bull Moose Creek, up Bull Moose Creek to Bull Moose Mountain, thence back to Teepie Camp and up within 6 miles of Wolverine, thence back to Sunshine Basin and up the East Pine to point opposite Turning Mountain, thence back to Sunshine Basin and up Flat Creek in an attempt to get observations from Lone Mountain and get through by the Wapiti or Stony Lake country. Beaten by shortage of time, snow and thick brush, returned to Sun shines Basin, thence back by river route and plateau to Salt Creek, up Salt Creek and over plateau to Sunset Creek, down Sunset to Cut Bank and back to Pouce Coupe.

Side trips were taken to look-out points, hunting trails, blazing lines and hunting horses.

There are very few main trails in this country and those very dim on account of little use for 30-50 years,
Indians having died off or become too civilized to care for the hunting trail. There are a great many old hunting trails which may go for miles, then disappear, and a multiplicity of moose trails formed by the thousands of moose all over this section; this renders travel very confusing. In addition to this, the extremely high water completely changed the appearance of the river bottoms, throwing the drift further back and higher than it was before. It will take half a generation of travel and hunting to repair the damage done in the bottoms.

**AREA COVERED.**

4,680 square miles - 2,995,200 acres.

Area of merchantable timber - 434 square miles - 277,760 acres.
Area of barrens - 120 square miles - 76,800 acres.
Area of lakes - 18.33 square miles - 11,733 acres.
Area of agricultural land - 192 square miles - 122,880 acres.
Timbered lands under 5,000 f.b.m. per acre - 235,307 acres.
Old burned over land - 25 years or more - 2,000,000 acres.
Burns - 8 years old - 423 square miles - 270,720 acres.

**TOPOGRAPHY.**

East of the Pine and north of Starboard Mountain the country is a plateau about 3,000 feet elevation, a con-
tinuation of the Alberta plateau and dropping suddenly about the line of the south boundary of the B. C. block to the level of the Blodu plateau. This country is cut down to various depths by the Cut Bank and East Pine rivers and a few of their tributaries, but is mainly the general level of 3,000' rising in ridges and low rolling hills in places.

West of the East Pine and south of Starboard Mountain the country is mountainous with fairly wide valleys. About Kinoosas Falls the mountains rise to 8,000 and 9,000'. Kinoosas Mountain and the head of Wolverine Creek are, I believe, in the main chain of the Rockies, but was unable to ascertain for sure.

North of Wolverine, the country rock is sandstone with shales; south of that point and Bull Moose, it is mixed sandstone and conglomerate with shale in places, apparently changing to solid conglomerate. There is a small amount of coal and tar in places.

SOIL.

The soil on the plateau was originally the black loam of the Alberta and Block prairies overlying clay, sand, and in this section in immense areas, gravel; due possibly
to ancient river action or more probably glacial action.

The Cut Bank and East Pine bottoms are in places a deep alluvial deposit of rich soil overlying gravel. The benches are of gravel with covering of soil, in places bare or sandstone covered with a layer of soil or of solid clay. Over an immense extent of the plateau the soil has been completely burned away, leaving exposed vast stretches of sand clay or gravel.

The agricultural land of 122,880 acres is in small blocks in the river bottoms and includes also the Salt Creek range. The river bottoms where good are very good - 4 and 5 feet of rich alluvial - but are generally narrow strips.

Found that almost all insect life in the river bottoms was destroyed by the floods as well as almost all rabbits, squirrels and grouse. The timber examined seemed clear of insects or parasites of any kind.

CLIMATE.

The rain and snowfall are much the same as the settled prairie country to the east and south. This year the rainfall was excessive, more than usual and probably more than in the prairie country. Frost was later in Sunshine Basin than in Pouce Coupe - about September 7th -
snow fell on plateau September 11th - rain on rivers.

SETTLEMENT.

Little settlement in this section. One pre-emptor in Sunshine Basin - will be four in spring; a few near Swan Lake; two or three on small streams, 6 miles south-west of Swan Lake; one on Schaffer Lake; one on Gun Lake; a few on Red Wall, east of the boundary and a few on Wapiti, also I believe east of the boundary.

TIMBER.

Of timber estimated, timber on East Pine River generally rather limby - balance fine clear Spruce.

Merchantable timber area - 277,760 acres.

Estimate of stand - 4,166,400 M. feet.
This is exclusive of timber in basin west of Kinoosas Falls or a possible basin south-west of Bull Moose. A small part of this timber, i.e., part of that in the R.M.Lake basin was included in report of 1914.

No timber to speak of in the land alienated. The bulk of timber seen lying in the Wolverine Creek country and Bull Moose Creek, as well as on the main Pine, is in a fine loggable section during high water. The Pine is a good loggable stream at almost any stage.
Area burned over - 2,277,760 acres.

Of this, 270,720 acres were burned about 8 years ago and is generally still standing. The balance, about 2,000,000, or the whole Plateau country with the exception of the Flat Creek Plateau, was burned over 25 years ago. In places, possibly half the area, it is reproducing well with fine growth of Spruce and Pine. In the sections where the soil has been burned off, the reproduction is very scrubby - Pine, Spruce and Poplar. In other large areas the reproduction is mainly Poplar. These sections are generally in that stage of the formation of range land or hay meadows where the best growth of scrub Spruce and Pine has been fire-killed. This dead scrub is mainly down and requires only one more fire to produce first-class range or prairie land. This is notably the case in the whole extent enclosed by the Blodu boundary, the East Pine and the west branch of the Cut Bank.

There are many blocks of down, fire-killed timber which renders travelling impossible or very difficult.

FIRE PROTECTION.

The travellers through this section are mostly Indians looking for subsistence. I find them generally careful
of fires, though some of the new, younger generation being associated more or less with the whites, have acquired some of their habits and have started fires. There are a few other travellers - big game hunters as the region is becoming known - and land seekers, besides game hunters from Pouce Coupe. A few pre-emptors have gone into the middle Pine junction and to Table Creek (marked on last year's report); also near Scott on the East Pine, but there is no fear of fires in those places.

It might be advisable to appoint a patrolman in the heavily forested district west of Sunshine Basin. There is a good man located there as a pre-emptor and there will be three others there in the spring going into cattle. This man, Ray Harmer, was on the Alaska boundary survey, is about 28, active and not lazy. He is at present locating trapping lines, circling the Bull Moose and Wolverine country and will, late in the winter, examine the country west of Kinoosas, has promised to send on plans of those sections which I shall try and send to the Fort George office.

I would recommend that locations for Ranger Stations be taken - one in Sunshine Basin, one at the Middle Pine junction and the land just outside of the Blodu, most of which has already been alienated, and one at a position about one mile west of Summack Lake in the Pine River.
OTHER RESOURCES.

I found almost the whole of the country examined the greatest game country, I believe, in Canada. There are thousands of moose - many deer and cariboo - bear everywhere, grizzlies in the mountains about Kinoosas as well as sheep and goats - beavers everywhere with many lynx, mink and martin. There are a few black wolves in the Wolverine country besides a few of the ordinary timber wolves, many coyotes and foxes. The Pine waters contain trout up to 15 pounds, arctic bass and ling. No fish save a few suckers in the Cut Bank or its lakes.
FORREST SPECIES (MURRAY) 1915

Balsam  Abies lasiocarpa
Spruce, Engleman  Picea engelmanni
Black Spruce  Picea mariana
Tamarac or Larch  Larix lyalli
Jack Pine  Pinus contorta
White Bark Pine  Pinus albicaulis
Cottonwood  Populus trichocarpa
Poplar  Populus tremuloides
Willow  Salix fluviatilis
Willow  Salix lasandra lyalli
Alder  Alnus tenuifolia
Maple  Acer glabrum
Birch  Betula alaskana
BALSAM.

Is found scattered throughout the entire district, in the valleys and on the mountain slopes. It is found at altitudes of from 2,300 to 2,600 feet.

It attains a D.B.H. of 6 - 24" and a height of 50 feet to 100 feet. It is found in mixed stands of Engelmann Spruce, Poplar and Jack Pine, but not found in Pine stands.

ENGELMAN SPRUCE.

Is found throughout the entire district or area where soil and moisture conditions permit. It is found on the flats, on the sides of mountains up to 5,000 feet and in the valleys. It attains a height of from 50 to 150 feet and a D.B.H. of from 8 to 40 inches. Average diameter in good stands 18 inches D.B.H.

This tree is found in mixed stands of Balsam, Birch, Jack Pine, etc., as well as Pine stands.

BLACK SPRUCE.

Is found around the edges of swamps, muskegs, throughout the entire area. It does not grow to be a large tree - generally it only attains a D.B.H. of 3 to 8 inches and a height of 30 feet.
TAMARAC or LARCH.

Is found south of the Peace River Block and east of the Pine River. It occurs on the edges of swamps and in the swamps at an elevation on the plateaus of 3,000'. It is found from the Peace River Block extending south at least 70 miles and more. It attains a D.B.H. of from 6 to 12" and a height from 15 to 50 feet.

This tree is found in association with Black Spruce and Jack Pine. The seeds of this tree probably cross the border from Alberta and spring up in this region from that source.

JACK PINE.

Is distributed throughout the entire area except in places climatically impossible for it to grow, such as mountain tops above timber line, etc.

It attains a diameter of from 8 to 20" and a height of 50 to 100 feet. Large stands of this species exist and it would be very useful for tie purposes, mining props, telephone poles, pulp, etc. It grows exceedingly well in this region, the poles running up 40 - 50 and 60 feet clear.
WHITE BARK PINE.

This species is confined to the sandy, rocky mountain tops of the area running up to timber line. It is a small scrubby tree 3 to 6 inches D.B.H. and of no commercial importance.

COTTONWOOD.

Is found in the deep valleys on the moist soils of the river bottoms through the entire area. It attains a D.B.H. of from 10 to 36" and a height of 50 to 120 feet. It is valuable for making canoes at present and could be used for making excelsior, pulp and paper, etc.

POPLAR (Populus tremuloides).

This species is found through the entire area. It grows in mixed stands in all the different species growing in moist and dry soils. In fact, it grows in almost any conceivable soil or climatic condition.

It attains a D.B.H. of 6 to 12" and a height of 50 to 60 feet.

WILLOW (Salix lasandra lyalli).

This species is found growing on the rich bottomland soil. It attains a D.B.H. of 1 to 3 inches and a
height of from 10 to 25 feet. It is of no commercial importance, but is useful for lighting camp fires. The heat given off from this wood when burned is very intense and will boil a kettle in less time than any other species in this district.

WILLLOW (Salix fluviatilis).

This species is found growing along the sandbars of the Pine and other rivers. It is of no commercial value and only attains shrub size.

ALDER.

Is found along the banks of streams and in moist places throughout the entire area. It attains a height of 5 to 20 feet and a diameter of 1 to 5 inches.

MAPLE.

This species is very rare, being found on the steep sides of mountains at an elevation of from 3,000 to 5,000 feet. It only attains shrub size in the locality.

BIRCH.

Is found scattered through the entire area. It occurs mostly in mixed stands of Poplar, Jack Pine and Spruce. It attains a diameter of 3 to 10 inches and a height of from 10 to 60 feet. Suitable for cordwood and fuel.