



BRITISH COLUMBIA FOREST SERVICE

LAND - USE SURVEY
of the
CHILLIWACK RIVER VALLEY

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LAND-USE SURVEY OF THE CHILLIWACK RIVER VALLEY

General Description of the Region

The Chilliwack Valley extends east from Vedder Crossing (five miles south of the town of Chilliwack) to Chilliwack Lake, a distance of about thirty miles. The valley is relatively straight, narrow and deeply entrenched between mountain ranges. The width of the valley floor and adjacent benches varies from one half to one and one quarter miles. Elevations rise rapidly from 70 feet above sea level at Vedder Crossing to 2,130 feet at Chilliwack Lake. The mountain side walls rise steeply from the valley floor to elevations of 4,000 to 6,000 feet, with individual peaks attaining 10,000 feet. Tributary valleys are V shaped in which the mountain walls descend to creek level with practically no intervening bottom land.

An exception to this general topographic description occurs at the lower end of the valley. From Vedder Crossing east for eight miles the Chilliwack River is bounded on the north by a more or less flat topped promontory, which attains a maximum elevation of 2,000 feet before merging with the steep mountain side. This area is locally known as Parson's Hill.

The soil of the region falls into three main classes. First there is the valley bottom. It is composed of coarse textured sediments deposited by the Chilliwack River in comparatively recent times. At the lower end of the valley the soil consists of coarse sands with gravel for the most part, but small areas of very fine sandy loam occur, mainly within a few miles of Vedder Crossing. These soils lie close to the river level. Instances of flooding and washing out of new river channels have been noted. The soil of the upper half of the valley bottom is a stony and bouldery mixture containing little fine material. The only arable soil is the very fine sandy loam.

The second class of soils includes bench lands. Along the valley walls are a series of benches formed during post-glacial time. They have been deeply gullied and eroded, so that today they exist as a series of isolated flats of varying size, at elevations of from 50 to 800 feet above river level. There are about seven of these benches. The soil texture varies from a stony coarse sand, to a fine clay loam. The fine textured soils are potentially arable, the remainder are poor to unquestionably non-arable.

The third class of soils is upland glacial soils of undulating topography. They occur mainly on Parson's Hill. The texture varies from a stony sandy loam to a silt loam. Because of the undulating topography, potentially arable slopes and non-arable ridges and gullies form an intimate complex. The area of this class of soil is therefore classified as containing potentially arable land.

The original vegetative cover consisted of mature Douglas fir, red cedar and western hemlock and judging by the size and density of the remaining stumps, one must conclude that the area is an excellent forest site. During the last twenty years the area has been progressively logged. In 1939 the Vedder Logging Company completed its operations and has abandoned its railway grades. While large blocks of timber have been removed, there still remains a considerable volume of cedar and cottonwood scattered in small areas along the river bottom. Uncut timber berths remain up three of the tributary creek valleys.

Over the logged and burned sites, no coniferous reproduction was observed. The failure of natural reproduction to become established even on the oldest logging sites was most noticeable and suggests a problem that should be surveyed.

There are some areas at present under grazing lease. Under coastal climatic conditions, grasses, herbs and deciduous shrubs and trees occupy a temporary transition period between logging and the re-establishment of coniferous forests. For this reason grazing values exist for a limited number of years only, but they are not an economic consideration in permanent land-use planning.

A dirt road extends from Vedder Crossing east to about a half mile past the present reserve boundary. This road extended at one time, for about twelve miles. Land slips on the hillside and washing from flood waters of the river, have since obliterated all but a few traces of the last three miles. The present road also suffers from slides and erosion and is only maintained by constant repairs made by local settlers.

From the end of the present road a pack trail connects with Chilliwack Lake. For the greater part of its length the trail follows an abandoned railway grade.

Should the arable areas of the valley be opened to settlement four miles of abandoned grade could be converted into a serviceable main road. It would be necessary to construct three miles of new road, however, to join up the present road with the railway grade. In addition three major bridges would have to be constructed. At present one of these bridges is for pack horse only and consists of planking over two felled trees that span a narrow canyon-like section of the river bed. The other two are railway bridges, crossing the river at low levels. They are constructed of a log span joining opposite bridgeheads. These bridges are held in place against floods by cables anchored to nearby stumps. They cannot, therefore, be considered satisfactorily durable. The length of the spans are from sixty to one hundred feet. In addition individual

roads would have to be constructed from this main road to serve each isolated bench land. To complete the road to Chilliwack Lake involves an additional eleven miles including three bridges.

Within the reserve there are at present six settlers, not one of whom is farming or clearing land in a manner to suggest that there will ever be any surplus produce to market.

In the Chilliwack Valley between Vedder Crossing and the reserve boundary, there are about six families. At the present time, difficulty is being encountered in getting the minimum number of children together to maintain a primary school. Even at the lower end of the valley there is probably insufficient good land to hold promise for a self supporting, moderately prosperous community.

The foregoing remarks exclude Parson's Hill. This area is on top of a promontory and is connected by its own roads directly with gravelled roads from the town of Chilliwack. It is thus entirely independent of the Chilliwack River Valley and forms an entity of its own. The area is fairly well settled, with numerous small holdings devoted to mixed farming. There are two schools and a community hall. As the soil on this type of topography is good for mixed and intensive farming it may be expected that reasonable agricultural progress will take place in future years.

The portion of Parson's Hill included in the reserve has no agricultural development. At the present time the area is being selectively logged by a truck and tractor operation. The operation will be finished within a year. Settlement of the area would seem desirable as an extension of existing roads would bring this compact block within the established community life of Parson's Hill.

Summary

A few pertinent figures concerning the development of the Chilliwack Valley are as follows:

Good arable land	770 ac. or 10%	of Total
Poorer land but containing arable sites.	740 " " 10%	" "
Non-arable lands lying within the valley	6000 " " 80%	" "
	<u>7510</u>	<u>100%</u>

The number of settlers that could be accommodated on good land and on a combination of good plus some poorer land based on 40 arable acres per farm, is about 20. To locate this number of settlers, however, would entail re-surveying the land in such a manner that full advantage was taken of the shape and size of arable blocks. On the basis of

quarter sections of existing surveys it would be difficult to select more than about 15 possible farming areas, because some quarters contain only fragments of arable land while other quarters contain 100 or more acres.

It is generally recognized that good farmers seek good land, while poor farmers occupy marginal properties. For this reason complete settlement of the poorer arable land would not increase the assets of the valley. It is likely, on the contrary, that such settlement would create a serious relief problem.

To open up the arable areas some 18 miles of main and branch road, involving 11 bridges and culverts, would have to be constructed. An additional 11 miles and 3 bridges would be necessary to reach Chilliwack Lake.

The distance from the largest arable bench to the Cariboo Highway and the market centre of Chilliwack is about 20 miles.

The amount and distribution of arable land in the Chilliwack River valley would limit possible settlement to a few widely scattered families. This means that the public investment in such a project for roads, bridges and schools would be high while taxable assets small.

From the individual settlers point of view there are no natural advantages to be found in the valley that do not exist in more accessible areas of the Lower Fraser valley. The fact that cheap raw land may be had is hardly a consideration, for the cost of any coastal farm land is but a small fraction of the cost of clearing it.

The disadvantages of a small, scattered isolated community are obvious. The distance to markets is too great for daily delivery of raw milk and perishable produce such as fruits and market vegetables. With other, more bulky produce the cost of transportation is high leaving a very slim margin of profit, if any. Again a small population cannot support adequate schools, churches or community halls necessary for the social and cultural life of any rural group, nor will private capital be attracted to provide stores, electric power or telephones.

If this opinion is accepted, then the logical and natural development that should take place, is not agricultural but forest production. The Chilliwack watershed is sufficiently large to form a perpetual and economic asset if properly managed. Such development would seem to offer the greatest opportunities for public revenue and for profitable labour. In this connection there are 5,000 acres of logged and burned land, unsatisfactorily restocking. This area should, therefore, be investigated with the view to re-establishing its natural productivity.

Earlier in the report it has been emphasized that Parson's Hill is entirely separate from the Chilliwack River valley. This area comprises 1,100 acres of land containing as many, if not more arable sites than are to be found in the Chilliwack valley, and, more particularly they are situated in a single block.

The land is adaptable to small holdings practicing mixed farming. There are opportunities for the intensive use of small acreage for poultry and fruit production. This type of utilization enables a settler to compensate himself for the high cost of clearing with a smaller acreage than is possible with less intensive systems of farming.

RECOMMENDATIONS

1. Alienation of Crown Lands

It has been pointed out that the cost of developing and maintaining a community of small scattered farms within the Chilliwack valley is out of all proportion to the potential taxable assets that might be derived. These impediments include:

- (a) Excessive distance to market forcing the settler to adapt an extensive type of agriculture unsuited to his financial resources.
- (b) Social services such as schools, churches and community centres will be difficult to establish and maintain due to the very scattered nature of the settlement.
- (c) Construction of roads will be expensive due to heavy costs involved in bridges.

On the basis of allowing only 40 acres of arable land to a farm, probably a total of 20 families could be accommodated at the present time there is land available in more accessible areas where social services are already established, or can be readily extended, therefore the excessive costs of opening up this region for such limited settlement are not justified. For this reason it is recommended that the present reserve be maintained with the exception of the Parson's Hill area which should be thrown open for settlement.

2. Boundaries of the Proposed Reserve

It is recommended that the present temporary reserve boundaries be retained except that sections 3 and 4 and the south half of section 9 of Township 2, Range 29, west of the 6th meridian and the north half of section 33 of Township 1, Range 29, west of the 6th meridian, be excluded.

3. Lands Already Alienated within the Proposed Reserve

In view of the unfavourable opportunities to engage in profitable agriculture within the Chilliwack River Valley and to the lack of progress made by settlers already established in the valley, it is suggested that lands already alienated be automatically included within the reserve, if and when they revert to the Crown.

4. Utilization of Crown Lands

It has been pointed out that in spite of logging operations in the past, the forest resources of the Chilliwack River watershed are not completely depleted. It is recommended that a thorough survey be made of the timber resources of this general region with the object of:

- (a) Determining the feasibility of re-establishing economic forests on the logged over lands and
- (b) Suggesting a management policy to guide in the administration of those lands exempt from alienation.

5. Possible Enlargement of the Proposed Reserve

The present western boundary of the reserve is artificial and it might well be extended westward to include the watershed of Tamihi and Lihamitson Creeks, the Cultus Lake drainage basin and Vedder Mt. The western boundary would then be the natural land division separating Sumas Prairie and the Chilliwack delta lands from the Cascade Mountains. It is suggested that the larger area might offer greater opportunities for effective administration of a forest reserve designed to perpetuate the forest resources of this region.

It is recommended that if a large area be favorably considered, that this land-use survey be extended westward to cover possible arable lands of the lower Chilliwack River Valley and the Cultus Lake drainage basin.

Detailed Description of Areas Examined

Commencing at the north west corner of section 28, Township 1, Range 29, W.6 a narrow strip of bottom land extends along the north bank of the river into section 33. There are approximately 50 acres, shown on the map as fine sandy loam soil. Part of this, however, is a coarse sand and gravel ridge. One settler is located at the west end and there is an unoccupied clearing at the east end. Immediately behind the bottom land there is a bench varying from 50 to 400 feet in width and about a mile long. It contains 40 acres. The soil is a clay loam, well supplied with moisture, but due to its narrow shape it is not adaptable to agricultural use except for garden crops. The two areas combined might contain sufficient good land for one farm. They occupy three quarter sections.

A 30 acre block of fine sandy loam is located near the centre of Section 34. In addition there are 30 acres of coarse sand and gravel adjoining. Two settlers are located here though there is insufficient good land to produce more than is needed for home consumption.

In the south west quarter of Section 35 is a bridge crossing the Chilliwack River. It is a narrow bridge for pack horse use only. At the north end of the bridge is a bench of less than 10 acres, of clay loam. A trapper's cabin is located here.

On crossing the bridge, a trail extends west along an abandoned railway grade.

South of the river and in the southeast quarter of section 34 there are 10 acres of fine sandy loam bottom land and two small benches of clay loam soil. This is an abandoned homesite. There is sufficient land for a cow and vegetables for home use only, if the area was drained.

Further west in the southwest quarter of Section 34 are 80 acres of hummocky bench land. The knolls are a stony sandy loam and the hollows form sphagnum bogs. It is too broken in topography for agricultural use.

South of this area is a 90 acre block of the same bench but of a favorable topography. The soil is a clay loam over a stratified clay subsoil. A 10 acre clearing is occupied by one settler.

At the river level are three small gravelly bottoms of no agricultural value.

Immediately behind the 90 acre block there is a steep hill terminating in a bench. The topography of this bench is hummocky, producing

stony knolls and poorly drained depressions. It is possible that with adequate drainage sufficient good land might be found for one farm. The area occupies a strip extending through the centre of section 28 and 27 and includes 135 acres.

Behind the bench is a second steep hill terminating in another bench, approximately 800 feet above the river level. There are 110 acres of a stony loam soil with a boulder clay subsoil and 10 acres of a rich loam free from stone. There is room for one farm on the bench in the southeast quarter of section 27.

Immediately east is another bench, separated by a deep gully. This bench contains 45 acres of a stony loam and 40 acres of the deep rich loam. Again there is room for one settler.

For developing the last three benches about four miles of road construction are required. It would be a difficult road to construct for it would have to follow a steep side hill course, subject to slides and erosion and would require some four or five bridges and culverts.

From the foot bridge over the Chilliwack River a trail extends eastward along the abandoned railway grade. For three and one half miles it passes over coarse sand and gravel river deposits. There are no agricultural possibilities here, though at present a few head of livestock are utilizing the grazing. There are no benches between the mountain and the bottom land except deeply gullied small remnants of the bench last described.

Just west of the mouth of Slesse Creek the trail crosses the Chilliwack River over the railway bridge. In the south east quarter of section 32, there is a 10 acre clearing of fine sandy loam soil. The area is an abandoned logging campsite and now occupied by one settler. There is insufficient land for more than a homesite.

Behind the clearing a spur line branches off to the west and leads to a fairly large arable bench. The bench is about one third of a mile wide and two miles long. It extends through the centre of sections 31 and 32, Township 1, Range 28, W. 6. The soil is a deep clay loam over a stratified clay subsoil. Two thirty acre blocks of deep sand occur as slightly lower but adjoining benches. Several creeks cross the area. There are 230 acres of good arable land occurring in nine quarter sections. With re-surveying there is probably room for six settlers.

Between the foot bridge and the campsite, an abandoned trail follows the north bank of the river. Along the trail are narrow river bottom soils, generally of a coarse sandy and gravelly nature.

From the campsite a second spur branches to the south, crosses the river and extends east over a second large bench. The present pack trail follows this grade. At the western end of the bench there are 250 acres of arable clay loam over a clay subsoil. It is shown on the map as occurring in the south half of section 33 and the north half of section 28, Township 1, Range 28, W. 6. No creekstraverse the area hence domestic water supplies would depend upon locating wells. About six or seven settlers could be located on forty acre blocks.

North and east of the clay loam area there is a 450 acre block of mixed soil. In places it is a deep sand in which there is sufficient clay to bind the subsoil, in other places it is a stony loam over a sand and clay subsoil. It is possible that there are three or four arable sites in this area, but a detailed survey would be required to separate the arable from the poor land.

The spur line ends in the area of mixed soil. A trail continues to join up with another spur that extends west from the upper end of the bench.

The upper, or eastern end of the bench consists of deep sands, and stony and bouldery sands. There are over 600 acres definitely classed as non-arable.

The main line of the logging railway continues from the campsite on the north side of the river for two miles, then crosses the river and traverses the stony section of the previously described bench. The bridge over the river has been burned out.

From the end of this last bench to within one mile of Chilliwack Lake the soil consists of very stony and bouldery deposits close to river level, and of equally stony fan deposits from tributary streams. There are some 2,700 acres of this type classed as non-agricultural.

The railway grade continues on the south side of the river for two miles past Middle Creek, crosses the river and follows the north bank to within four miles of Chilliwack Lake. A spur line leaves the main grade about one and one half miles above the bridge and recrosses the river to reach a flat adjacent to Centre Creek. This last bridge is burned out.

There is a foot bridge crossing the river at a point where the main line grade leaves the last described bench. From this foot bridge a trail continues on the north bank and eventually joins the main line at the next bridge near Centre Creek.

About a mile from Chilliwack Lake are a series of steep stony and bouldery benches rising like steps. These benches dam the Chilliwack Valley and have formed the present Lake. The soil is non-arable. The lake is bounded on the east and west by precipitous mountains. The south end was not examined. At the north end are four cabins, one occupied by a trapper and the others are fishing lodges. No land clearing or cultivation has been attempted.

Notes on the Forest Cover

Between Tamih Creek and Slesse Creek are 2,500 acres that have been logged and burned. No coniferous reproduction has occurred, though some 500 acres of poorly drained soil types have been invaded by alder, willow, aspen and maple. The remaining 2,000 acres are exceptionally free of snags and would seem to offer favorable opportunities for planting.

There are nearly 600 acres of logged and burned land on the bench located in sections 31 and 32 Township 1, Range 29, W. 6. There is some deciduous growth but it is chiefly limited to the abandoned railway grade. Large areas are free of snags, but at the same time there are several pockets of standing fire killed timber that constitute a hazard. It is probable that a considerable acreage could be safely planted.

On the bench on the south side of the river, north and east of Slesse Creek are three areas that have been logged and burned. The first covers 170 acres. It is surrounded by standing green timber. A snag count might reveal four to six trees per acre. The second logging site covers 300 acres. There are patches of fairly dense snags and around the edge there are some fire killed trees. At the same time, a large portion of the area might be successfully planted. The third site is at the upper end of the bench and covers 175 acres. This area contains many snags and is bounded by much fire killed timber. It is doubtful if planting could be undertaken without considerable preparatory snag falling.

On the north side of the river near the burned out bridge, are 150 acres suitable for planting. Snags are not numerous.

Around Middle Creek are 700 acres that have been logged and burned. Patches of snags occur, but it is probable that a considerable portion of the area could be planted.

On the north bank of the river, opposite Middle Creek a long narrow swath has been logged along the river edge. There are two blocks of 135 and 120 acres. Snags are rather numerous here and considerable fire killed timber extends along the north boundaries.

There are 380 acres that have been logged and burned on the north side of the river opposite Centre Creek. Snags and standing dead trees are rather numerous.

On the south bank of the river, east of Centre Creek are 170 acres that have been logged. Again there are numerous snags and standing dead timber.

These last three areas in particular will require careful examination to determine replanting possibilities.

Between the last of the logging and Chilliwack Lake, there is an extensive stretch coming up in jack pine. Whether or not this area could be overplanted to more economic species, should be investigated.

The total area of logged and burned land shown on the map is 5,335 acres. There are additional small areas up creek draws.