

THE TRAIL SMELTER DAMAGE CASE

*Delivered at the
Kiwanis Club in January
or February, 1930*

Northport is 135 northwest of Spokane, mostly north, and is situated on the Columbia river. It is about six miles from the Canadian border.

The town of Trail in British Columbia is about six miles north of the border and less than a mile east of Northport. The two towns are, therefore, 12-13 miles apart. Trail is also on the Columbia river and the smelter plant is situated at Trail and on the west flank of the river. Since the Columbia river swings a mile or so ^{to the} east from Trail to the border thence southwest to Northport, the two towns by way of the river are some fifteen miles apart. I am mentioning this because the river valley is the path of the fumes from Trail to Northport and vicinity.

The smelter at Trail lies in a deep gorge cut out by the Columbia river. The region is decidedly rugged and is flanked on either side by mountains sufficiently high to preclude a diffusion of smoke fumes to the east or west except in case of gorges formed by streams tributary to the Columbia.

The Northport area is composed of this valley of the Columbia proper and parts of the tributary creek gorges, and, of course, this whole includes the slopes and benches of the mountain sides of the valley and its tributaries.

The whole region was once timbered but is now largely logged off. ^{15 abandoned mill sites} There was also at one time considerable mining but mining operations have now largely ceased.

On the slopes and benches and even hanging high up on some of the mountain sides small farms have been developed. Many of these have now been abandoned, the most of them before 1926, the time when fume damage was first noticed.

The area under cultivation is only a small percentage of the total and about half of this area has now been abandoned.

The soils are coarse, low in organic matter, and the subsoil is gravelly and sandy, with low water holding capacity and no fertility. Competent irrigation engineers estimate that it would require ^{upwards} ~~a~~ ~~cost~~ ~~of~~ \$300 an acre to put even the best of this land under irrigation and successful farming in the region is out of the question without irrigation. It may be added that few of the farmers are irrigating at present, and even those that have water do not have it in sufficient abundance. It is largely a dry farming proposition under conditions not any too favorable ^{even} ^{this part of} to agriculture ~~at best~~. These farms are occupied by good people but not good farmers for the most part. These conditions, coupled with the general slump that farming in general has undergone the last several years, together with the fact that the last two seasons have been abnormally dry, have combined to bring about conditions which have made farming here a very risky business. In fact the greater part of these lands might be called marginal lands for agricultural purposes, and some of them submarginal. When the farms were first brought under cultivation, fairly good crops were grown during seasons of good rainfall, but now the soils have been cropped out and all these conditions have put the owners in a frame of mind to want to sell and get out of the country. The marketing center of the region is Northport. This was once a thriving little city of 1800 people according to the census of 1920, but the population has now dwindled to not over 600.

The first smelter was established here in 1896 and employed from four to seven hundred men. A large part of the ores were brought from the Rossland region just across the border in British Columbia. It is said that at times as many as four hundred six-horse teams were employed in hauling these ores from Rossland to Northport. A couple of years after 1896 a railroad spur was

built from Northport to Rossland at which time teaming stopped. This first smelter company operated till about 1909 and the smelter stood idle from 1915 when it was taken over by the Day interests and ran until 1920 when it was closed down and dismantled. Soon after the passing of this smelter the railroad from Northport to Rossland was abandoned and the road bed is now used as a highway. The railroad bridge at Northport is also a part of this highway. It may be said that Northport is an excellent site for a smelter. There are ample grounds, plenty of water, cheap electrical power, and a government right to dump slag in granulated form in the river.

It should be stated here that considerable damage to vegetation, including timber, was inflicted by the smelters before they were abandoned and considerable litigation followed as a result of this damage.

The Northport region now has probably one-third of the population it had at its peak. The passing of the Northport smelter, the ceassation of active mining operations, a waning logging and sawmill industry, and the abandonment of farms have been the chief causes of the loss of population at Northport and the slump it has undergone as a trading center.

Of a total area of 33,128 acres in farms around Northport, 7,560 acres or about 23% had been abandoned up to and including the year of 1928. The most of this area had been abandoned before 1926. The number of farms abandoned within the stricken area since 1926 and the areas outside is about the same, thus showing that the smelter fumes have not been the great factor in driving the farmers off.

Damage to field crops was first noticed in 1926 following the raising of the smoke stacks at the smelter by 200 feet, giving them a total height now of over 400 feet. Doubtless there had been some damage in northern Stevens county immediately south of the border before the stacks were raised, but such damage had not been noticed. It may be said that before this farm lands on the Canadian side around the smelter up and down the Columbia

river had been purchased by the company or the company had bought easements. However, the company can not purchase the property damaged in Washington, neither can it settle for the damage by the purchase of easements as the Washington laws forbid a foreign corporation from owning property within the state. This fact has been a big factor in complicating the matter of making settlements for damage in the state of Washington.

Everyone admits damage, and the Trail Smelter Company settled for damages in as far as the farmers would accept them for the years of 1926 and 1927, and in most cases making settlement upon the farmer's own estimate of his damage.

In the early part of 1928 the case was referred to the International Joint Commission under the Waterways Treaty between the United States and Great Britain in 1909. No crop damages have been settled since that date.

Soon after the case was referred to the International Joint Commission in the early part of 1928, both the American and Canadian governments sent experts into the region to study the whole situation. The International Joint Commission held a hearing at Northport in October, 1928, at which time a large number of claims were presented, but the studies by the experts of the two governments have not gone far enough to make it possible to make any settlements.

We were sent into the region to assess crop damage for 1928 and 1929 and for 1926 and 1927 where such damage had not been paid. We were to include damage for timber, but it was found impossible to get at this phase of the question in as much as the forest pathologists had not been able to determine the zone of timber damage, neither had a cruise been made to show how much timber had been killed within that zone. We, therefore, confined our work entirely to making an award for crops damaged for the four years as indicated.

We did not presume ourselves to say whether damage had been done and

where it had been done. On the contrary we took the word of the government plant pathologists for this. About the middle of July the International Joint Commission appointed a Canadian pathologist and an American agronomist and economist to determine crop damage for 1929. They worked faithfully and hard for two solid months, but the case was so complicated that they had very little as a matter of fact to base actual damage upon.

The scientists tell us that there must be a conjunction of four definite conditions to crop injury to plant tissues by sulphur dioxide.

1. Sunlight
2. A temperature of 40 degrees or over
3. A relative humidity of 60 or over
4. Continued presence of sulphur dioxide above the minimum density for over two hours.

The minimum density for causing damage to plants is commonly taken to be one part of sulphur dioxide to one million parts of air.

During the summer of 1929 there was plenty of sunlight and the temperature was plenty high, running as high as 105 July 31.

The relative humidity, usually 60 - 70 at 5 A.M. would drop to from 20 - 25 by noon, and usually still lower by 5 P.M., being as low as 6 at 5 P.M. on July 31. The low relative humidity together with the fact that there were no rains to speak of through the summer, create conditions unfavorable to crop damage. These conditions, however, were very conducive to damage by drought, and drought damage was generally not only in the Northport area but in all the country around. However, the farmers insisted that drought damage was real smoke damage. In fact, any kind of damage that their crops suffered was generally attributed to smoke.

Accurate estimates made of the concentration of SO_2 in the air at different parts of the day through the region showed that there were very few localities and even then only very few occasions when the SO_2 concentration was as great as one part to one million, and exceedingly few times when the concentration exceeded this proportion. Concentrations, however, in measurable quantities were found over a wide area in some cases down the

river as far as 40 miles from Trail, but the pathologists did not find but few markings on vegetation down that far, and no economic damage to crops for more than a few miles south of Northport.

Since the pathologists could not give us any basis for estimating crop damage for 1929, and since the International Joint Commission was wanting to pay the farmers damage in order to carry them over till final settlement could be made, we were put hard to it for a basis for making damage awards.

Our studies have satisfied us that the damages paid by the Trail Smelter people for the seasons of '26 and '27 had been fair and liberal, and since in most cases they were the estimates of the farmers themselves, we finally hit upon the plan of taking the settlements already made as a starting point and offered the farmers who had already settled for 1926 and 1927 the same amounts for 1928 and 1929, since '28 and '29 as a pair of years seemed comparable to '26 and '27 as a pair of years as far as damage was concerned. With this as a starting point, we worked out a proportionate damage for a few farmers who were not included for the settlements made for 1926 and 1927, finally recommending awards for fifty-four different farmers, the awards totalling \$7415. If it is kept in mind that this sum does not include any damage to timber nor any damage to the farms as farms, the figure we set has a very different meaning from that which was given out by press dispatches recently when our figure of \$7415 was compared to the total of the claims which is four and one-half millions of dollars.