

It is impossible to make any simple statement of the effect of sulphur dioxide on vegetation, as it depends on the kind of plant or tree, on the length of exposure to the gas and on the condition of light, moisture and other variables. It appears that as little as 0.5 parts of this gas in one million parts of air will have a distinctly harmful effect on some trees and crops, when it occurs in conjunction with high humidity and sunlight and when the exposure is prolonged. Higher proportions, such as one or two parts per million in the presence of light and moisture affect vegetation more rapidly. The effect on animals and men is far less pronounced; the smallest amount that can be detected by smell is about one or two parts per million; no serious discomfort is caused by less than about five parts per million, and even larger amounts do not appear to be actually injurious.

Owing in part to the variable nature of the wind it is impossible to calculate from the amount of sulphur liberated at the plant or from the percentage of sulphur dioxide in the escaping gases what proportion of this gas will be found in the air at any particular distance from the plant. After a careful consideration of information from a number of sources, I am satisfied that the relatively small amount of sulphur dioxide that may be liberated from the proposed plant would be far too small to cause any economic damage to vegetation on either shore of the St. Lawrence. I have not made a sufficiently extensive study to enable me to speak definitely with regard to the part of Ile Perrot immediately surrounding the proposed plant, but this is not important, as I expect that farm land in the neighbourhood of the plant will be acquired by the Consolidated Mining and Smelting Company or by the Canadian Pacific Railway Company, and that the construction of the branch railway line and the zinc plant will cause other plants to be erected and will lead to the industrialization of a substantial part of the island.

Special consideration must be given to any possible effect on the Macdonald College at Ste. Anne de Bellevue. Dean Barton of this college has obtained statements from the Departments of Chemistry, Plant Pathology and Agronomy from which it appears that even apart from what might be called economic damage these Departments fear that the effect of even occasional exposure of their crops to small amounts of sulphur dioxide would have a serious effect on their experimental work.#

Some extracts from these statements are given in an appendix to this report.