Lands and Forests in a large way in scaling of pulp-wood and the cullers are, therefore, already familiar in a practical way with measuring wood according to its cubic contents. Its adoption for all wood measurements would quickly dispel the absurd belief held by many citizens that the lumbermen are a class of semi-professional robbers and that they are even aided and abetted by the Department itself. This absurd and exceedingly vicious impression has been the result of the using of a product unit instead of a volume unit in the measurement of its logs, *plus* the sad circumstance that the Doyle Rule, which has been the official rule in Ontario since October 18, 1879, is the very worst of its class in that it is less and less a true measure of value as the logs grow smaller. And the average logs coming to the mills of the province are apparently forever *growing* smaller, paradoxical as that may sound.

On the other hand, the Doyle Rule has been the official rule of the Province for many years, during which period many timber limits have been sold. And it must be clearly kept in mind that when bids were made for these timber limits at public auction or by sealed tender they were based on the scale the Doyle Rule would give under the conditions then obtaining. It is, therefore, of course, obvious that any change in the manner of measurement must have regard to the equities thus established. It should also be appreciated by the public that in maintaining these equities the lumberman is getting nothing but his own, and the Province is being paid the full value of the timber sold as determined at the time of sale by public competition.

If then the equities as between buyer and seller were correctly adjusted at the time of sale, why suggest a change to cubic measurement? The answer has already been given. The Doyle Rule, by virtue of its unscientific construction, is less and less a true measure of volume in logs as it is applied to the smaller and ever smaller logs that are being cut.

The following table shows the increasing volume of wood required to produce 1-M feet board measure, as scaled by the Doyle Rule:—

Diameter of logs in inches	No. of cubic feet required to give 1000 feet board measure as scaled by Doyle Rule	Additional per cent. of volume required as logs decrease in diameter
30	123	..
25	134	9%
23	139	12%
21	146	19%
19	155	26%
17	167	36%
15	185	50%
14	196	59%
13	211	71%
12	230	87%
11	256	108%
10	293	138%
9	349	184%
8	442	260%
7	621	405%
6	1,070	770%
5	3,140	2,453%

Here is the crux of the whole problem of wood measurement. *One thousand feet board measure scaled by the Doyle Rule* has long been the unit of measurement by which all logs sold have been paid for. Had this been a *stable* unit (i.e. remaining essentially the same in practical effect from year to year) even though entirely unscientific, there would be no good reason for change. It, however, is not a stable unit—far from it, and for two fundamental reasons:—

(a) The logs now cut on Crown lands average much smaller than formerly, and the tendency is still downward.

(b) The Doyle Rule underscales all logs below thirty inches in diameter, and as the diameters decrease, the Doyle Rule becomes an increasingly unfair measure. When applied to logs of twelve inches in diameter or under it becomes a joke.

The decreasing size of the average log cut on all operated timber limits is a matter of record in vaults of the Department of Lands and Forests.

The practical effect of this decrease in size when the Doyle Rule is the measure is strikingly shown by the table above. For example, if the average log is 17 inches in diameter, 167 cubic feet are the equivalent of 1-M Doyle scale. If the average log be 10 inches in diameter, 293 cubic feet are required to scale 1-M. Doyle Rule. If the average log were but 7 inches, no less than 621 cubic feet would be required to yield 1-M by Doyle.

This is the demonstration that the Doyle Rule—by virtue of its unfair scale of small logs and its ever increasing unfairness as the logs become smaller, together with the established fact that our logs are smaller from year to year—profoundly disturbs the equities established between the lumberman and the Province at the time the timber was sold.

Fortunately the full and complete records of the scaling from year to year on all timber limits, available in the files of the Department of Lands and Forests, afford the means of readily determining the correct converting factor for translating the Doyle Scale into its cubic volume equivalent, which will preserve undisturbed the equities established by the sales contracts, for there can surely be no truer index as to what the purchaser had in mind to buy when he made his bid than what he actually cut after the bid was accepted.

For greater clearness, let us assume the case of a timber sale in 1906 at $12.00 per M., Doyle Scale, (the $12.00 covering both Crown dues and bonus.) Here the lumberman bids $12.00 for the amount of logs that will scale 1,000 feet, board measure, by the Doyle Rule. By reference to the records of the timber cut on that limit during 1907 it will quickly be found just how many cubic feet of logs were required to yield the thousand feet, board measure, Doyle Rule, he was paying for. If a more conservative basis were desired, the converting factor might be based on the cut of the two seasons following the timber sale, thus in case of the sale in 1906, used as an illustration, the converting factor might be based on the returns on the timber cut on the limit during the two following logging seasons of 1907 and 1908. If the average log cut on this limit during the two years following the sale should prove to be 13 inches in diameter it would take 211 cubic feet of logs to give the lumberman his thousand feet as scaled by Doyle. Thus we find an exact parity between $12.00 per M. feet as scaled by Doyle Rule, and $12.00 for 211 cubic feet as measured by actual volume, and during the years 1907 and 1908 the amount of money paid the Province by the operator of this limit would have been the same whether paid on the basis of $12.00 per M. feet, Doyle Rule, or $12.00 for each 211 cubic feet, or in other words $5.69 per hundred cubic feet. And if in all subsequent years the lumberman operating this limit had paid his Crown dues on a basis of $5.69