Forum

KLAHOWYA

WORKING GROUP—16 ENTOMOLOGY PATHOLOGY

Co-Chairmen,
G. Wallis and L. H. McMullen

In this resource-thrifty era conservationists are constantly alert to waste in our forests, and industry is recycling used paper to conserve our trees, yet professional foresters and scientists still have a long way to go in co-ordinating their efforts to reduce the immense timber losses caused annually by insects and disease. One of the primary reasons appears to be a lack of communication. We feel the CIF's Entomology-Pathology Working Group can best make its contribution by addressing itself to this problem.

Let's look at some of the suggestions that have been made for solving this dilemma of communications between professionals.

Specialists should learn to present their findings in a form plausible to the field forester. This has been recommended innumerable times, but with little success; the special talent for holding a broad audience is not quickly acquired.

Information personnel should be hired to write the specialists' material in a form suitable for the practising forester. This, on the surface, appears to have merit but never seems to get off the ground. And little wonder, when one considers the qualifications needed in men hired to do the job; a comprehensive grasp of the specialists' disciplines and the foresters' requirements. Obviously such talents are being put to better use elsewhere.

Specialists should get out in the forest where the action is. *Fait accompli* already. Many scientists escaped from their ivory towers a generation ago. Even when working side by side in the field, technology transfer between specialist and generalist seems limited and the broad problem persists.

Foresters should be brought into the research laboratories where they can work for a few months on their problems along with the specialist; both would benefit. Commendable? In concept yes. However, not too practical, when one considers the numbers involved and the limited laboratory facilities available.

What then is the solution? The answer is really very simple.

We need a change of professional attitude and new motivation; let us all concentrate on the communication problem and show some imagination and enthusiasm for getting the job done. The future needs for wood, coupled with the increasing calls on forest land for social uses, demands that we too "rid our granaries of rats".

As a scientist, you can do more than publish learned dissertations for scientific journals. Get out and show practicing foresters the problem; they would appreciate it. How about workshops to demonstrate your solutions? Have you provided foresters with methods for assessing the losses so they can quantify and understand? They too have bosses to convince to get the needed support. Have you thought of ways of reminding them of available information? A short note in a trade journal is one way. Remember foresters have many disciplines on their minds. That publication that crossed their desks two years ago when they were unaware of their problem is now "filed".

As a forester, you don't have to be satisfied with journals full of scientific gobbledegook you can't understand. How long has it been since you visited or phoned your nearest research establishment and asked a specialist to come and look at your problem? After all, a few hours face-to-face discussion while sitting on a stump is probably worth more than all your journal reading. How often have you asked

a researcher what effect the management practices you are using will have on insect and disease incidence? Don't forget, this could be another way to introduce those specialists to what is required in management manipulation. These days, any scientific laboratory worthy of the name is modelling management techniques. Has the research establishment nearest you considered your management schemes or are you willing to take a chance that insects and disease will wipe out what otherwise could be a good idea? Is your regional or national advisory board ensuring that your problems are being dealt with by the scientist in a practical manner?

We are proposing to use the Chronicle to find out if anyone does give a damn. You may, or may not, join the Ent.-Path. Working Group; that is of little consequence. What we are suggesting may sound like mere platitudes or nonsense. If so, tell us why. You don't have any insect or disease problems? Good, but perhaps you would be more convincing if someone were to look closely at those dead trees or rotten windthrows you turned your back on the last time you were in the bush. You don't have any problem communicating! Tremendous, tell us how you do it.

Insects and disease are not problems about insects and disease but problems with trees and their management. The following series of articles on the spruce budworm, purportedly aimed at the forester, are multidisciplinary in nature, including ecology, management and control procedures. Have they hit the mark or broken all the rules? The Editor and the authors of the articles are interested in knowing. If you have constructive criticism, a letter in the Chronicle to the Ent.-Path. Working Group will make it easier for us to come closer to meeting your needs. More articles will follow in subsequent issues of the Chronicle. Be sure that problems with which you are concerned are included; a note to point out what you consider an omission and how you would like to see it attacked, or a better approach would also be helpful.

Are we being terribly naive, or do you really give a damn?

G. W. Wallis,
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Co-Chairmen.

LETTERS

One rarely attends any gathering of foresters nowadays without hearing someone denounce or bemoan the gaps between foresters and the rest of the world, or between forestry practitioners and researchers — communication gaps in a very real sense.

At the recent successful C.I.F. workshop on inventory and remote sensing, it was brought home to me very forcibly that one of the reasons must be that so many foresters are unable to "communicate", to attract and hold an audience. At that workshop many talks were merely read, and that none too articulately (one speaker was timed at about 12 'ums' per minute); visual aids, if used at all, were often badly presented or illegible; rarely did a speaker make his audience feel "this is interesting, I want to pay attention"; and scarcely one kept to his allotted time. Let me make it clear that I am commenting only on the presentations not the material. I do not hold with McLuhan's dictum that the medium is the message, nor with the Adman's credo that the package is more important than its contents. But we foresters must pay much more attention to the art of getting our message across if those communication gaps are ever to be bridged. Maybe as an audience we need to be less tolerant of poor presentations.

Dr. R. M. Strang

Pointless Timber Estimates Newer, Faster, Easier

Introduction

More than two decades ago, a new method of collecting forest data was developed. Grosenbaugh* termed it plotless cruising, because it eliminated the need for sample plots. Instead of plots, sample points were used, hence the method also came to be known as point sampling.

The significance of this development is that the trend in forest sampling is to smaller sample units: from plots to points to . . .? It is obvious that the smallest, the ultimate sample unit is no sample unit. The problem is to get estimates from such units.

The purpose of this paper is to present the new pointless sampling method, to describe details of its application, and to give the results of a small comparative test.

The Method

Briefly, pointless sampling makes use of a series of random number (RN) tables, each containing numbers of a given range. Suggested ranges are 0-9, 10-99, 100-199, etc. In application, a specific table is chosen so that the range of table values corresponds as closely as possible to that expected in the population to be sampled. From this table are selected sufficient RN's to equal the sample size, and the mean and variance of the sample values are calculated using formulae for simple random sampling.

The key to successful application of pointless sampling is in the proper selection of a RN table. To select the proper table, all available sources of information should be consulted. These might include aerial photography, personal experience, or results of previous surveys. Knowledge of the characteristic to be estimated is also helpful.

Pointless sampling has many advantages over more conventional survey methods. It is inexpensive since the population need not be visited; travel cost is reduced to zero, and field work is eliminated. Simple random sampling is used rather than more complex, costly designs. Sample size can be increased readily, by selection of additional RN's, to achieve the required precision. Bias is minimized by the use of existing sources of information before sampling. Finally, there are no measurement errors since no measurements are made.

*Grosenbaugh, L. R. 1952. Plotless timber estimates — new, fast, easy. **J. For.** 50(1): 32-37.

A Field Trial

The efficiency of pointless sampling was compared with plot and point sampling in a small test. A circular plot of 0.1734 ha and a point with basal area factor 3.1m²/ha were selected at random in each of four locations across Canada, and the timber volume of each sample unit was determined. For the pointless method, a RN table with numbers ranging from 0 to 10 was selected, based on previous experience, and four RN's selected to represent volume estimates. These data (Table 1) were used to calculate sample means and variances; with cost data obtained during the test, the efficiency of each method was determined.

Table 2 presents a summary of the results. The standard errors shown in the last line are obtained at equal cost ($2,000); hence, they estimate the relative efficiency of the methods. The values indicate that pointless sampling is 11-12 times as efficient as the other two methods.

Table 1. Basic field data

Sample unit (no.)	Location	Sample method: plot	point	pointless
		volume (m³)		
1	43°40′14″N 79°41′20″W	.03	.04	3
2	63°23′47″N 90°07′49″W	0	0	1
3	49°13′24″N 111°34′31″W	.07	.07	7
4	50°02′32″N 125°03′19″W	0	0	3

Table 2. Precision, cost and efficiency of three sample methods used in test

Sample statistic	Sample method: plot	point	pointless
Mean volume, m³	.025	.0275	3.5
Variance, m⁶	.00110	.00116	6.33
Cost per unit, $	437	422	8.50
At $2,000 budget:			
sample size	4.6	4.7	235.3
standard error, %	62	57	5

Discussion and Conclusions

In Table 1, there is a considerable difference between the volumes obtained for the pointless method and those obtained for the other two methods. This could be due to random error, i.e. an unfortunate selection of sample unit locations. However, it could also be due to an incorrect choice of a RN table. With more preliminary information, a better choice could have been made, e.g. a table with a range of 0 to 1.

The RN tables suggested for use with the pointless sampling method are generated from equal probability distributions. A useful refinement might be to generate the tables from more sophisticated distributions, e.g. the Negative Binomial or the Weibull distributions.

In summary, the pointless sampling method seems to have considerable potential in forest surveys. While the sample estimates leave something to be desired, the cost characteristics are such that the method is very efficient. With further research, costs can undoubtedly be reduced further, and the accuracy of the estimates can be improved.

G. M. Bonnor

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50 & 25 Years

1925 THE YEAR OF THE OX

Foresters born in this year are very patient and speak little. They are, however, eccentric and bigoted. For all their patience, they anger easily. When angry an ox-person is likely to do something rash. They have a gift for inspiring confidence in others and they can be eloquent. Ox-year people are mentally alert, but remarkably stubborn.

1950 THE YEAR OF THE TIGER

Foresters (or foresters to be) born in this year are sensitive, short-tempered, and given to deep thinking. On occasion tiger-born people come into conflict with those in higher authority. They cannot make up their minds quickly and delay making important decisions until it is too late. The second phase of their lives will be difficult.