

## COMMUNICATING THE RESEARCH STORY

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**Abstract:** Various suggestions are provided relative to a need for special emphasis by research staffs regarding the problems of getting across the research story to resource managers, specialists, and other practitioners.

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About a month ago, I read in the newspapers that "science is drowning in its own rapidly rising sea of facts." That statement came from Dr. Harrison Brown, foreign secretary of the National Academy of Sciences, speaking at the annual meeting of AAAS. He said there is an urgent need to "organize the annual output of 5,000 scientific and technical journals published in two million articles and 50 languages." When I think of the words in print this represents I am almost ashamed, for I've spent 20 years as an editor helping those in forestry research add to this flood of information.

And here's another appalling thought. If the scientific community has trouble keeping track of all that's going on, what about the struggling practitioner? He certainly has problems. For example, 10 years ago, the Forest Service experiment station at Berkeley turned out 50 or 60 research reports a year. Today it's about 130!

We know that each publication will not be of interest to all resource managers in California. Many will interest only selected audiences. Some will appeal to a nationwide audience. But how can the practitioner sift through it all to find what will help him?

Even if he could select publications only in his major field, he might find that each report was only a fragment...certainly not the whole answer to his immediate problem.

We are concerned then, with three things: with the total volume of material, its high degree of specialization, and its fragmentation. So what can be done about it? I suggest we need some new approaches--or maybe just better use of old ones.

In the long run, decision-makers may get some help with the problems of specialization and fragmentation from cybernetics. More researchers each year are applying systems analysis to resource management. In California, for example, Dr. Kenneth E. F. Watt and Dr. Arnold M. Schultz are interested in taking a "systems" look at the complexity of ecosystems.

Meanwhile, we have plenty of short-run communication problems. I'm sure this is not news to you. And we are neither the first or the only group to worry about possible solutions. For example, I saw an excellent summary of the problem from Canada last year. We can all benefit from study of G. F. Weetman's discussion of "Problems in Research Communication" in the March 1966 Forestry Chronicle.

What can we do? For one thing, continue to encourage the researcher to write in the language of his audience--the first thing a free-lance writer learns. Research reports aimed at the land manager are a poor place for scientific jargon, or for lengthy discussion of research methods. Super-scientific lingo defeats the main purpose--to communicate.

But is the research report the only way to get the message across? It will probably always be the foundation--the basis for communicating the research story. We need formal reports to document research advances and keep that "sea of facts" always available for exploration. But the report should not stand alone. In my view, research organizations have a strong responsibility to take the initiative in expanding their methods of communication.

I think we have begun to recognize the problem, and more time and effort will go into the communication process. But who will do it? And what form will the message take? To help answer such questions at Berkeley, we set up a study committee consisting of both researchers and information specialists at the Experiment Station.

One of their recommendations has resulted in a new kind of report that we call "What's New in Research". Current research publications provide the foundation, or spring-board, from which to select items of interest primarily to the land manager. The goals of this new report are: subject matter that is definitely of interest, brevity, and a readable style. The land manager can sample new findings quickly and decide for himself if he wants the whole story.

We think newsmen and feature writers can pick up some useful leads from "What's New in Research". But most important to us is evidence that it can build a common bond with resource managers and help them know more about what's happening in research.

After the first two issues, we asked some of our Forest Service audience what they thought. The response? An over-whelming mandate to continue, and many good suggestions. The enthusiasm of the response suggests we are getting at some of our self-diagnosed problems.

Our study committee also soon concluded that we needed to know more about the special needs of land managers. The best solution seemed to be to join forces with one of the Station's user-groups. Consequently the committee now meets jointly with a group from the California Regional Office of the Forest Service. We believe this joint approach is better than the old process of second guessing what the other fellow wants.

Since this ball game is still in the early innings, I can't talk about solutions. But you might like to think about some of the alternatives the committee is batting around.

Most land managers seem to think more "on-the-ground" consultation would help. Maybe so. This idea seems to go back to the days when the researcher needed little more than study plots, time to wait for the results to come in, and a notebook. He was on the ground most of the time and mighty handy to consult. Today, his problems are tougher, more basic, and more demanding--of libraries, computers, and laboratories. These facilities are expensive, and clustered around relatively few centers of what has been called "the knowledge industry"--academic or industrial R&D communities. It's no longer easy to get land managers and research scientists together for a give and take dialogue.

If we can't bring the man-in-the-mountain to the laboratory, is there some way to take the lab and its products to the mountains? The Agricultural Extension Service does this effectively for the agro-business world. Is it possible to beef up such work for wildland resources?

Then too, land managers seem to want fewer reports of individual studies and more comprehensive "packages". By this I believe they mean consolidation of all information on a problem--presented with an eye to application on the ground. Publications that do this job are hard to come by. Here again, maybe we can take a lesson from extension work and find ways for researchers to help managers with local studies or pilot tests which speed the application of research conclusions.

But what if the problem turns out to be a matter of fouled-up channels of communication as well as mixed-up messages? Maybe we can exploit the concept of information centers, or clearinghouses. Defense agencies help R&D contractors this way, and I have been impressed by what I've heard about the efforts of such professional groups as the American Chemical Society and the Engineers' Joint Council, to speed up indexing and searching of technical literature.

In wildland management are we really exploiting new tools such as the computer, both for library services and for organization of entire fields of information?

More subject matter seminars and workshops for land managers may be helpful. One example is the seminar for wildlife specialists of the Bureau of Land Management scheduled just before the North American Wildlife Conference. The Forest Service is using a similar approach to train fire control specialists. Some 70 men are meeting this week in Arizona for a review of fire behavior knowledge. Other seminars have concentrated on firefighting methods.

Few of these ideas are new, but I doubt that we are really putting them to work...certainly not to the extent that they are giving us a systematic approach. Nor have we begun to use all the communications devices that modern technology has given us...for example, programmed instruction, movies, and TV--both closed circuit and taped video. In research we still rely largely on the written word.

I'd like to leave just one more thought with you. The very word communication implies an exchange of ideas or opinions. In everyday conversation, we look for a sign that we are being understood, that we're "coming through". If a response is absent, we shift our approach, even the content of our message, until we see we are on the beam. Why should we be satisfied with less in communicating the research story? Let's get with it.

Some of you may think I have neglected an important aspect of telling the research story. When resource managers think about communication problems, they tend to think first of getting their message to the general public, or the many separate publics with which they deal...the hunter, the camper, or the fisherman. Usually their main concern is to convince that audience that their management program is a good one.

I don't think I've missed the boat. It has been said, and often, that the real key to public relations is a good job of management. Any PR man knows this is not enough...that complicated programs often need further interpretation. But no one can do a convincing public relations job if his management program is out-dated, or unresponsive to public need.

Research provides the backup information for a management program. Consequently, it occupies a unique position in the communication chain. We ignore the most important role of research in the whole public information program if we consider that the information problems of research are the same as those of resource management. They are not.

The research organization must channel much of its efforts into informing the professional audience; administrators, planners, specialists, and others who manage the land. We will need help. Research and management agencies--and by all means, professional societies--must work together to develop special techniques in getting the message across. We may find that these techniques are entirely different from those that the land manager now finds most effective in dealing with his many publics. But if we do not work in concert, all of us--managers, researchers, and communicators alike--may well drown in our own sea of facts--a sea that grows larger day by day.