

By

James R. Jones 1/

With all of its uniqueness, the Lake Tahoe Region is similar in many ways to other regions in the country. Throughout the United States, new conflicts and stresses are developing at a rate more rapidly than ever before. A prime example is the conflict arising between the planners and scientists contemplating the long run effects while entrepreneurs work at short run objectives. Stresses are placed upon the social, political, and economics institutions which are exceedingly more complex and difficult to define and design steps to meet the problems. Because of its unique blend of natural resources, beauty and recreation potential, Tahoe is very much in the public eye. Even though it is not densely populated, the political institution include two states, five counties, one city, one bi-state and two state regional planning agencies, approximately sixty local authorities, federal and state agencies with regulatory or administrative involvement, as well as many special interest groups. Tahoe offers a microcosm exhibiting many of the same problems confronting the Nation.

The Lake Tahoe Basin is, as in the major portion of the Sierra Nevada, heavily impacted by winter snow. Snow has a direct effect upon recreational activities and the associated development, economy, and sociology of the Basin. The unique beauty and opportunities of the region attracts, not only a relatively large number of year-round residents, second home owners, and tourist, but a large number of researchers. Many research activities in the region, either directly or indirectly, are concerned with snow. The Desert Research Institute, along with the U. S. Bureau of Reclamation, are involved in a demonstration project to augment snowfall on the east side of the Sierra Nevada. The U. S. Forest Service and the University of California, Davis, are exploring methods to reduce evaporation and alter snowmelt. The University of California, Davis, is investigating the nutrients carried into the watershed by snowfall. The California Department of Transportation is studying environmentally sound methods to remove snow and ice from highways within the Basin.

Many important steps are being taken now to meet the new environmental and societal problems. New socio-economic arrangements are being formulated with the scientists and technicians being asked to provide their expertise in seeking solutions. This will require new research, stressing the applied aspects, requiring interdisciplinary research teams to deal with scientific or technological solutions to develop socially and politically acceptable methods of implementation. What is really needed at this time is a new mechanism or group to play the critical role of bringing together the pertinent research problem, the scientist, the funding agency, and the user or consumer.

The concept of bringing together the scientist, the research problem, the users, and funding sources, has been discussed and used in the past, but not in the context of assisting on a regional level. During World War II, the Office of Scientific Research and Development under Vannevar Bush, used the concept to develop a weapon program. The American Society of Civil Engineers is, through its Research Councils, acting as a catalyst to solicit funds for research and seek the most capable organization to carry out the work. They hope to play a vital role in providing the technical guidance required in both recommending research and monitoring projects related to civil engineering. There are several efforts on a national or international scale to coordinate and consolidate a spectrum of information activities or sources. The Food and Agriculture Organization of the United Nations established the International Information System for the Agricultural Sciences and Technology (AGRIS) to find the mechanism that will avoid duplication and fill necessary gaps in subject coverage. 2/

A concept of "Councils of Urgent Studies" has been suggested which would work at the local, national and international level in a role similar to the Office of Scientific Research and Development. 3/ The "Councils" would be composed of concerned and recognized scientists, public leaders, and supporting staff acting in an advisory and coordinating

1/ Assistant Research Coordinator, Lake Tahoe Area Research Coordination Board, South Lake Tahoe, California

capacity to work for the immediate, large scale and continuing attack on the problems of society.

Background: Research Coordination Board

In 1970, the Tahoe Regional Planning Agency (TRPA) was formally organized and mandated, under Public Law 91-148, "to maintain an equilibrium between the region's natural endowment and its man-made environment, to adopt and enforce a regional plan of resource conservation and orderly development...". During the development of the General Plan, its five major elements and its subsequent implementation, the TRPA discovered an alarming lack of qualitative and quantitative information pertinent to its needs. The Tahoe Basin has been, and still is, the object of considerable research and studies, which should have filled many of the information needs. But, the research was scattered among a myriad of federal and state agencies, universities, independent institutions, and individuals with little or no coordination or communications. At the same time, the research results that were available were little used because research users were poorly informed about the nature and availability of such studies.

Early in 1972, during a discussion of the problem with the National Science Foundation, TRPA staff members found that the Office of Intergovernmental Science and Research Utilization was receptive to considering an application for a grant to study the problem and recommend a suitable remedy. Because of their mutual interest, and for organizational advantages, the Lake Tahoe Area Council, a non-profit, bi-state organization, committed to the betterment of the area, and the TRPA together applied, on May 17, 1973, for a two-year grant from the National Science Foundation. The grant was designed to assist in the developing a means through the Lake Tahoe Area Research Coordination Board (RCB) to identify research needs, coordinate research efforts in the Tahoe Basin, make results readily available to users, and help increase the general awareness of environmental relationships in the Basin. This proposal was favorably received. Funding began on June 15, 1973 and runs through October 1975. The staff was recruited and became operational in December 1973.

After a year of operation, the original objectives of the project remain essentially unchanged:

1. To stimulate and encourage research applicable to supporting the objectives of the TRPA and other public and private agencies.
2. To provide scientific support for the effectuation of TRPA's planning program.
3. To coordinate and, where appropriate, administer on-site and off-site research.
4. To educate and inform on the needs and requirements for environmental protection, use, and control.
5. To encourage active participation by all elements in the research community (government, academic, private and industrial).

If successful, such a viable coordination mechanism will benefit all parties; it will:

1. Minimize unnecessary duplication of research effort.
2. Communicate research needs to sponsors, researchers, and users.
3. Develop a core of expertise where researchers can get help in selecting researchable problems, preparing research proposals, and obtaining expert technical advice.
4. Provide a ready source of research information and consultation for scientists, resource managers, developers, conservationists, and other research users.

The research coordination problem is being approached through a case study. A pre-designed test organization was installed. From conception it was important that the organization be functional as well as an object of study. Modifications will thus be tested as

actual experience might recommend. A primary goal of this research is the design for a mechanism that will coordinate and increase research effectiveness on regional problems for use by all levels of management. The resulting mechanism, or modifications thereof, should be applicable to any regional situations with characteristics similar to the Tahoe Basin.

Project personnel include the Research Coordination Board, a policy-making unit; the Science Advisory Panel, a technical review and advisory unit; and the permanent staff with technicians and consultants added when necessary. To enlist the support, interest, and involvement of both research and user communities, the Research Coordination Board, the Science Advisory Panel, and special committees are made up of members of both communities.

The Research Coordination Board Staff provide the continuing mechanism for carrying out the project and providing liaison between the researcher and user community with increasing contacts with the lay community. Major tasks of the staff are:

1. To inventory past and current research in the Tahoe Basin.
2. To list research needs for the Basin.
3. To encourage the needed research in the Basin through appropriate available means, such as reviews of proposals, aid in preparing grant applications, sponsor forums and seminars, and personal contact.
4. To provide an information system that will make research results readily available to researchers and users.

The project could be categorized as an exercise in introspection. The Unit provides a service by improving the research atmosphere in the Tahoe Basin, and at the same time evaluates its own structure and ability to provide such service. This is indeed a unique organization, but the staff feels it has organized the Unit and conditioned themselves to fill this dual role.

Functions of Research Coordination Board

Development of a list of research needs for the Tahoe Basin was a major, initial task. The listing will be used to encourage and direct applied research in areas that will benefit the users. The first step in this effort was to inventory and document previous and current research activities and publications. "The Inventory of Research Activities in the Lake Tahoe Area, 1878-1974," 4/ prepared by the Research Coordination Board staff identified over 700 pieces of literature resulting from research or studies relative to Tahoe. The "inventory" will be periodically updated to include citations for newly published or discovered items. Files are prepared and maintained regarding ongoing studies. Abstracts, similar to the Smithsonian Science Information Exchange abstracts (SSIE), are prepared for each study or project and distributed. The Abstracts are kept as current as possible with additions, updates, and corrections distributed periodically.

With the identification of past and present research and sources of information, the development of the research needs list was begun. The source material for the listing was broad, including the Research Coordination Board's Environmental Problems and Research Needs Forum (March, 1974), a draft of TRPA's research needs, and numerous contacts with individual scientist, research users, organizations and management agencies. The two drafts of the Research Needs were reviewed by those identified organizations and individuals with an active interest in the Tahoe Basin, particularly those generating problems subject to research. With its publication in December 1974 the Research Needs for the Lake Tahoe Basin 5/ is becoming a useful tool in evaluating the applicability to Tahoe problems of research proposals and stimulating research projects in priority areas that currently lack investigators. The RCB hopes that it will stimulate further discussion and comments that can be incorporated in future, more comprehensive reports. The Research Needs should be a process not just a product.

Contact has been established with organizations identified as doing research in the Basin. For example, the staff is actively engaged with the Tahoe Research Group of the University of California at Davis, exploring ways to assist them in coordinating their research efforts. This group conducts a major multidisciplinary research program, under grants

from the RANN program, aimed at a variety of problems in the Basin. The Desert Research Institute of the University of Nevada, other research and administrative organizations, and individuals either actively engaged in the Tahoe Basin or having a deep interest in its welfare, are all part of the search for relevant data.

Several proposals for research have been received prompting standardization of the procedure for receipt and review. Generally this procedure is:

1. Proposals shall be submitted to the Research Coordination Staff.
2. Research Coordinator sends proposals to the Science Advisory Panel for review.
3. Coordinator summarizes comments and presents the proposal and the summary to the Research Board.
4. The Board considers the proposal and recommends action.

Another major task has been to determine overall needs for a library/research information system specifically designed for the Basin. Various reference systems essential to research needs, necessary equipment and space, and relative priorities for acquisition needs were part of this study. Considerable emphasis is being placed on identifying existing systems for disseminating research information which might be used within the overall information system; library/research information systems already operating in the Basin are also being evaluated. Close working relations have been established with groups such as the LTAC's Library Committee, schools, the Historical Society, and county and state libraries.

A special cooperative effort has been developed with the Lake Tahoe Environmental Education Consortium (LTEEC). Mandated to conduct programs of environmental education in the form of continuing education and community development, the Consortium stresses innovative programs and response to specific community needs. It is bi-state (California and Nevada), funded through the Higher Education Act of 1965, and comprised of seven California and Nevada educational institutions.

Under the sponsorship of the LTEEC and the RCB, seminars have been held on a quarterly basis since June 1974, to inform the public and interested researchers of the various research projects and related activities in the Lake Tahoe Basin. The seminars provide a sounding board for researchers to communicate their activities to other researchers and the public, and for questions to be raised concerning the relevancy of the research and the possible uses of the results of the projects.

As another means of informing the community and developing lines of communication, the RCB started a monthly research news digest, the TAHOE COORDINATOR, in May 1974. In September 1974 the RCB joined with the TRPA, the Tahoe Research Group and the LTEEC in a joint effort to publish the TAHOE REFLECTIONS. This monthly newspaper supplants the individual newsletters and provides greater distribution at less cost to each group.

All segments of this research coordination mechanism, are in service. Much of the staff effort has been devoted to establishing the identity of the Coordination Unit and services it can provide. Headway is being made, as evidenced by a steadily increasing flow of correspondence, telephone calls, office visits, and requests for information and assistance. Dissemination and feedback are expected to become major elements of Unit work in the months ahead.

The testing phase of this project is scheduled for two years. By then it should be possible to recommend a more permanent coordinating mechanism or organization which should be applicable to many regional situations, especially those with characteristics similar to the Tahoe Basin. During the early part of Summer, 1975, a special analysis of the research coordination mechanism will be made by the Evaluation Panel. The Panel is comprised of noted administrators, educators, and businessmen as well as representatives of the National Science Foundation. Their report will be used in the decision, at the end of the NSF funding period, as to the future existence, organization, and objectives of the Research Coordination Board.

During the first year of operation the research coordination mechanism was organized

and put into operation. Emphasis was placed on inventorying past and present research, and on developing a meaningful list of research needs. In the next year these two tasks will be completed, placing particular emphasis on functioning as a coordinating unit by encouraging research and following through on the proposal review process. High priority will be given to studying and developing a research information system that will most nearly meet the needs of both scientist and user.

Research and Research Coordination

A common complaint, by a large portion of the lay community at Lake Tahoe, is that "the Lake has been studied to death!" In some ways that statement can be justified. A list recently prepared by the RCB indicates that there are fifty-six research projects, investigations, or studies currently being conducted at a cost in excess of \$3.5 million. Of that total, nineteen projects appear to be a result of a need identified by a governmental agency. However, that is not to say that the remainder may not be of use to decision-makers. Past experience has shown that information obtained through these studies, often finds its way into the decision-making process. In this light, the most important role of research has been its role of sensitizing the policymakers and the public to the consequences of environmental manipulation. And then, there will always be research done at Tahoe, because it is such a wonderful laboratory and location. Still the question persists, "why more research is not directed toward more clearly defined objectives?"

The "business" of research has changed significantly from the 1950's and 1960's where scientists in the academic community could count on continuous federal funding. This practice continued until the late '60's when federal research dollars began going more toward research institutes, industry, or consultants. Scientists have for a long time justified expenditure on their research in terms of the social and economic benefits, the results of applied research. However, the status or reputation is given to those scientists that engage successfully in theoretical, or basic research. In general, basic researchers have congregated in the academic community where there were fewer pressures to produce economically marketable results, and working outside on social or applied problems would often not benefit his academic career. On the other hand, the applied researchers have congregated in the industrial laboratories and sought to apply the output of basic research to real world problems.

With the energy crisis and the environmental crisis, the scientist and technician are very much in need. The highly developed scientific and technical skills are needed to solve today's problems. The National Science Foundation, with the Congress and the Government Accounting Office looking over their shoulders, is emphasizing problem-oriented projects. The Research Applied for National Needs (RANN) program was established to focus research on selected problems of national importance with the objective of contributing to their solutions. With an understood reluctance or resistance to applied research, the academic community still tends toward basic research and resists efforts to plan or direct coordinated programs of problem-oriented research.

With an understanding of the "business" of research and the needs of agencies at Tahoe, the Research Coordination Board was established as an ombudsman, a facilitator, or a clearinghouse; a unit mandated to coordinate research efforts, increase efficiency, and make results readily available. The RCB was asked to evaluate, study, and recommend, but given no authority to act, prevent, or regulate. Its function has been to improve the existing mechanism composed of a myriad of entities, but not to supersede them.

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