

**Organization of Inland
Biological Field Stations**

**Newsletter
No. 14**

ORGANIZATION OF INLAND BIOLOGICAL FIELD STATIONS

Newsletter No. 13

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1971 Annual Membership Meeting - O.I.B.F.S.

Members in attendance: 15

William S. Brooks	A.C.M. Wilderness Field Station, Minn.
Robert C. Dagleish	E. N. Huyck Biostation, New York
Robert Ediger	Chico State - Eagle Lake - Calif.
David M. Gates	Michigan U. Biostation - Michigan
Loren Hill	Oklahoma Biostation, Oklahoma
H. L. Hutcheson	Black Hills Biostation, South Dakota
Mario Iona	U. of Denver High Alt. Labs.
George H. Lauff	W. K. Kellogg Biostation, Michigan
David F. Parmelee	Itasca Biostation, Minnesota
John D. Parsons	Pine Hills Biostation, Illinois
Jennifer W. Shay	U. of Manitoba, Canada
Jack Spencer	Org. for Tropical Studies, Florida
John Tibbs	Flathead Lake, Montana
John E. Warnock	Kibbe Biostation, Illinois

Guest: 5

H. J. Carlson	National Science Foundation, Washington, D. C.
J. Jordan	National Science Foundation
Robert E. Jenkins	The Nature Conservancy, Washington, D. C.
James W. Hardin	Highlands Biological Station, Highlands, North Carolina
Robert Houdlay	Blackhills Biostation, South Dakota

MINUTES OF THE ANNUAL MEETING

The 1971 Annual Meeting of the Organization of Inland Biological Field Stations was called to order by Dr. George H. Lauff; President-elect, at 12:30 P.M., September 2, 1971, in room 208 of the Student Center, Colorado State University, Fort Collins, Colorado.

Lauff, substituting for President Dr. M. Dale Arvey, convened the meeting by welcoming the members and guests, presenting the agenda and suggesting that the objectives of this and future O.I.B.F.S. meetings be the identification and implementation of ways by which the organization can be of service to its members.

The minutes of the last Annual Meeting, distributed, January 20, 1971 (Newsletter #12) were summarized by the secretary. There being no additions or corrections, the minutes were approved as written.

The treasurers report for the year August 28, 1970 - August 28, 1971 was presented (see attached copy). There was a report of the sale of the Directory of Inland Biological Field Stations of N. A., 1971.

The secretary was then called upon to report on the election of officers. The nominating committee appointed by President Arvey, of Bovbjerg, Gifford and Hill, offered the following nominees: President - George H. Lauff; President-elect - Cameron E. Gifford and L. S. Putnam; Secretary-Treasurer - Robert C. Dalgleish. This list of nominees and a call for additional nominees was sent to each member on June 28, 1971. No additional nominees were received. There being no contest for the offices of President and Secretary-Treasurer, a single ballot was cast electing Dr. George H. Lauff, President and Dr. Robert C. Dalgleish, Secretary-Treasurer for the 1971-73 term. Ballots for the election of President-elect were then mailed July 28, 1971, to the 35 members. Twenty-five ballots were returned, electing Dr. L. S. Putnam to the office of President-elect, to fill the year remaining of Lauff's unexpired term.

Dr. Jennifer Shay reported that the Foreign Scientists Committee of Shay and Walker had requested that the directors of participating stations submit suggestions for a suitable foreign participant in the O.I.B.F.S. shuffle. A meeting of this committee in Minneapolis, Dec. 5, 1970 the committee considered the 15 nominees submitted by members and attempted to arrange for a visitor and schedule that would serve the largest number of participants. Unfortunately a schedule never materialized and no foreign visitor was sponsored. Shay concluded her report by recommending that those members who have participated previously, and found the program of value, work together more diligently than in the past, to secure a foreign visitor for 1972.

Dr. Loren Hill then reported on the N.S.F. funded A.I.B.S. - O.I.B.F.S. Report on The Role of the Field Stations in Biological Education and Research. (Copies of this report are available through Mrs. Joan Jordan, General Ecology Program, N.S.F., Washington, D. C.)

Lauff reported that the special meeting, held by members attending the 1970 A.A.A.S. meetings in Chicago, resulted in the questionnaire prepared by Dick Bovbjerg, to gather information of interest to members and for inclusion in the Newsletter.

The president then called upon the secretary to outline the problem related to the election of officers.

Article 2 of the Bylaws, sets a two year term for each officer and the staggering of the terms of President and Secretary-Treasurer from that of the President-elect and Editor. No mention is made of the succession of the President-elect to President. Under the present staggered terms such a promotion is impossible without the mid-term resignation of one of these officers, as was done by Lauff.

Two solutions, both requiring amendments to the Bylaws are readily apparent:

1. Bring the two year terms of the President and President-elect into synchrony.

2. Reduce the terms of these two officers to one year. Persons inquired as to the constitutional provisions for filling an office vacated prior to the election. There being no such provision, he suggested that any amendments made to the Bylaws include provisions to take care of such a circumstance. Lauff added that the office of President-elect does not have any specified duties and suggested that the duties of this office be defined in the Bylaws to include the responsibility of planning meetings and program. Lauff endorsed the amendment that would reduce the terms of President and President-elect to one year, that the duties of the President-elect include the planning of membership meetings and further, that the executive committee be empowered to designate a member to fill an office vacated prior to and until the next general election. A motion then passed instructing the secretary to draft an amendment to the bylaws expressing the above intent.

The secretary further reported that O.I.B.F.S. was elected to AIBS Affiliate membership by the AIBS Board of Governors at their March 1971 meeting. Affiliate membership enables the Organization to have an observer attend AIBS Board meetings. Dalglish was the observer at the meeting held prior to the regular AIBS Meetings at C.S.U. Parsons inquired as to why we were not a voting Adherent Society. A motion by Parsons & Putnam, that OIBFS apply for Adherent Membership in AIBS was withdrawn upon the recommendation of the chair, until such time as OIBFS can better define the objectives of AIBS affiliation, assess the mutual benefits and desirability of meeting together.

The 1972 Annual Meeting of AIBS will be held at the University of Minnesota, Minneapolis, August 27 - September 1. The 1973 AIBS Meetings have been changed from U. of Arizona, June 3-8, to U. of Massachusetts, June 17-22, 1973. A motion passed unanimously calling for the 1972 O.I.B.F.S. to be held in conjunction with the AIBS meetings at Minneapolis, and that the President-elect try and arrange a visit to a nearby station.

The chairman concluded the meeting by calling for recommendations or suggestions that may assist the officers in giving the organization more meaning.

Dr. David Gates (U. of Michigan) pointed out that potential nominees for the President of N.S.F. should be brought to the attention of the selection committee. Also, in response to the proposed N.S.F. funding policy, outlined by Dr. Carlson Gates strongly recommended that the organization respond to his proposal. Lauff concurred with Gates and concluded the meeting with the suggestion that the Goals Committee consider responding to the proposed funding policy and that every member react to it individually.

There being no further business, the meeting adjourned at 1:45 and most members then left by car to visit Pingree Park Campus; the field station of C.S.U., Dr. Charles Mahoney, Director and host for the trip.

Respectfully submitted

Robert C. Dalgleish

TREASURER'S REPORT 1971

Bank: The Ohio State Bank, Worthington, Ohio

Balance in account August 28, 1970 1,108.50

Receipts - Regular (August 28, 1970 - August 28, 1971)

Dues	1	for 1969	10.00	
	5	1970	50.00	
	35 (4 new)	1971	350.00	
	4	1972	40.00	
			450.00	

Disbursements - Regular

Dues 1971 AIBS Membership	50.00	
Dues, overpayment Tryon	10.00	
		60.00
		390.00
		1,498.50

DIRECTORY OF INLAND BIOLOGICAL FIELD STATIONS

Receipts

Sales 109 @ \$2.85	310.65	
Postage & handling	17.27	
Transfer	3.75	
		341.67

Disbursements

Canadian conversion	.15	
MSS publisher, 227 copies	646.95	
Transportation	8.65	
Postage	14.00	
Transfer	3.75	
		673.50
		-331.83

Balance in account as of August 28, 1971 1,166.67

Of the unsold 118 copies of the Directory, 40 were distributed to various societies and federal agencies.

The remaining 78 are for sale.

To: Directors, Inland Biological Field Station

From: George H. Lauff

Subject: Status Report:

- 1) NSF criteria
- 2) Foreign lectureship program
- 3) AIBS - University of Minnesota

Responses to my memorandum of November 19 were relatively few, though I understand that Dr. Carlson has received some limited input from station directors concerning criteria for NSF support of field stations.

Inasmuch as the General Ecology Program was desirous of obtaining further evaluation of the proposed criteria as soon as possible, Dr. John L. Brooks requested an opportunity to meet with OIBFS members who expected to be in attendance at AAAS in Philadelphia.

Those in attendance at the December 29 meeting were Richard Bovbjerg (Iowa Lakeside Laboratory), Robert Dalgleish (Huyck Preserve), Richard Hartman (Pymatuning Laboratory of Ecology), William Helm (Bear Lake), John Brooks and myself. Though fortuitous, it was a fairly representative cross-section of inland field stations.

NSF Criteria

The criteria were discussed in considerable detail during the three-hour session. My overall impression was that there will be some flexibility in the interpretation of the criteria tentatively established. Further, it appeared that consideration should be given to the commitment of the parent organization to its station with regard to resident staff--there must be some "critical mass" to permit visiting investigators to operate with reasonable efficiency.

While the criterion of priority indicates that only a limited number of field stations can be selected for initial support, a review of the number of stations that might meet most of the criteria suggested that the proposed program may eventually encompass most of them to some degree. Discussion also touched on the possibilities for "affiliation" of smaller stations with a larger one within a regional area. Recognition and emphasis of particular or unique resources are implied--a narrow, specialized focus could have significant operational advantages.

Recognition of the long-term role of private field stations was urged. Most have greater flexibility of direction than their academic counterparts, and some possess resources that offer excellent research

potential in many areas.

The concept of coordinated research programs at field stations was touched on, though there were no positive suggestions for programs that might be implemented. Other than certain baseline measurements or monitoring, it was felt that any integrated research effort would be dependent upon a permanent resident staff--few inland stations currently have such personnel resources. It is certainly an idea that should be pursued further, particularly with the likelihood of establishment of a network of national field stations.

The appropriateness and need for a "position statement" on the role of field stations and projections for the future were discussed. It was agreed that this be best implemented through a "blue ribbon" panel and further inputs derived from personnel resources of various professional societies. Additional inputs would be sought on the suitability of the NSF guidelines proposed for field station support, demands for field stations facilities and resources, and "user" response. These and other activities will be pursued further by the NSF General Ecology Program.

Foreign Lectureship Programs

At our annual meeting at Fort Collins, Colorado, in early September, 1971, it was decided to give the Foreign Lectureship Program another "go". A number of stations agreed to provide funds for a visiting scientist to travel to selected stations to present seminars and interact with faculty and students. There was particular enthusiasm inasmuch as T. T. Macan was known to be planning a period of time in the United States and his schedule might be compatible with the proposed visitations. Unfortunately, Dr. Macan's obligations require his return to England immediately after his stay at Idaho State University.

Jennifer Shay and John Gibbs would welcome your further suggestions. If we can't implement the program this year, perhaps it should be dropped. We've been trying for some time. Your preferred contacts???

AIBS - University of Minnesota

Inasmuch as we are affiliated with AIBS, the 1972 annual meeting of OIBFS will be held at Minneapolis in late August (August 27 - September 1). Vice-President L. S. Putnam is considering a program based on research being conducted at field stations -- both group research projects and individual research. Since many members have been to Cedar Creek (a field trip is planned and will be sponsored by the Ecological Society of America and the American Society of Limnology and Oceanography), perhaps another area is appropriate. Itasca?? Or an indoor session throughout? Send your further suggestions and/or comments.

Summation

1. Further input regarding the NSF criteria for field station support should be send to Harve Carlson or John Brooks. If you wish, you may direct other comments pertinent to the foregoing to me.

2. Send suggestions for the summer visitor program to Jennifer Shay or John Tibbs.

3. I know Puttitt would value your further suggestions to assist his program planning for the Minneapolis meeting.

- a. Offer program areas for consideration
- b. Papers for consideration
- c. Cedar Creek? Itasca? Or what?

OPERATION AND MANAGEMENT OF THE FIELD STATIONS OF THE ORGANIZATION FOR
TROPICAL STUDIES: AN EXAMPLE OF INTER-INSTITUTIONAL COOPERATION

(By J. T. Spencer, presented at the AIBS Symposium,
Fort Collins, Colorado, September 2, 1971)

I am pleased to be given the opportunity to talk about consortia-managed field stations from experience gained with the Organization for Tropical Studies. I believe some of the lessons learned by OTS during nearly ten years of operation offer useful guidelines to those who may be interested on the national scene in finding some means of using efficiently the large number of field stations which are now in existence in the United States. Most of you have some familiarity, no doubt, with the AIBS study conducted last year on the more than 100 existing domestic field stations. Most of the field stations have operated under marginal support conditions from their very beginnings, including those which outwardly seem to be the largest and most affluent. It seems clear in the total perspective that most of the stations, including the large operations, are not playing as significant a role as they might in seeking solutions to national environmental problems. Unfortunately, recent history clearly demonstrates that new organizations and new programs have been created at great expense to meet the challenge of the times, but these have ignored our existing field station resources. Perhaps it is not too late to examine the situation critically with respect to all field stations to ascertain where weaknesses exist and whether suitable remedies can be found. It seems certain that adequate support cannot be made available either locally or nationally for all 100 field stations. There is simply not enough money for that purpose. We are then forced to consider how many stations could be supported on a meaningful basis, but in so doing, we must immediately look at new organizational arrangements as one means of achieving a higher degree of efficiency in order to justify the increased support. While this self-analysis is in progress, we must also consider appropriate scientific programs which are worthy of support which will meet national objectives in science.

The purpose of my present discussion is to look at the Organization for Tropical Studies as just one possible model for management of major field station installations. Although the OTS operations are conducted entirely on foreign soil in Central America, I believe the underlying principles are quite applicable to the domestic scene.

The beginnings of OTS can be traced back more than ten years when the University of Michigan made a determined effort to establish a field station in northern Mexico. At about the same time, the University of Southern California initiated a tropical training program in Costa Rica under the leadership of Jay Savage. Due to a number of difficulties in setting up the Mexican experiment, stemming partly from unforeseen political problems, the University of Michigan abandoned the Mexican site and decided

to take a closer look at the situation in Costa Rica. By 1963, a group of nine universities (University of Southern California, University of California, University of Washington, Louisiana State University, University of Kansas, University of Michigan, University of Miami, University of Florida, Harvard University) decided to incorporate as the Organization for Tropical Studies and expand the program which USC had established in Costa Rica. It was decided that the first major objective would be to concentrate on graduate training since there were few U.S. specialists on the tropics. Accordingly, substantial support was sought and obtained from the National Science Foundation to conduct full semester programs emphasizing the fundamentals of tropical ecology. Within two or three years, the program expanded to embrace a much larger segment of the natural sciences. By 1968, the schedule included seven primary disciplines: agriculture, atmospheric sciences, terrestrial biology, earth sciences, tropical forestry, geography, and marine biology. From one to several full semester courses have been offered in each discipline, so that by the end of the current year more than 50 such courses will have been completed. A total of approximately 900 graduate students have participated in the training. The total faculty has numbered in excess of 200.

By 1967, research projects also were brought into the programming with the initiation of so-called pilot study grants under support from both the Ford Foundation and the National Science Foundation. The basic objectives here were to have a means of attracting investigators to the tropics who had never been exposed to the amazing diversity of life forms and the complexity of relationships which exist within the tropical ecosystems. From 1967 to 1971, approximately 80 pilot study projects were completed at an extremely low per unit cost in terms of productive science. No grantee was allowed more than \$3,000 for his project and most investigators carried on their work with a fraction of that sum.

A brief reference to geographical locations is needed to fully understand the OTS operations. The main base of operations continues within Costa Rica, although a smaller permanent base also has been established in the southern part of Guatemala. There are a number of reasons for using Costa Rica as the primary focus, including political as well as geographic factors. The Republic of Costa Rica has long had a reputation of friendliness towards the U.S. and the OTS experience is a classic example. Also, within the confines of this small area there is a diversity of environments and habitats which almost defies the imagination. Since one of the primary training goals is to introduce the student as nearly as possible to the whole range of terrestrial and marine environments, as many as six to eight locations may be used during a single semester. Most of the sites are used under lease arrangements with various owners, although OTS has acquired title to one major tract of rain forest (the La Selva station) in Heredia province, in the northeastern part of the country. In the future, the sites utilized will become somewhat more compressed as OTS concentrates on land acquisition and longer-term lease arrangements. Emphasis is now being focused on three terrestrial sites: Palo Verde in Guanacaste province in the northwest; La Selva in the northeast; and Las Cruces in the far south near the Panamanian

border. Each station represents a unique environment with respect to climatic and altitudinal factors.

The El Salto station in southern Guatemala is located on a large sugar plantation of approximately 10,000 acres. About 40 percent of the land area is covered with relatively undisturbed tropical forest. The altitudinal range here is truly impressive, with montane vegetation extending up to 12,000 feet.

It should be added that not all OTS training and research activities are confined to Costa Rica and Guatemala. Some of the graduate courses have been so mobile that they have covered nearly all of Central America and portions of South America in a single semester. The Caribbean islands also have been used to a considerable extent, especially San Andres, Grand Cayman, and Jamaica.

As national policies change in respect to support of graduate education, OTS has been affected, along with its individual member institutions. The educational program has been reduced during the current year, and it will undergo further attrition in 1972 and 1973 unless new sources of support are obtained. Research endeavors have also been curtailed, but to a lesser degree.

At the moment, OTS is in the process of charting its course for the second decade of operation. It seems likely that the next ten years will see much greater emphasis on problem or mission-oriented projects than have characterized our work in the last decade. This orientation by no means implies an abandonment of basic science, but instead indicates the addition of a new arm which may have more practical goals as immediate objectives.

So much for the mainstream of operation during the past ten years. Let us now look briefly at the organizational structure which has conducted these wide-ranging activities in the Latin American countries. (Reference to the handout sheet will make this explanation easier to follow.)

At the present time, there are 27 member institutions in the consortium, all but two of which represent U.S. organizations. (Parenthetically, one of the goals of the second decade is to expand the Latin American representation.) The board of directors is composed of 54 representatives, since the president of each institution may appoint two members to the board. Usually one of the members represents the scientific arm of the university, the other the business and management arm. The executive committee, composed of the officers and three members at large, is elected annually by the board of directors. The executive committee possesses most of the powers of the board and assumes the responsibility of setting the basic policies affecting day-to-day operations. The committee meets three or four times per year in order to remain closely in touch with operations.

The executive director has the overall responsibility for the

management of the organization. He is located in the North American office in Miami which serves as the central point for communications with the entire scientific community in the U.S. and with the supporting federal agencies and private foundations. The North American headquarters also acts as the graduate admissions office for processing the records of all student participants in the field programs. It also serves as the focal point for fiscal management and for the processing of grants under the pilot study program. In effect, this is the central point for carrying out all the functions of a regular university on a microcosm scale. In addition to the executive director, the staff includes secretarial support, a bookkeeper, a business manager, and a part-time scientific assistant to the director.

The main hub of field operations is concentrated at our office on the campus of the University of Costa Rica in San Jose. Here the responsibilities are divided between logistical operations and academic activities. The control of the staff and field personnel (drivers, cooks, field assistants, etc.) are under the resident director for the country. It is his responsibility to ensure the smooth operation of all support activities for classes in the field and for investigators who are conducting a wide range of field studies. In carrying out this mission the resident director maintains a fleet of 20 or more vehicles and a large passenger bus. He also charters a large number of aircraft to ensure the rapid transportation of students and scientists to remote sites which are difficult to reach or inaccessible by surface transportation.

The assistant director for academic affairs, also resident on a permanent basis in Costa Rica, in effect carries out the responsibilities of a "dean" in the field. He must be constantly available for consultation with students and faculty in respect to a variety of academic matters. He must also coordinate all research activities and ensure that sites are available for an enormous diversity of projects. He has the authority to establish priorities in the usage of sites in the event that there may be an overlap or conflict in some research activities.

Thus far we have not mentioned one of the most important aspects of the entire OTS structure. This is the group of faculty discipline committees (currently seven) which carry the prime responsibilities for structuring the various field courses offered each year. They also have research responsibilities which have been confined more or less to a review of awards to be made under the pilot granting program. In theory, the committees can also initiate, design, or encourage major research projects under their own sponsorship, but in practice this has been of very limited nature.

More recently, separate research committees have been activated to develop more definitive long-range plans. One of these committees currently is concerned with structuring specific ecology projects in Costa Rica; the other committee is concerned with broader scope planning for environmentally sound development in the tropics. This latter planning is international in scope and hopefully will be highlighted by a major symposium and conference in South America in 1972, which will establish the new mission-oriented arm of the organization.

In terms of basic energy flow, OTS appropriately may be described as a "soft funded" entity, since its operations depend heavily on overhead from research and training grants. However, some "hard" money does flow into the operation through annual membership fees of \$2,000 from each institution in the consortium. During the past year, the fee support represented about 7 percent of the income in a total operating budget approximating three-quarters of a million dollars. Although this seems a somewhat fragile foundation upon which to function, the organization has successfully operated for ten years and seems to have gained modest strength with each passing year. Its capital assets have now reached a level of approximately \$300,000. This includes the construction during the past year of two small research laboratories at two of the field sites and the installation of a substantial quantity of environmental monitoring equipment.

The ground we have covered has provided a brief description of the anatomy of the organization and of the history of its evolution. If longevity is a test of success, OTS has met that criterion to some degree. If we look more closely to find the real sources of strength, we most certainly can attribute a significant percentage to the kind of structure which it represents. Yet we cannot say that the most critical element lies in the morphological realm; rather, it is to be found in the nature of the cause for which it stands and in the loyalty and the devotion of the founders and their successors and the staff that operates the program. This is the primary ingredient of success, without which any consortium of this nature is doomed to failure. The prime factors which motivated the founders were the love of the tropics for itself and the great assemblage of biota which it represented. Furthermore, the early workers were appalled by the rate of destruction of the tropics all over the world and the clear vision that all of this soon was to disappear completely. Was there some small effort that they could contribute to delaying the final day of reckoning for mankind? The beginnings of OTS started with these deeply felt convictions. I think the same deep motivations must be inherent in whatever steps are taken to unify and coordinate the efforts of the field stations in North America. We cannot hope for many individuals to dedicate themselves to such a cause, but at least a handful is absolutely essential if a meaningful new framework is to emerge.