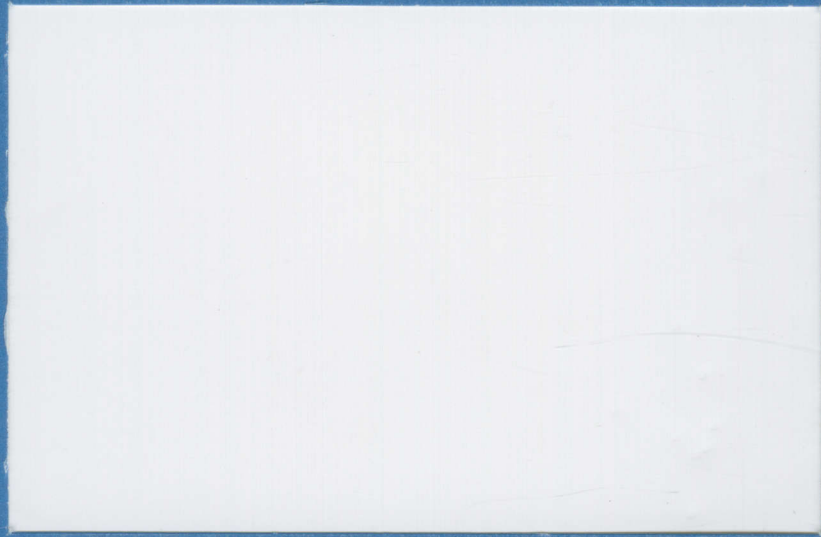


THE UNIVERSITY OF WISCONSIN—MILWAUKEE

CENTER
FOR
GREAT LAKES STUDIES

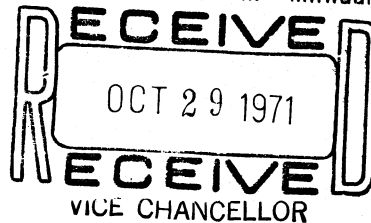


MILWAUKEE, WISCONSIN 53201 U.S.A.

**WHITHER GREAT LAKES STUDIES
IN WISCONSIN---a time for decision.**

**Position paper prepared by C. H. Mortimer
for the 29 October 1971 Meeting of the
All-University Council for Marine Studies.**

University of Wisconsin—Milwaukee



Ref. 1

Statement of Regent Robert Dahlstrom at Sea Grant Site visit 18 May 1974

I am delighted to be here today as a representative of the Board of Regents. We are, of course, far removed from many of the operations of the University, but we are delighted when we can help create a new program, particularly a program which generates as much enthusiasm in the university and the community-at-large as the Sea Grant Program has. This has been a real success story, and at a time when we didn't have too many successes.

I might highlight my special interest in the Sea Grant Program with a few words about my own background. I have a Ph.D. in biochemistry. I am a businessman. I have been deeply involved in politics. And I am a resident of Manitowoc, a Lake Michigan community a few miles away from the power plants where the Sea Grant Program's Electric Power Production program is taking place. On all of these counts I have an interest in the Sea Grant Program, in its achievements, and in its problems and possibilities.

The Regents have held office at a rather desparate time for this university, as well as for many others. Out of this experience, we have become convinced that universities must either change or die. The directions of change are many, but I might briefly mention four:

- 1) We must listen to the demands of our students and many of our faculty for significant curriculum changes and a new "relevance";

- 2) We must improve our standards of accountability and responsiveness to the outside community; and
- 3) As a campus committee recently noted in a report to the Regents on the purpose of the university, we must recognize that the future of man cannot be taken for granted and that the university must take a major responsibility for the survival and improvement of life for civilized man.
- 4) There must be a stronger commitment to interdisciplinary, problem-focused research and teaching.

This is why we have supported the Sea Grant Program, why we have demanded that it have strong leadership and why we have charged the Central Administration to give it all aid and support.

I think this background also helps explain the significant public response to the program. This is an idea whose time has come: a program dealing with multiple use of the marine environment and aiming toward the development of public policy alternatives for control and design of that environment. And it is dealing concretely with topics of immediate concern to the citizens of this state: matters such as the pollution of lower Green Bay, the thermal pollution problem, and the development of marinas and other recreation resources. Thus both long-range and immediate concerns are being met.

The public support is easy to document. For the 1969-71 biennium,

Ref 5.

THE UNIVERSITY OF WISCONSIN-MILWAUKEE

MILWAUKEE, WISCONSIN 53201

CENTER FOR GREAT LAKES STUDIES
Director, C. H. Mortimer.

Telephone 228-4405
Area Code 414

17 May 1971

Vice-President Charles A. Engman, Jr.
University of Wisconsin, Central Administration
1762 Van Hise Hall
Madison, Wisconsin

Proposed application to the NSF for a planning grant
(facilities for Great Lakes research under the National
Oceanographic Laboratories System, NOLS)

Dear Chuck:

After the successful and productive meeting with the Univ. Michigan people at O'Hare on Thursday, an early meeting of the UW group to decide on strategy seems called for. May I suggest that an "emergency" meeting of the Marine Studies Council be called as soon after the Sea Grant site visit as possible? Under the new arrangement of rotating chairmanship, I believe that it should now be handed over to Greg Hedden; but I would be glad to call the meeting, particularly as there are some other loose ends which should be tied up. (For example, I have received no nominations for Wilder Crane's replacement; and not all members agree that the chairmen of campus committees should attend regularly as observers.)

The subject of the present letter is my wish to suggest to the Council, and to others in authority, that there are several cogent reasons for locating here the "spearhead" of UW's part in planning for NOLS support. The principal reason is that we have two of the best lead men for the job in Dick Wold and Al Beeton. Both have long experience in ship operations in Great Lakes off-shore waters. Dick carried out a similar planning task for Sea Grant; and Al has a wide grasp of UM and UW programs and capabilities as well as those of federal agencies with "Great Lakes" missions. Both have served all-university causes faithfully enough to disarm any suspicion of parochialism.

CC: Vice-Chancellor William L. Walters
Dean Howard J. Pincus
Dean Karl Krill
Associate Dean Richmond B. McQuistan
Dr. Robert A. Ragotzkie

Another reason is that we are negotiating for the appointment of Capt. R. F. Dinsmore, U.S.C.G., who, at age 45, has completed 25 years service with the Coast Guard, latterly as chief of the Marine Science Division in Washington. Prompted by Mary Johrde, he has written me of his interest in combining a teaching and managerial post here, connected with planning and development of UWM programs in the aquatic environment. As negotiations with him are at an early stage, I would ask that this news should not go beyond the recipients of this letter. My reason for raising the possibility at this time is that the combination of Wold and/or Beeton with Dinsmore, or with someone of his calibre, would be a much more effective planning arm than the "professor and graduate student" combination we talked about on Thursday, and would not bite too deeply into Wold's and/or Beeton's time.


But there are other and perhaps more subtle reasons for basing our NOLS planning operation in Milwaukee at the outset. First, we are frequently informed from a variety of academic and political quarters that ours is a developing campus with a special mission, and that this Center is an important and visible part of that mission. Furthermore, the Center was initially intended to be Wisconsin's principal institutional commitment to Great Lakes research, an intention based on sound geographic and academic reasoning. That reasoning should not, and never will in my time, discourage the plans and efforts of others, at Madison or Green Bay; but it implies all-university planning for the growth of whole basin (Lake Michigan) research enterprises and capabilities here, including activities on the urban and socio-political interfaces between scientific knowledge and human affairs. Hence my often expressed concern that, when there is a real choice on new appointments in these fields, they should be made here rather than at Madison. In the present NOLS context, I see this Center as the best-fitting interface* with UM's Great Lakes Research Division and with the evident desire of the NOLS office to create a Great Lakes facility for the universities of this region; and this is therefore a good reason for starting our all-university planning base at UWM.

* As the minutes of Thursday's meeting will show, a joint project will shortly develop between GLRD, UM and this Center, which should provide proof of effective cross-lake interaction.

A second reason has to do with a sensible division of labor and new growth within the university. A large slice of the research effort and most of the administrative action in the all-university Sea Grant Program has gravitated to the Madison campus, which also houses the all-state Water Resources Center, the Marine Studies Center, and now the Institute of Environmental Studies. That is, of course, history and none of my business. But it is my business to press for an eventual NOLS base here; and therefore, while we still have a choice, I recommend that the all-university planning effort be led from this campus.

The third reason relates to the question of where the NOLS base for the Upper Great Lakes will eventually be located. My letter to Dr. Spuhler of 17 Feb. (copies of which you saw, also appended here for convenience) set out compelling academic and geographic⁺ reasons for a NOLS base in Milwaukee, a view with which UM may find it difficult to agree. However, there are strong indications that the NOLS office favors a Milwaukee base over the present arrangements for R/V "Inland Seas"; and the requirements of the Illinois group of universities and of the Argonne National Laboratory's Lake Michigan unit will also probably favor Milwaukee. Eventual agreement could come more quickly and less painfully, if we make our intentions clear from the start, by basing the UW planning component here.

Yours sincerely,



C. H. Mortimer, Director
Center for Great Lakes Studies

⁺ Fourteen daily flights both ways between Detroit and Milwaukee represent a distinct advantage for a UM/UW planning operation.

Ref. 4

THE UNIVERSITY OF WISCONSIN-MILWAUKEE

MILWAUKEE, WISCONSIN 53201

CENTER FOR GREAT LAKES STUDIES
Director, C. H. Mortimer.

Telephone 228-4405
Area Code 414

17 May 1971

Memorandum to: Members of the All-University Council for Marine
Studies

A. M. Beeton	G. D. Hedden
R. M. Bock	K. E. Krill
C. A. Engman	R. A. Ragotzkie
A. D. Hasler	

also to:

Vice-Chancellor Walters	J. R. Moore
Dean Howard Pincus	T. Green
Associate Dean R. McQuistan	R. J. Wold

from: C. H. Mortimer

Re: University of Michigan-University of Wisconsin Joint Meeting, to
explore cooperative Great Lakes research programs and
facilities, held at O'Hare Field, Chicago, 13 May 1971

Attendance

University of Michigan:

Vice-President A. G. Norman
J. T. Wilson, Director, Institute of Science and Technology
D. C. Chandler, Director, Great Lakes Research Division

University of Wisconsin:

Vice-President C. A. Engman
R. A. Ragotzkie, Madison, Director, Marine Studies Center
J. R. Moore, " " " "
T. Green, Madison " " "
C. H. Mortimer, UWM, Director, Center for Great Lakes Studies
A. M. Beeton, UWM, " " " " "

Discussion

It was agreed:

(1) that cooperative programs will be beneficial in certain appropriate
areas of research (particularly those involving large regional scales),

the legislature appropriated, on a line item basis, \$407,000 in matching funds at the same time it was drastically cutting the rest of the university's budget request. For the 1971-73 biennium, the Sea Grant Program matching funds are the only item for new or expanded program support in the Governor's budget request. This, at the same time that he proposes a \$9.3 million cut in the university's base budget. We have every indication that the legislature will approve the increased Sea Grant Program matching funds.

The reaction of the broader public has been warm. We have had enthusiastic responses to our conferences and institutes. The response to the film which you saw this morning has been staggering, and we are hard-pressed to keep up with the demand for its use. Obviously we have an information-starved public anxious for whatever we can provide. Similarly, both commercial and sports fishery representatives and recreation developers have been constantly at our doorstep. Obviously, we have a receptive audience.

We view this program as being permanent, and with your help we will insure its permanence. At the same time, we consider this program to be a major experiment and the model for so much of what we hope to do at this university. We are already beginning to see spinoff effects. The curriculum at our Green Bay campus, which has received so much attention, has benefited greatly from the operational experience of the Sea Grant Program and the involvement of Green Bay faculty members in this program. The new and highly successful Institute for Environmental Studies at Madison has largely modeled itself after the Sea Grant Program. And we believe that our urban

studies thrust at our Milwaukee campus will benefit from the Sea Grant experience.

The importance of Sea Grant as an experimental model is threefold:

- 1) Interdisciplinary studies: This university has long experience in this area (witness my biochemistry degree) but nothing comparable to the 80 faculty members from 23 departments, not to mention the gifted administrators, who are involved in this program. Our people are still learning how to communicate with each other and how to work on common problems, but we are steadily working toward a primary focus on synthesis of knowledge, albeit without abandoning the analytic approach.
- 2) All-university organization: We feel that we are breaking ground here not only for the University of Wisconsin, but for many other multi-campus institutions. While we have, as you might imagine, at times experienced terrific strains, we have nevertheless managed to keep three campuses and a statewide extension system working together. We are also grimly aware that the great days of competitive expansion are over and that cooperative programs will henceforth be at a premium.
- 3) Organizational structure: As I have mentioned earlier, we have stressed the importance of a strong coordinator and central program office. Mission-oriented programs require new management techniques and styles, even though breaks from the traditional methods are difficult to achieve. Ultimately, of course, everything depends on the coordinators and the individuals involved, but strong leadership

is essential if we are to fulfill the commitment we have made to your national office and to ourselves.

Of course we have problems and strains. And we still have a very great deal to learn about large-scale interdisciplinary work. We need more involvement by our social scientists, and we would like to figure out how to get some humanists involved. We do think we have begun to ask the right questions, that the proper interrelationships are beginning to appear and that we have the critical mass of talent. We are also having fun doing all of this.

Whither Great Lakes Studies in Wisconsin---a time for decision
Position Paper Prepared by C. H. Mortimer
for the 29 October 1971 Meeting of the All-University Council for Marine Studies

There have been a number of recent public and private references to strains in our multi-campus arrangements and priorities. For example, Regent Robert Dahlstrom stated at the Sea Grant Site Visit of 18 May 1971,

"We feel that we are breaking ground here not only for the University of Wisconsin, but for many other multi-campus institutions. While we have, as you might imagine, at times experienced terrific strains, we have nevertheless managed to keep three campuses and a state-wide extension system working together. We are also grimly aware that the great days of competitive expansion are over and that cooperative programs will henceforth be at a premium." (Reference 1)

If, as I believe is the case, strains are in fact beginning to show, this Council would do well to survey the situation and to consider, over the next meeting or two and in the light of the merger, whether repairs need to be made or new courses taken. Perhaps as an opener of this debate, I can best function as a strain gauge at one possible point of strain by giving one man's view from the local level, and by indulging in some personal reminiscence where this illustrates a point. What I am concerned about, of course, is the interaction between the Madison campus and emerging campuses and the interaction of Central Administration with both, illustrated by the development of Great Lakes teaching and research in the University as a whole and at UWM in particular. We could no doubt take other examples and other campuses, but this example is one I have lived with for the past five years, and indeed for longer if we go back to the consultations in 1963 which, as Dr. Hasler will recall, led to the recommendation to base UW's

first institutional commitment in Great Lakes teaching and research at UWM.

The Sea Grant Program enters the Great Lakes

With the Sea Grant in the offing in 1966, the then all-University Oceanography Committee labored with the proposal writing (no planning grant there!) and, early in the discussions, I found myself stressing the need for UW's program to concentrate on the Great Lakes. That was not a majority view at the time, but one which the NSF made clear was to prevail. The first site visit is a vivid memory to most of us (see also Reference 2)---one day in Madison and one in Milwaukee. Two of the site visitors made it very clear to me that, without the Center for Great Lakes Studies (CGLS) at UWM, our chances of obtaining a Sea Grant would have been slim.

The award of the Sea Grant coincided with an upsurge of activities and of plans for Great Lakes programs in Madison (at the newly formed Marine Studies Center) and at Green Bay. Although we always remained conscious of our mission at UWM, that coincidence was both understandable and welcome. I wish to make this point quite clear before turning to the debate on relative assignments of responsibility and growth support to the individual campuses. A great university cannot afford to tolerate geographical or thematic bounds on inquiry or instruction; and the most fruitful policy in the long run is to seek first-rate people and to give them the fullest possible freedom with support to develop their ideas. Funding, limited as it always will be, must also in the long run be related to performance.

Committee Structure

But to backtrack a little, the first draft of the Sea Grant proposal was unacceptable to UWM because of a Madison-dominated administrative structure, which would have relegated the CGLS to a subsidiary role. Acceptable changes included the creation of this Council with a (then) balanced voting composition and with non-voting members. So, from the start of the Council, UWM been somewhat on its guard (Green Bay was not

represented at first); this may have influenced later attitudes. Also, as the minutes will show, the relationships with the all-University Oceanography Committee were not and perhaps are still not well resolved. The confusion has been further compounded by changing the status of that committee to that of a council. Nevertheless, our own Council has played and can play a useful role in advising Central Administration on policy matters and by the kind of debate to which this paper is designed as a contribution.

What are the causes of strain?

One possible cause is not, I believe, the fact that UWM's share of this year's Sea Grant (administered on the Madison campus and guided by an all-University committee) is only about 20%. Although I have worked hard to increase UWM's participation, 20% seems to me to be about right at the present time, in view of relative manpower capabilities. Others may disagree. In fact, the Sea Grant has proved to be a welcome source of funding which many UWM investigators would not otherwise have obtained. More important will be a judgment on the relative performance.

Nor is a lack of general university and WARF support for the CGLS a cause for complaint---quite the contrary (see, for example, Central Administration's substantial and continued support for our new building). Such grounds for complaint as we have, and which I seek to justify below, derive from the lack of a clear overall university plan for the growth of Great Lakes research and instruction, from unclear lines of responsibility, and from entrenched attitudes.

Where should the main growth be?

By definition, an emerging campus cannot muster the human resources or the reputation of its established parent. Therefore, if the declared mission is to foster a unique capability on an emerging campus---on the sensible grounds that that campus should not aspire to be a pale copy of its parent, but should be in some sense unique---then it follows that personnel gaps in that particular field should be filled on the emerging

rather than on the parent campus. In the Great Lakes field the opposite has occurred more often than not.

For example, at the first Sea Grant Site Visit, Professor McCamy made it clear to the visitors that, at that time, there were no economists in Madison interested in working on Great Lakes regional problems; they were too well funded in poverty programs(!). With a declared urban and Great Lakes mission and with economics already well represented at UWM, it would have made good sense to build on that strength and to appoint a regional economist in the CGLS. But this did not happen and still has not happened. Instead, Dr. Steinhardt was appointed in Madison to head the Advanced Studies Group in the Marine Studies Center. Other examples could be given, but this one suffices to illustrate the point that Central Administration cannot rely on laissez faire to implement its important function of controlling growth and of balancing legitimate aspirations at the various campuses. Of course, there will never be sufficient funds for competitive expansion everywhere; and clear guidelines are needed.

Attitudes - conscious or unconscious

While we are examining possible contributors to strain, perhaps even minor ones should be listed, as they may be symptomatic of a more general defect of the system. I refer to a tendency discerned---in what purport to be "all-university" speeches, documents, conference arrangements, and other public actions---to play down or quietly ignore the achievements, status, and partnership roles of the CGLS. A number of instances, each small in themselves, seem to some UWM observers to add up to a trend, for example: Regent Dahlstrom's review of Sea Grant participants and achievements (p. 3, ref. 1, prepared in the Sea Grant Office) does not mention CGLS component; in the Sea Grant film, "Tools for Decision" all sections concerning the CGLS and its participation were edited out; and none of the annual Governor's Sea Grant Conferences have been held outside Madison.

It seems petty to complain about all this. But I believe it could be a serious mistake to laugh it off as yet more evidence of "Milwaukee mania" or as another personality conflict. In one sense, the attitudes represented here should be ignored---after all, CGLS achievements will speak for themselves, and UWM cannot expect others to look after its publicity--but in another sense, persistence of these attitudes could generate separatism. This is particularly true for those all-university partnerships (for example UNOLS planning, discussed below) in which CGLS can expect to play the leading role.

That entrenched attitudes are generated during long and distinguished traditions is understandable; but they are difficult to change. But change they must, if the merged university is to be made to work as an entity. No longer should it be possible to issue a report on environmental studies at UW (and other CIC universities), as in Reference 3, in which the innovative programs at Green Bay are not mentioned, and in which the CGLS only appears (p. 32) as a name attached to the Sea Grant Program, whereas Great Lakes research at the University of Michigan is dealt with in a descriptive paragraph (p. 26). This report represents an all-too-common Madison attitude. The Madison authors acknowledge the "helpful counsel of Charles Engman and Louie Echols from the Central Administration" and make it quite clear that they consider only the "original" campuses of each of the CIC universities. "Of course," they add, "there is a great deal of activity at many of the state-system campuses such as Chicago Circle, Duluth, Gary, Green Bay, Milwaukee, and others, but this is beyond the scope of this report. Similarly, the University extension systems represent another network which is outside the scope of this report." Under the heading "Research Activities Listed by Universities", the report describes (on p. 37) the activities of a number of Madison Centers, including the Marine Studies Center and Water Resources Center, with their affiliations in the Institute of Environmental Studies. The authors would perhaps hold

that they are covered by the above prefatorial note; but nevertheless the report presents to the public a quite unbalanced view of Wisconsin's efforts in the aquatic environment.

Wisconsin's role in UNOLS planning

A weightier matter than any of the above symptomatic "straws in the wind", and one which requires early resolution, concerns UW involvement in the NSF's new program--Universities National Oceanographic Laboratory System (UNOLS)--for facilities support (initially mainly research vessels) for the nation's universities and oceanographic institutions. Of particular interest to us is support for Great Lakes research vessels, hitherto given in the form of a block grant to the University of Michigan for the operation of R/V "INLAND SEAS", soon to be replaced. Dr. Ragotzkie of the Marine Studies Center in Madison has been actively involved in planning UNOLS with the NSF; and some of the recent background, covering collaboration with UM leading to an application for a planning grant, is given in my memo of 17 May 1971 to the Council (Reference 4). On the same date I wrote to Vice President Engman (Reference 5, copies circulated to the Council) urging that CGLS be given the task of leading UW's part in the planning of NSF-supported facilities in the western Great Lakes, on the grounds that:

- 1) The CGLS and the Great Lakes Research Division at UM form historically and functionally the most appropriate interface for planning and eventual management of the facilities on behalf of universities around the Lake Michigan basin;
- 2) We strongly believe that the NSF---aware of our advanced plans for a new building and research vessel base, and of the advantages of a year-round major port with links to a nearby university---will look favorably on the establishment of the first UNOLS base for the Great Lakes region in Milwaukee;

- 3) Recognizing that the greater part of the administration and coordination of the Sea Grant Program is in Madison (as is also the Water Resources Center, the Institute of Environmental Studies, and the Marine Sciences Center) a sensible division of labor and new growth within the University would direct the UNOLS planning effort to Milwaukee.

On these three points there appeared to be a consensus at the last Council meeting and between Vice President Engman, Dr. Ragotzkie, and UWM administrators. But what happened? First, the proposal document did not reflect my understanding of the consensus. Second, Dr. Moore (Marine Studies Center, Madison) was sent to the first UNOLS meeting, and UWM was not consulted.

The planning proposal (Reference 6) was prepared in the Central Administrations of the two universities with Dr. D. C. Chandler (Great Lakes Research Division, UM) and myself as co-principal investigators. For UM, the proposal makes it clear that Great Lakes research is "conducted mainly in the Great Lakes Research Division of the Institute of Science Technology and in the Institutional Sea Grant Program". A page is devoted to the research and teaching activities of the GLRD, before passing to the UM Sea Grant Program and other water-related research. For UW, on the other hand, two pages are devoted to the Sea Grant Program; there is no mention of the basic scientific studies in Great Lakes oceanography at the CGLS or elsewhere within the University; and the Center is mentioned only by name among the Marine Studies Center, Laboratory of Limnology, Marine Research Laboratory, Hydraulics Laboratory, Water Chemistry Laboratory (all at Madison) and the College of Environmental Sciences at Green Bay.

Although I signed the proposal in view of the then-supposed urgency (but it is still not funded), it is I believe an unbalanced and unimpressive document, firstly because it did not build on the strength of the major role which the CGLS and its ongoing basic research programs can play in the planning, and secondly because the UW emphasis was almost

entirely on applied research in the Sea Grant Program. UNOLS will have a strong component supporting basic research---in our case the understanding of physical and biological mechanisms in the lakes---which in my view is closer to the long-term missions of universities than are applied programs whose survival will depend on successful applications to problem solving.

Need for immediate decisions

A second meeting of the UNOLS---an important one at which an advisory council and regional study groups will probably be set up---has been arranged for 16-17 December at the Scripps Institution of Oceanography. UWM has been asked and intends to send representatives. Dr. Ragotzkie will probably also attend; and Dr. Chandler will represent UM. We need an early decision on what UW's policy should be and who should represent and vote for the University at the Scripps meeting.

Need for longer term decisions

On a longer time scale, decisions are needed on the following five questions:

- 1) Which group (CGLS or the Marine Studies Center) should be the University's principal interface with UM;
- 2) Which group should lead the UW participants in planning (with UM) for UNOLS support;
- 3) Should we press for Milwaukee as a UNOLS base;
- 4) If, as seems likely, Wisconsin is chosen as the host university for an experimental or a permanent UNOLS facility, in spite of UM's anticipated bid for this role, which group should be given the executive responsibility for hosting the UNOLS staff and the multi-university steering committee? As already noted in Reference 5, the CGLS, with its new building and its own research vessel base, would be a prime choice for attachment of a UNOLS facility; and this, rather than an arrangement organized out of Madison, may well be the factor which decides between UW and UM as a host university;

- 5) In general and in conclusion, we ask Central Administration and its coordinating staff for clear guidelines, in order to (using Gov. Lucey's words at the 4th National Sea Grant Conference, Madison, 12 October 1971) avoid "the often wasteful and duplicated rivalry of earlier years." Such avoidance can best be achieved by assigning a clear leading role to the CGLS: in UNOLS planning; in aspiring to UNOLS base status, which will bring prestige and attract the first-class researchers and outside funding to the University; and in spearheading the the UW teaching and research effort in the Great Lakes, with facilities made available to the state and to all campuses of the merged system. If this is not to be the role of CGLS, we should be told so clearly and soon, to prevent abortive effort.

REFERENCES

1. Statement of Regent Robert Dahlstrom at the Sea Grant Site Visit
18 May 1971. attached.
2. Dr. David Potter's speech at the Banquet, 4th National Sea Grant
Conference, 12 October 1971.
3. Raglund, K. W. and T. W. Smith, 1971, "Environmental studies at
the C.I.C. universities --a survey". Conference Group on
Environmental Studies, Committee on Institutional Cooperation,
77 pp.
4. Memo from C. H. Mortimer to the all-University Council for Marine
Studies, 17 May 1971, "University of Michigan-University of
Wisconsin Joint Meeting, to explore cooperative Great Lakes
research programs and facilities, held at O'Hare Field,
Chicago, 13 May 1971." attached.
5. Letter from C. H. Mortimer to Vice President C. A. Engman, Jr.,
17 May 1971, "Proposed application to the NSF for a Planning
Grant." attached.
6. Proposal to the National Science Foundation, July 1971, "Planning for
a comprehensive research program for the Upper Great Lakes",
Co-principal investigators: D. C. Chandler (Univ. Michigan)
and C. H. Mortimer (Univ. Wisconsin), 21 pp.

and that cooperation would indeed be mandatory if support is to be sought from governmental agencies for the necessary expensive operational facilities -- vessel, structures, instruments -- and for their management.

(2) that among examples of appropriate areas of research could be listed:

- whole basin motions and transport;
- chemical and biological interactions and transport, on basin and seasonal scales;
- development of engineering techniques for whole-basin experiments (special vehicles, moored and free-standing systems, dispersal on large time and distance scales);
- whole-basin sedimentary structure and history;
- impacts of population pressures, land and water practices, and industrial technology on the basin and its uses;
- socio-political matters lying at the interface between knowledge and action.

(3) that, although regular basin-wide observations will clearly be needed, the universities' joint programs will be directed principally toward the understanding of mechanisms and not toward monitoring of water quality, the latter activity falling more appropriately to other agencies;

(4) that the region of interest is the Upper Great Lakes with the main focus on Lake Michigan, recognizing that the University of Michigan also has interest in Lake Huron and that the University of Wisconsin also has interest in Lake Superior, but placing no geographical limits on the search for knowledge;

(5) that the plans must include the eventual participation of other universities in the region.

Action

The following lines of action were agreed upon:

(1) that the possibility be immediately explored of a joint research project which would address itself to the role of silicates and other nutrients in qualitative and quantitative control of algal production in the whole Lake Michigan basin. Such a project would be timely in testing conflicting hypotheses, in answering questions of urgent practical importance, and would be the subject of an application for project support from the National Science Foundation. Dr. Beeton will visit Ann Arbor for discussions with University of Michigan specialists on or about 21 May.

(2) that a general memorandum of agreement between the two universities be drawn up by Norman and Engman; and that a joint letter be prepared for submission to the NSF as preliminary application for a Planning Grant, to prepare a case for support under the NSF's National Oceanographic Laboratory System (NOLS). Drafts of the memorandum and the joint letter are to be circulated by 1 June; and a further meeting will be called in Milwaukee near 15 June, to which Miss Mary Johrde and Dr. Harold Spuhler of the NOLS office will be invited.

A rough and tentative estimate of provisions to be included in the planning grant application are as follows:

	<u>\$1 000</u>
2 full time faculty equivalents (1 from ea. Univ.)	30
4 graduate students or equivalent	18
2 secretaries with drafting assistance	15
overhead	35
travel and supplies	<u>8</u>
TOTAL	<u><u>106</u></u>

The task of the grantees will be:

- (1) to define the region to be served;
- (2) to outline present and potential research programs, which require the mobilization of multi-university resources and personnel, pointing out the application of these programs to human welfare;
- (3) to explore, relative to (2), the capabilities and facility requirements of various groups and individuals within the two universities, and in other universities of the region;
- (4) to describe and specify facilities, managerial arrangements and priorities designed to support (2), in the form of a regional service to universities.

On the assumption (a) that requirements for large vessels (for example, for drilling or coring programs) will be intermittent and can be met by special charter or loan arrangements, and (b) that each university will maintain one or more small research vessels under its direct control, the major facility with which the planning grantees will be concerned is a medium sized, versatile research vessel in the 100-150 ft length class, capable of year-round operation, at least in southern Lake

Michigan.. That vessel may or may not be a replacement for the University of Michigan's "Inland Seas", which is not expected to pass the next inspection in three years' time.

The task of the planning group will be to coordinate and assemble user specifications (but probably not detailed drawings at this stage) not only for the vessel, but also for other vehicles (e.g., fast research boat, under water craft), shore stations, moored instruments, and in-lake structures. Satisfactory operational and accounting arrangements will have to be worked out. The question of where the operational base should be was not discussed, although Mortimer mentioned the academic and geographical advantages of Milwaukee.

