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AA Committee Agenda for Wednesday, February 27, 2002

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**Meeting at 9:45 a.m.
State Office Building Auditorium
150 Third Street, First Floor
Baton Rouge, Louisiana**

AGENDA ITEM III B

PROPOSED ACADEMIC PROGRAM

NICHOLLS STATE UNIVERSITY

M.S. in MARINE AND ENVIRONMENTAL BIOLOGY

BACKGROUND INFORMATION

Nicholls State University (NSU) proposes to offer an M.S. degree in Marine and Environmental Biology (MS-MEB). This new graduate program will be provided mainly by the Department of Biological Sciences with collaboration from other departments and the Louisiana Universities Marine Consortium (LUMCON). The program teaches students to develop and apply marine, environment, and biotechnological technologies to address the critical needs of the region's natural resources, industries, and communities.

During October 3-4, 2001, an external review committee (ERC) composed of Dr. Peter Strom (Chair), Rutgers University; Dr. Susan Bell, University of South Florida; and Dr. Kennedy Paynter, University of Maryland visited NSU and LUMCON to assess the proposed MS-MEB program. On December 15, 2001, the ERC submitted its final report, which was sent to NSU. NSU's response to the consultants' report was received on January 28, 2002.

STRENGTHS OF THE PROPOSED PROGRAM

Report:

The new graduate program will be provided mainly by the Department of Biological Sciences with collaboration from several other departments and LUMCON. Its unique features are that it will focus on regional environmental concerns, and that it will combine private and public sector internships with thesis research. The program intends to target mainly students within the region. Considerable groundwork has already been done to ensure stakeholder involvement and student demand. Faculty appear enthusiastic about and committed to this endeavor, and the administration has made a commitment to provide resources. The proposed graduate program appears to have been developed as part of a process in which NSU has reviewed and prioritized its programs.

One of the most impressive strengths of the program was the surprising dedication of local students and alumni to NSU and the local area. Not only do many NSU students intend to 'stick around' the local area within Louisiana, but many of the faculty are themselves returning NSU students who feel a strong personal sense of commitment to the local population and culture. These include many faculty who could very well choose careers in other areas of the nation and be involved in more 'elite' academic and/or corporate settings with concomitantly higher incomes. The ERC was highly inspired by this 'academic allegiance,' and considers it a very strong positive force for the proposed program.

Response:

NSU and the department agree with the ERC.

Report:

The Department of Biological Sciences has experience with relevant stakeholders and students and a good plan to initiate the new program. It will be viable if it can attract a sufficient number of qualified students, maintain support of the program among stakeholders and the administration, and produce employable graduates. Evidence presented as part of this review suggests that all of these conditions can be met. The program also has a realistic idea of the limitations on the number of students who can be maintained in the program at any one time. However, the program may also attract teachers who are looking for a few graduate courses in science, but not a degree. Therefore, the program may find that some of its courses are in high demand and the impact of the program may extend to the K-12 community via teacher training.

Response:

The university and department agree with the response and observations of the ERC regarding the viability and potential growth of the program.

Report:

Student interest in the proposed program appears to be good. There is apparent demand for well trained graduates to work in industry and agencies in the surrounding area. The program is geared specifically at better preparing students for the workforce and better paying jobs. The inclusion of internships is somewhat novel, which could be a strong asset to the program.

Response:

The Department of Biological Sciences and NSU agree with these comments
MS-MAEB is designed to meet documented needs within the region for environmental professionals with a background in biology. Some evidence was also provided of a statewide demand for graduates with this background. In the view of the ERC, similar needs exist throughout much of the nation.

Response:

The university and department agree with these comments.

Report:

The research and publication record of the proposed graduate faculty is variable. However, without graduate students, a surprising number of faculty have maintained a good research record. It is expected that research productivity will increase with the establishment of a graduate program. The research being done appears to be relevant to the field and includes publications in appropriate high-level journals.

While recognition of some of the faculty is more in-state, most have national recognition, especially in terms of review of proposals or manuscripts. Membership in national/international professional organizations appears to be good. Many of the faculty are young, up-to-date, and obviously enthusiastic. Senior faculty are current and appear to be enthusiastic, especially with the prospect of having graduate students.

Response:

The Department of Biological Sciences (DBS) and NSU concur that the research funding and publication record in this small undergraduate department has been

outstanding and should increase with the development of the MS -MEB program. Success is ascribed to the excellent faculty, many of whom have national and international recognition.

Report:

Teaching has been the major focus of the undergraduate program to date, including the use of research as a teaching tool. The overall quality of teaching appears to be high; this can be expected to translate to the graduate program. The faculty is qualified to teach at the advanced level of a graduate program. Students who met with the ERC rated faculty highly.

Response:

Te excellence of the faculty in teaching and research earned the department the title of “Area of Excellence in Marine and Environmental Biology” and a Departmental Excellence through Faculty Excellence (DEFE) award with the BoR. Graduate courses will be evaluated each semester in the same manner as the undergraduate courses, using a standardized instrument.

**WEAKNESSES AND PROBLEMATIC AREAS WHICH THE REVIEW
COMMITTEE IDENTIFIED, WITH RESPONSES FROM NICHOLLS STATE
UNIVERSITY**

**THE PROGRAM NEEDS TO LEAD TO BROADER, BETTER INTEGRATED
KNOWLEDGE OF THE DISCIPLINE**

Report:

The program is loosely organized around the existing faculty’s strengths. There are some noticeable gaps in the curriculum. Topics such as statistics, geographical information systems (GIS), aquatic chemistry, wastewater treatment, conservation biology, and landscape and restoration ecology were insufficiently covered in proposed courses. For many agencies, training in these topics is critical because of their mission in management of coastal systems. The future addition of faculty or of adjuncts or part-time lecturers (PTLs) in these areas, potentially from nearby industry or agencies, could address these shortcomings.

Response:

The proposed MEB curriculum has undergone substantial revision to include these topics more thoroughly. The core courses MAEB I and II will have an overview of all of these topics. In addition, there are specific graduate courses that already cover some

of these topics. New graduate courses have been developed to specifically respond to the recommendations of the ERC. (Syllabi for new and revised courses were attached to response.)

Need for statistics:

A graduate level elective, Math 507 (Applied Data Analysis and Computational Statistics), is listed in the proposal. Since the ERC visited NSU, the Department of Biological Sciences has an additional assistant professor and one part time lecturer (PTL) this semester. The new assistant professor will be teaching a new graduate course "Marine Conservation and Management," which includes catch statistics, telemetry, population modeling and biological reference points.

Need for GIS:

A new PTL from the Louisiana Department of Natural Resources was recently hired. The two new instructors will team-teach another new graduate level courses "Ecological Restoration" that address topics not covered in revised existing courses. Ten computers in a departmental lab have been equipped with licensed GIS software; ten hand-held GPS units are available for students in the course(s). These items were made available through a BoR LEQSF grant, which provided other budgeted items.

Need for aquatic chemistry:

All of the techniques for aquatic chemistry applications are taught in the proposed graduate course "Analytical Techniques for Environmental Applications." Additionally, there is a section on the chemistry of natural waters in the course "Environmental Chemistry," which was listed in the proposal.

Need for waste treatment:

Waste treatment is covered in "Environmental Biotechnology," which was part of the proposal. It is also covered extensively in "Bioremediation of Toxic Environments."

Need for conservation biology:

As previously stated, a new faculty with training and experience in conservation and management biology is offering a new graduate level course "Marine Conservation and Management."

*Need for landscape and restoration ecology:
The new PTL from the Louisiana Department of Natural Resources' Coastal Restoration Division Field Office in Thibodaux and the new assistant professor will team-teach another new graduate level courses "Ecological Restoration."*

THE PROGRAM SHOULD BE VIABLE AND ABLE TO GROW

Report:

The area of study is appropriate for the current direction of the discipline, given the location of the school (coastal areas are nearby) and the stated needs of agencies/industries in the region. Graduate programs in environmental biology/science are relatively new to many US universities, but seem to fill a niche; this may be the case here as well. With the elimination of gaps in course offerings and some expansion of research opportunities, the program appears to be aligned with the evolving discipline. In conversations with some of the potential employers of program graduates, the need for better communication skills was repeatedly stressed.

Response:

The university and department agree with this general statement of the ERC in terms of the appropriateness of the proposed program for the direction of the evolving discipline of environmental biology. The list of perceived "gaps" in course offerings have been addressed above. An additional new course, "Aquatic Toxicology" and the considerably revised course in "Environmental Toxicology" assure that curricular deficiencies have been eliminated. Research opportunities have expanded substantially with the addition of one new faculty member in the fall of 2001 and one in the spring of 2002. Graduate students will have ample training in communication skills. Most graduate courses will require oral or written reports. Students will be expected to present research results at regional, state, national and even international meetings. Many scientific meetings give awards for graduate student competitions.

Report:

The ERC noted that the institution has emphatically endorsed this program through reallocation of space, proposed faculty hires and financial support. However, some concerns exist. Reasonable start up packages for equipment, supplies, etc., and funds for recruiting national faculty from outside of the area, especially women and underrepresented minorities, are anticipated needs.

Response:

The institution will provide \$8,000-\$10,000 for start-up packages. BoR LEQSF funds will

be sought for equipment purchases within the department, which could be used to purchase budgeted items and would allow reallocation of some of the budgeted funds for additional items for new faculty. Federal monies will be solicited for additional acquisitions, through NSU grant proposals as well as collaborative approaches with other institutions. The University administration has promised \$269,178 for remodeling/refurbishing new lab/office space.

NEED FOR ADDITIONAL FACULTY

Report:

The demands of a graduate program include mentoring, directing research, thesis committee meetings, admissions, etc., dictate that the teaching load for graduate faculty be reduced to no more than 6 contact hours. More faculty will be needed than outlined in the proposal in order to offer a high quality program with adequately trained students.

Response:

The University has responded to program needs by employing a new assistant professor as well as a PTL this semester. A search is underway for an additional assistant professor.

NSU has committed to hiring three M.S. level instructors who will be assigned 12-15 contact hours and one B.S. level laboratory technician to provide non-majors biology courses and labs. Other PTL will be staff freshman and upper level biology lab courses. This plus the presence of graduate teaching assistants (described below) will reduce the teaching load on five graduate faculty to no more than 6 contact hours/week.

Report:

While the program proposes a set of courses, internships and a thesis for successful completion of the degree which are generally appropriate requirements, some curricular deficiencies were noted by the ERC. The two beginning courses, MAEB I and II, constitute 30% of the regular required coursework. As such, they need to be refined to ensure that they are offered at a graduate level.

Response:

NSU has addressed this issue by revising the content of these two courses and adopting additional requirements that reinforce graduate level instruction to give students a more global perspective. High quality textbooks have been selected for required reading to allow students to become familiar with cornerstone literature with timeless themes that

will be used to link local and regional issues to global scale. Local issues will be investigated using primary literature. Students will be required to write short papers linking local to global issues with potential solutions.

Report:

Clarify the relationship between internship time and credit hours.

Response:

It is expected that students will spend a minimum of six hours per week at their internship, for 72 total log-in hours/internship.

Report:

How are internships arranged, supervised and evaluated?

Response:

It will be the responsibility of the course director for each internship to arrange for the internship schedule. An evaluation form similar to that used for graduate teaching assistants will be used by the industry and agency supervisors. Students will be required to write quarterly and final reports on their internship project. The course director or graduate student's mentor faculty member will use the industry or agency supervisor's evaluation and the written reports to determine the course grade.

Report:

Response:

While thesis research counts for 6 credit hours in the MS-MEB program, it is expected that a minimum of 12 contact hours per week or 144 contact hours per semester will be spent on research for each semester hour of thesis research credit in which a student enrolls. A graduate student is expected to spend as much time on a research thesis project as it takes to complete it to the satisfaction of the graduate faculty mentor and his/her committee. Students may register for more than one hour of Thesis Research in a semester if needed to maintain full-time status for financial aid or an assistantship; however, only six hours of Thesis Research will be applied to the degree.

NEED FOR FLEXIBILITY WITHIN PROGRAM

Report:

The ERC felt that some program requirements could be more flexible. A student's

committee was thought to be responsible for accepting at least 6 and up to 12 transfer credits, where appropriate, in order to permit students to avail themselves of unique offerings at other institutions.

Response:

Since there are now 17 hours of elective courses in the curriculum, the department will accept six rather than three hours of transfer credit in the MS-MEB program. With the three hour LUMCON credit, allowing 12 hours of transfer credit would leave only two hours of graduate electives taken within the department.

AN ORAL COMPREHENSIVE EXAM WOULD BE ADEQUATE

Report:

A written comprehensive final examination was not considered necessary; an oral comprehensive could be part of the thesis defense.

Response:

DBS agrees that it would be more expedient to include an oral comprehensive as part of the oral defense of thesis in place of a written comprehensive final exam.

Report:

The coverage of some additional topics is needed in the program. Since there are few graduate programs at NSU, there are few courses in other departments that can serve as support for this new program. New hires alone cannot entirely solve this problem. Judicious use of PTLs and collaboration with LUMCON and other institutions provide other options.

Response:

The proposal lists four graduate level courses available in other departments (Chemistry and Math) which could be chosen as electives by students. Three additional hours of coursework are now required with the inclusion of a summer LUMCON elective. Four new LUMCON courses will be offered each summer during the next two years for a total of eight courses. Courses for summer 2002 are: "Coral Reef Ecology," "Marine Ecology," "Marine botany," and "Coastal Field Geology." In the summer of 2003, LUMCON offerings will include "Invertebrates in their Environment," "Introduction to Marine Biogeochemistry," "Marine Fish Ecology," and "Plankton Ecology." Each course is 3 credit and 4 contact hours. Students could take two of these courses if they are approved by his/her committee. However, because these are not purely graduate courses, only 6 hours of graduate/undergraduate credit are allowed by the NSU graduate

school.

NEED FOR ONGOING AND ADEQUATE FINANCIAL SUPPORT FOR SUSTAINING A HIGH QUALITY PROGRAM

Report:

Levels of financial support are always an issue in evaluating the potential success of programs. Support for various aspects of the proposed program have been addressed above. Continuing support must be maintained if students and faculty are to continue to have access to modern equipment. Support of at least a few graduate assistants (GAs) will be needed to attract some of the better students as well as a few teaching assistants (TAs) to help reduce the teaching load on faculty.

Response:

The University selected the Department of Biological Sciences as an “Area of Excellence in Marine and Environmental Biology” and has recently completed a new Strategic Plan which recognizes the program as one to be enhanced. NSU has also agreed to fund 7 GAs (\$8,000/year + tuition) in the first year that the MEB program is instituted with an additional 5 GAs in the third year of the program. It has not been specified how many of these will be TAs. Students will be able to teach in the second year of the program. An endowed fellowship funded by Dickie and Charlene Barker will be utilized to attract a top student into the MEB program.

Report:

A need for a graduate program director and additional secretarial support is also foreseen.

Response:

The university will support a graduate program coordinator and provide additional secretarial support for the MS program.

Report:

Continued support from BoR for equipment appears to be a strong possibility. Some support from industry/donors is possible; there appears to be broad regional support for the program. However, whether this will translate into direct outside financial support cannot be discerned at present. The introduction of an MS program may increase the potential for externally funded research.

Response:

The LEQSF used by BoR for equipment grants is a protected trust fund for education. These funds will be available each year to eligible disciplines. The Department of Biological Sciences (DBS) will continue to apply annually through eligible disciplines. LEQSF is thought to be a likely source of equipment funding for this program. DBS will also apply to federal programs such as the National Science Foundation (NSF) for equipment for research and teaching. DBS agrees with the ERC that increased visibility associated with the development of a graduate program could result in additional support from industry and the private sector. Two endowed professorships currently support the program, one from the Louisiana Shrimp Association and one funded by Mr. and Mrs. Jerry Ledet. Others could follow. Additionally, some of the industry and agency partners have expressed the possibility of supporting GAs.

The university administration will closely monitor program needs and is prepared to provide support and resources to ensure success.

Report:

The ERC expressed concern about library resources, but was pleased to learn that an effective interlibrary loan system exists.

There is a very efficient interlibrary loan system in place, and "Internet" resources are expected to expand in the future.

Report:

Eventual upgrades may be necessary to keep the program functioning at a high level.

Response:

It is anticipated that the MS-MAEB program will require the Aquatic Sciences and Fisheries Abstracts (ASFA) database. The 12 month subscription price is \$6,700 for unlimited access to the University through our Internet Database Service (IDS). This also gives access to:

- 1) Web Resources Database - links to over 185,000 indexed web resources.*
- 2) Recent References Database - gives citations to the very latest research that can be linked to electronic full-text.*
- 3) Linking Tools - links search results to the university's e-journal subscriptions, the library's on-line catalog, the library's Interlibrary Loan Department, or document delivery providers. The MS-MAEB proposal projects that library expenditures for additional materials related to the focus of the proposed program should increase from a current level of approximately \$20,000/year to a funding level of \$40,000/year by the end of the first five years of the program. This approved budget increase could easily support the need for this essential database.*

POSSIBLE ADDITIONAL EXPENSES FOR RECRUITMENT OF NEW FACULTY
WITH NO TIES TO THE REGION

Report:

Tenure and recruitment practices were not specifically investigated, but seem appropriate. Additional expenses may be incurred in the future for recruitment of new faculty, especially those with no ties to the region.

Response:

DBS has been very successful thus far in recruiting outstanding new faculty members who either have ties to the region or who want to do research in the heart of nationally significant wetlands surrounding NSU, such as the department's most recent hire. The close proximity of LUMCON and its world-class facilities is also important in recruiting marine and environmental researchers.

Report:

Admissions criteria of a 3.0 GPA and 1100 GRE are moderately rigorous; the ERC was unable to determine how many students from the available pool would qualify for admission. The program would also have to look at alternative paths for admission. Students who do not initially qualify for admission may take courses on a non-degree basis. Satisfactory completion of such courses can then be considered in a re-evaluation for admission. The quality of the program will strongly reflect the quality of the students.

Response:

MS-MAEB will conditionally accept students in a "non-degree" tract to take graduate courses as long as they have the required pre-requisites. They will be able to take graduate courses according to the specific degree requirements of the program. All students are also subject to the standards for admissions and performance of the NSU Graduate School.

Report:

Data provided, if somewhat optimistic, indicated that an adequate supply of students are interested in the program. Minority students, specifically African Americans, are under-represented in environmental science programs nationwide. The same is true for female students, but to a much lesser extent. The program should consider ways to recruit students in these under-represented groups.

Response:

LUMCON is a participant in the Louis Stokes Louisiana Alliance for Minority Participation (LSLAMP), which is one of 28 National Science Foundation Alliance programs nationwide. The objective of LS-LSMP is to increase the number of minority students earning bachelor of science degrees through faculty mentoring opportunities. Summer internships are available to minority students working with LUMCON faculty. As the MS-MEB program develops, it is anticipated that NSU faculty will also participate in LS-LAMP.

Report:

By making an MS program available within the region, some economic barriers to obtaining a graduate degree will be reduced. However, the program and institution will need to continue to work with their stakeholders to ensure that all such barriers are eliminated. Further, the program and NSU should make every effort to recruit qualified members of under-represented groups for the student body and, where possible, for the faculty.

The university and department have continually maintained that this program must be offered within the NSU region to make graduate education of this quality available to all qualified Louisiana students.

ISSUES OF ADVISEMENT, COUNSELING AND TEACHING ASSISTANT
TRAINING MUST BE RESOLVED

Report:

The lack of other graduate programs mean that little infrastructure exists to aid the development of this new MS program. Such issues as GTA training and evaluation, appropriate advisement and counseling, rules for thesis and thesis committees, recruitment and admission will have to be resolved. While advisement and counseling with regard to future employment cannot specifically be evaluated, faculty involvement with the internships involved in the program may be very helpful.

Response:

DBS has already developed plans for resolving all of these issues. DBS agrees that advising graduate students along with the undergraduate students will require additional time. All of the faculty are advisors. The university administration considers advising a serious role and therefore, anticipates time requirements. Additionally, the faculty always works with the undergraduate students concerning their future employment or potential to continue in graduate or professional schools; the same approach will be taken with graduate students.

Report:

The proposed program needs to establish a mechanism for mentoring and evaluating teaching assistants.

Response:

The following plan has been developed for mentoring and evaluating GTAs:

Mentoring: *GTAs will be assigned to courses under the mentorship of a faculty course director. With the course director, the GTA will become involved in all aspects of classroom/laboratory instruction, including physical preparation of facilities and reagents, lecture preparation and delivery, student engagement and interaction, and assessment development and administration. This level of involvement will ensure that both the TA and the course director engage in multiple mentoring events on a weekly basis, at minimum.*

Evaluation: *The course director will be responsible for assessing the performance of the GTA through observation and based upon criteria and standards developed by the graduate faculty of the department. This assessment, together with multiple semester observation by either the graduate coordinator or the department head, will be used to evaluate the GTA's performance. Assessment, together with required and suggested modifications, if necessary, will be reported to the GTA immediately following each observation. To support the individual findings of these observers, as well as to assess semester-long improvement of GTA performance, GTAs will be participants in the student evaluation mechanism required of all University teaching faculty each semester. Assessment of this student evaluation will be based on minimum standards established by the graduate faculty of DBS. Only GTAs who maintain satisfactory performance based on these standards and requirements will be maintained on stipend.*

(The evaluation form that is to be completed by each course director on each GTA at the end of the semester was attached to the NSU response.)

NEED TO CHANGE METHOD OF CATEGORIZING GRADUATE STUDENTS

Report:

While the ERC agreed that a need exists for three levels of graduate students, the method of categorizing them should be altered.

Response:

*The Department has revised the classification in response to the suggestion of the ERC with the following new categories: **Non-degree:** Students either taking graduate courses*

*to accumulate postgraduate hours or working to earn prerequisites. **Pre-research:** Students accepted in the M.S. program but working toward prerequisites and/or acceptance by a graduate committee for thesis research. **Research:** M.S. degree students accepted into the program and working with a committee and a major professor.*

NEED FOR A GRADUATE STUDENT ASSOCIATION

Report:

Undergraduate students appeared to interact with each other. To enhance such interaction, which can be a major benefit of graduate education, it is recommended that the program form a Graduate Student Association (GSA). The GSA would serve as a vehicle for social interaction as well as professional development and representation of student interests in program governance.

DBS will strongly encourage the graduate students to form a GSA and will provide an advisor. There are currently two very successful undergraduate student associations: the Biology Society and the Pre-Professional Medical Association.

NEED FOR AN ANNUAL FACULTY RETREAT

Report:

A one day retreat for the graduate faculty at the end of the first year of the program was recommended by the ERC in order for an evaluation of progress to date to be undertaken. Formulation of approaches to overcoming challenges and necessary changes should be addressed during the retreat. A means of tracking program graduates and evaluating their success should also be developed at that time.

Response:

A one day retreat was perceived as an excellent idea; currently, each department must prepare an Annual Report on each program and a Five Year Program Review.

NEED FOR STRONGER TIES WITH LUMCON

Report:

A very strong link between Nicholls State University and LUMCON is needed and appropriate. The ERC felt that this facility was significantly underutilized by the state universities, which could be due in part to its remote location but was also perceived to be due, at least to some extent, to the resistance of LUMCON administrators to allow or encourage academic interactions and teaching among its faculty. The ERC indicated that this attitude significantly reduces the value of LUMCON as a scientific facility and

recommended review at the Board of Regents level. The review team was unanimous in feeling that the NSU program would benefit substantially by the creation of strongly collaborative ties with LUMCON and that LUMCON would benefit from this association and the presence of graduate students. The ERC stated that external faculty, such as those at LUMCON need and deserve incentives for teaching NSU courses on campus, or through distance learning. Such arrangements, such as PAL, should be established.

One of the strongest collaborative arrangements available to students in the proposed graduate program is the research capability of the LUMCON research faculty and the willingness of NSU adjunct LUMCON faculty to act as research mentors to NSU graduate students. The proximate nature of the facility and institution makes both graduate course work at the Defelice Marine Laboratory and research mentorship by LUMCON faculty an important strength of this proposed program. Additional means of strengthening collaboration will be investigated. Incentives, both monetary and intrinsic, will be explored to recruit the participation of LUMCON faculty.

The liaison between the institutions is highlighted by Dr. Quay Dortch's recent mentorship of an undergraduate NSU student who presented original research in a national competition and was awarded first place. Two or more field trips to LUMCON are scheduled annually in undergraduate Marine Biology courses. It is additionally now proposed that all undergraduate Marine Biology concentration majors take a course at LUMCON either offered by an NSU faculty member during the Spring/Summer three week Intercession, or take one of the LUMCON courses offered in the summer. The inclusion of a required 3 hour LUMCON elective should strengthen ties between LUMCON and NSU. The development of numerous new LUMCON courses is also a likely response to the ERC report. Dr. Gary LaFleur, an NSU graduate faculty member team-teaches an undergraduate course "Introduction to Marine Zoology" at LUMCON each summer. Additionally, some NSU faculty will also offer graduate courses at LUMCON during the Spring/Summer Intercession, or graduate students may elect to take LUMCON courses during the summer semester for graduate credit through special assignments from the LUMCON faculty.

STAFF ANALYSIS

The staff is satisfied that the Department of Biological Sciences and Nicholls State University have responded appropriately, even enthusiastically, to suggestions of the ERC to strengthen or eliminate deficiencies in the proposed MS program in Marine and Environmental Biology:

1. The curriculum has been revised;
2. Facilities and equipment are adequate for commencement of the program;
3. The administration structure has been strengthened;

4. There is promised continued support of the program;
5. A good faculty is present to initiate the program;
6. A body of enthusiastic students exists which includes both women and minorities;
7. Need for the program with potential employment of graduates is well documented.

The staff notes this is significant new venture for the University and, while responses were appropriate, many issues and problematic areas have yet to be fully resolved. In addition, it is important that a true reciprocal arrangement be formalized between NSU and LUMCON to assure maximum program

STAFF RECOMMENDATION

The staff recommends that the Academic and Student Affairs Committee grant conditional approval for the M.S. in Marine and Environmental Biology (CIP Code 26.0607) at Nicholls State University, effective in the fall semester of 2002. By August 1, 2003, the University shall submit to the Commissioner of Higher Education a report updating progress toward resolving weaknesses and problematic areas which external consultants identified. In addition, this report shall provide substantive evidence that resources of the Louisiana Universities Marine Consortium are being fully utilized to effect maximum program development and growth.