

Strategic Plan 2007-2012

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**University of North Carolina Wilmington
Center for Marine Science**

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I. Executive Summary

The UNCW Center for Marine Science strives to be a world-class facility that supports multidisciplinary approaches to research, education, technology transfer, public service and regional engagement in the marine sciences. Its mission is to promote basic and applied research, education, and public service in marine science by providing a state-of-the-art physical facility. Historically, marine science has been a focus area at UNCW, informally called the marine science program, which continues to be characterized by rapid growth and high productivity.

The strength of marine science at UNCW results from a common emphasis on marine science within the traditional science departments and cooperative interdisciplinary activities. The Center for Marine Science has also played a pivotal role in the growth of marine science to the point where now any strategic plan for the evolution of the Center must address issues of the broader marine sciences program at UNCW. Therefore, this strategic plan not only sets priorities and establishes goals, objectives and strategies for the Center; it establishes goals for the broader marine science program in so far as those goals are intimately linked to the growth and evolution of the Center.

The strategic plan is organized into five areas:

1. Administration, Infrastructure and Services
2. Research
3. Education
4. Service and Regional Engagement
5. Technology Transfer

We have established numerous goals in each area, most of which have indefinite completion dates because marine science is a dynamic rapidly evolving field and the goals represent our continuing commitment to the pursuit of excellence. However, we have also established two priority goals in each area that we believe should be completed within the next 2-3 years.

Priority Goals:

Administration, Infrastructure, and Services:

1. Formalize the Marine Science Program at UNCW
2. Establish a marine instrumentation core facility with technical support staff to operate and maintain instrumentation

Research:

1. Expand the CMS post-doctoral program by adding more post-doctoral fellowships
2. Reestablish the Pilot Project and Instrumentation Acquisition Program

Education:

1. Establish a Ph.D. in Marine Science at UNCW
2. Implement and fully develop the articulation agreement between UNCW and the University of Southampton (UK)

Service and Regional Engagement:

1. Establish the Cape Fear Region Marine and Coastal Cooperative
2. Identify funding and begin planning a visiting scientists residence facility at CMS

Technology Transfer:

1. Build a marine biotechnology building adjacent to CMS
2. Establish a Biotechnology Center of Innovation at CMS with a grant from NC Biotech

II. Background for Strategic Planning at the Center for Marine Science

Introduction

Vision

The UNCW Center for Marine Science strives to be a world-class facility that supports multidisciplinary approaches to research, education, technology transfer, public service and regional engagement in the marine sciences.

Mission Statement

The mission of the Center for Marine Science is to promote education, basic and applied research, and public service in all fields of the marine sciences. The Center provides facilities and support primarily for faculty and students from the science departments at UNCW, but also for associated organizations and visiting students and scientists conducting marine science research. By providing a state-of-the-art facility, the Center fosters research programs of the highest quality, thereby enhancing the educational opportunities and experiences for students, and serving as an important regional node for technology transfer and public service.

Administration and Facilities at CMS

Appendix A gives a detailed description of the current administration and organization of the Center for Marine Science and of the facilities available there.

The Center for Marine Science Strategic Planning Process

In order to progress toward its vision and accomplish its mission, the Center maintains a long-term strategic planning and review process aimed at ensuring excellence in marine science research, education, service, and technology transfer. The Center for Marine Science strategic plan is developed and implemented in concert with guidance from several external sources, which include the Board of Governors Strategic Directions, the University of North Carolina at Wilmington Mission Statement, and UNCW Strategic Vision. Excerpts from these references are provided in Appendixes B-D. In addition, we seek and foster broad-based communication within CMS and with the entire marine sciences community at UNCW. Open and inclusive communication with key constituents and stakeholders is an essential priority.

As we develop our shared vision for the future of the Center, we must identify and build on our combined strengths. While this process necessarily entails some personal introspection, our goal is to be inclusive, not exclusive. We trust that through a collaborative approach, we will

develop a strategic plan that will be good for the Center and the University, and with which we can all align our efforts.

Strategic Planning is a process, not an event. As such, the process is itself an important vehicle for communication among the many individuals, academic disciplines, and partner organizations that make up CMS and the marine sciences community at UNCW. This strategic plan will be a living document that guides both long-term and daily activities. It takes the Vision (future state, or “there”) and the Mission (“here”) and connects them with priorities, goals, objectives and strategies (to get us from the “here” to the “there”). While the plan looks forward five years, we continually review our progress, make mid-course corrections when necessary, and update the plan as necessary. The following is a brief overview of the process for reviewing, implementing, and finally, integrating the strategic plan into the Center’s daily activities.

Planning Process:

1. Initially, an ad-hoc committee, the CRISP (Center Research Investigators for Strategic Planning) appointed by the CMS Director reviewed the previous strategic plan and produced a draft of a new strategic plan with updated and new priorities, goals, objectives and strategies.
2. The CRISP draft was forwarded to the Director who then sent the draft to the UNCW administration, the CMS Internal Advisory Committee, and the broader UNCW marine sciences community for review and comment.
3. Reviews and comments were returned to the CRISP committee which produced a revised draft that it sent to the Director who forwarded to the CMS IAC.
4. After review and approval by the CMS IAC, the draft was returned to the Director who then assembled the larger UNCW marine sciences community to consider and approve a final draft of the strategic plan.
5. The priorities, goals and objectives of the new approved CMS Strategic Plan will then be sorted and distributed to the responsible individuals, CMS standing committees, or newly formed ad hoc committees which will establish a plan to accomplish the new goals and objectives.
6. Each of the individuals or committees will regularly assess the progress toward reaching the new goals and make semiannual reports at regular CMS faculty/staff meetings on their progress.

Marine Sciences at UNCW

Historically marine science has been a focus area at UNCW that continues to be characterized by emphasis on marine science education at both the undergraduate and graduate levels, research productivity in diverse areas of marine science, and service at local, state and

national levels. As a result of these efforts, marine science at UNCW has achieved national and international recognition. The strength and success of marine science at UNCW result from a common emphasis on marine science within the traditional science departments and cooperative interdisciplinary activities.

This combination of a marine science focus within the traditional science departments and interdisciplinary approaches to educational and research programs, has been critical to the growth of marine science at UNCW. The unique strengths of this combination means that UNCW can respond to national and international marine science concerns in a timely, efficient, and innovative manner.

The Center for Marine Science serves a key role in the development and support of these marine science activities. The Center provides logistical, financial and facilities support to marine science researchers and educators and assists with the development of projects. It facilitates information transfer regarding marine science opportunities, news, and regional concerns to researchers and appropriate academic departments.

The Center also hosts interdisciplinary graduate programs, promotes interdisciplinary research programs, and provides facilities and support for related organizations such as the National Undersea Research Center, North Carolina Estuarine Research Reserve, and North Carolina Sea Grant. The Director of the Center serves a pivotal role in representing UNC Wilmington marine science activities and programs at all levels.

Scope of Document

Marine science has long been a priority at UNCW, developing through a combination of a shared focus within the traditional science departments and interdisciplinary approaches to research and education. The Center for Marine Science has played a pivotal role in the growth of the marine sciences, providing facilities and logistic and financial support, as well as coordinating activities in target areas.

Because of the integral relationship between CMS and the academic departments with marine interests, strategic planning that seeks to propel the Center to the next level must also consider the broader organization and goals of marine sciences at UNCW. Therefore, this strategic plan not only sets priorities and establishes goals, objectives and strategies for the Center, but also perform establishes goals for the broader marine science program in so far as those goals are intimately linked to the growth and evolution of the Center.

III. Strategic Plan

Introduction

In order to realize our vision and fulfill our mission we have established goals, objectives, and strategies in the following five areas:

1. Administration, Infrastructure, and Services
2. Research
3. Education
4. Service and Regional Engagement
5. Technology Transfer

We have established numerous goals, objectives and strategies in each area, most of which have indefinite completion dates because marine science is a dynamic rapidly evolving field and the goals represent our continuing commitment to the pursuit of excellence. However, we have also established two priority goals in each area that we believe should be completed within the next 2-3 years. Those top priority goals are summarized below and expanded upon at the beginning of each of the five sections.

Top Priority Goals

Administration, Infrastructure, and Services:

1. Formalize the Marine Science Program at UNCW
2. Establish a marine instrumentation core facility with technical support staff to operate and maintain instrumentation

Research:

1. Expand the CMS post-doctoral program by adding more post-doctoral fellowships
2. Reinstigate the Pilot Project and Instrumentation Acquisition Program

Education:

1. Establish a Ph.D. in Marine Science at UNCW
2. Implement and fully develop the articulation agreement between UNCW and the University of Southampton (UK)

Service and Regional Engagement:

1. Establish the Cape Fear Region Marine and Coastal Cooperative
2. Identify funding and begin planning a visiting scientist facility at CMS

Technology Transfer:

1. Build a marine biotechnology building adjacent to CMS
2. Establish a Biotechnology Center of Innovation at CMS with a grant from NC Biotech

Goals, Objectives and Strategies

IV. Administration, Infrastructure and Services

Goal Statement: Provide a state-of-the-art research and educational facility for marine science, and an efficient, competent organizational structure with sufficient technical staff to operate it optimally

Goal A.1: Formalize the Marine Science Program at UNCW

Rationale: Marine sciences have thrived at UNCW across many departments, schools and programs. We now believe it is time to ask how we may more effectively present our diverse research and education efforts in a more coordinated fashion by the development of a Marine Sciences Program at UNCW. For the purposes of this document, “Marine Science Program” is defined as the collection of faculties, and research, education, and outreach activities related to marine science. This program will have higher visibility and can compete more effectively for resources at all levels. The formation and formalization of this program must be accomplished while recognizing, honoring and maintaining the strengths of traditional departmental organization. We believe that the size and complexity of marine sciences at UNCW precludes its effective administration under the current structure.

Objective A.1.1: Unify and coordinate marine science research and educational activities at UNCW to make them more effective, visible and competitive at all levels. The following strategies should be implemented sequentially.

Strategy A.1.1.1: Form a committee that is representative and inclusive of all components of marine science at UNCW. This committee should be charged to, at minimum, accomplish the following tasks:

- Formally define and describe the Marine Science Program, and its mission. That definition and mission should be published in University catalogs, brochures, and web sites as appropriate.
- Establish criteria for faculty participation in the Marine Science Program based upon a philosophy of inclusion, and specify the rights, privileges and responsibilities of participants. Academic faculty would retain primary appointments in their home departments but would also be associated with the Marine Science Program. Research faculty in marine science who are not part of any academic department would be based in the Program.
- Establish policies and procedures for faculty governance for the Marine Science Program

Strategy A.1.1.2: Request that the Provost, in consultation with the CMS Director, the Dean of Arts and Sciences and the Dean of the Graduate School, appoint a committee representative and inclusive of all components of marine science at UNCW and charge that committee to, at minimum, complete the following tasks:

- Develop an administrative plan for review by the Marine Science Faculty as defined in Strategy A.1.1.1, that would facilitate the growth and evolution of marine science at UNCW and increase its state, national and international profile. Such a plan would:
 - recognize historical strengths as well as honor and maintain traditional departmental organization.
 - be designed to prevent conflicts of interest between the administrative duties and research activities of the individuals within the administrative structure.
 - include accountability and assessment mechanisms for evaluating the effectiveness of the new administrative structure in advancing the goals of the entire Marine Sciences Program at UNCW.
- Re-evaluate the duties and responsibilities of the Director of CMS in the context of a formalized Marine Science Program with a revised administrative structure.

Target Completion: Spring 2009

Goal A.2: Improve functionality and availability of, and access to, marine instrumentation

Rationale: UNCW leads the UNC system in marine research extramural funding. Field-based research is a critical component to many of these grants and also many of the marine science educational programs, but CMS lacks a centralized core facility and sufficient personnel to adequately support instruments frequently required by field-oriented operations. As a result, specialized equipment is under-maintained and not readily available for both research and educational missions

Objective A.2.1: Establish a marine instrumentation core facility with dedicated technical support staff to operate and maintain instrumentation

Strategy A.2.1.1: Dedicate space in the new CMS wing to establish a marine instrumentation core facility

Strategy A.2.1.2: Develop and publicize a fee structure for equipment included in the core facility to support routine maintenance and repair

Strategy A.2.1.3: Hire a full-time marine electronics technician with expertise in maintaining and troubleshooting marine instrumentation. This technician should not only oversee the core facility, but also assist in field operation of specialized equipment as needed

Objective A.2.2: Expand and upgrade the marine instrumentation pool

Strategy A.2.2.1: Form a standing faculty committee to oversee the core facility and identify additional equipment or key upgrades needed to improve the existing marine instrumentation pool

Strategy A.2.2.2: Seek funds to expand instrument pool based on committee recommendations

Strategy A.2.2.3: Develop a plan to increase the number of support staff, as needed, to provide sufficient support for the marine instrumentation facility as it expands.

Target Completion: Spring 2009

Goal A.3: Support continued enhancement of research infrastructure within CMS

Objective A.3.1: Develop and maintain core research facilities to support increased avenues for single and multi-investigator research projects of faculty and graduate students

Strategy A.3.1.1: Provide up-to-date web-based information on core facility capabilities and instrumentation.

Strategy A.3.1.2: Identify the needs and seek funds to maintain and expand the capabilities of the core facilities

Strategy A.3.1.3: Establish a program of user fees for appropriate core facilities. (Request analysis of core facility costs to determine fees)

Strategy A.3.1.4: Advertise to UNC campuses and regionally the availability of the core facilities

Target Completion: Ongoing

Objective A.3.2: Provide centralized research facilities and technical support staff.

Strategy A.3.2.1: Assess need for technical support and insure availability of staff to support CMS researchers and education

Strategy A.3.2.2: Continue to expand technical support staff

Strategy A.3.2.3: Insure provision for a dependable supply of quality seawater

Strategy A.3.2.4: Provide appropriate training and safety procedures for use of research vessels and equipment

Strategy A.3.2.5: Periodically review and revise management hierarchy and services in operations to improve effectiveness and efficiency

Target Completion: Ongoing

Objective A.3.3: Provide easy, cost-effective access to research vessels.

Strategy A.3.3.1: Develop strategy for local boat launch capability.

Strategy A.3.3.2: Facilitate use of vessels provided by or in cooperation with conservation, state or private groups

Strategy A.3.3.3: Establish mechanism and process for vessel upgrade, refit and replacement

Strategy A.3.3.4: Develop procedures to minimize travel-time associated with frequent boat use (temp parking at CMS, mooring at CMS dock, Davits for small boats, etc.)

Strategy A.3.3.5: Relocate all operations to CMS Myrtle Grove (Machine shop, Boat operations, etc.)

Strategy A.3.3.6: Continue active participation in the Duke/UNC Oceanographic Consortium

Strategy A.3.3.7: Continue active support for enhancement of State support for operation of the Duke/UNC Oceanographic Consortium and the Consortium's efforts to operate one of the new regional class research vessels being built by the National Science Foundation

Target Completion: Ongoing

Goal A.4: Develop and implement assessment policies and procedures to gage progress toward realizing the goals in this strategic plan.

Objective A.4.1: Insure timely and effective implementation of the strategies and action items in this strategic plan.

Strategy A.4.1.1: Establish a standing committee (CMS Assessment Committee) of Marine Science Faculty as defined above to work with the UNCW assessment officer to accomplish Goal A.4 and Objective A.4.1.

V. Research

Goal Statement: The research goals seek to support the mission of the Center by identifying and describing opportunities to improve research support at the Center. The underlying

philosophy guiding this goal is an interdisciplinary approach, providing opportunities for research in all of the marine science disciplines.

Goal R 1: Expand the Marine Science Post-doctoral program.

Objective R.1.1: Increase the number of post-doctoral fellows working in marine science at UNCW

Strategy R.1.1.1: Encourage faculty to seek and support post-doctoral positions to work with their research programs and serve as mentors for graduate and undergraduate students by including post-docs in grant proposals

Strategy R.1.1.2: Propose use of salaries released by phased retirements or unfilled positions to fund post-docs in planned replacement position. (try out potential candidates prior to hiring)

Strategy R.1.1.3: Propose to use F&A receipts to fund new post-docs in active research areas

Target Completion: Spring 2010

Goal R 2: Re-establish and expand the CMS Pilot Project and Instrument Grant Program

Objective R.2.1: To provide opportunities for new research initiative and acquire instrumentation to allow new research directions.

Strategy R.2.1.1: Work on endowing resources for Pilot Project Program

Strategy R.2.1.2: Continue to expand resources available to the Pilot Project Program

Strategy R.2.1.3: Develop a comparable program to support purchase/cost sharing of new pieces of instrumentation that will promote new research directions for the Center

Target Completion: Spring 2010

Goal R 3: Support development of high-quality undergraduate/graduate student-faculty collaborative research.

Objective R.3.1: Enhance opportunities for undergraduate research.

Strategy R.3.1.1: Establish mechanism to help student to identify research mentors

Strategy R.3.1.2: Establish formal web-based mechanism for students to post ideas for research that the Marine Science researchers could “browse”.

Strategy R.3.1.3: Establish web-based mechanism for faculty to post opportunities for undergraduate research

Strategy R.3.1.4: Encourage involvement of University students in seminars and discussion groups

Target Completion: Ongoing

Objective R.3.2: Attract high-caliber graduate students

Strategy R.3.2.1: Identify resources to support 4 – 5 top applicants per year for 2-years of MS support – let them spend the first semester identifying a research project and mentor

Strategy R.3.2.2: Develop internship program through establishing institutional support, soliciting grant funds and encouraging individual investigator support.

Target Completion: Ongoing

Goal R 4: Promote information exchange and collaborations in marine science among constituent institutions of the UNC System and beyond.

Objective R.4.1: Foster collaboration among UNCW faculty and among other UNC system researchers

Strategy R.4.1.1: Ensure that UNCW is represented at relevant University System-wide and State Workshops

Strategy R.4.1.2: Participate in statewide consortia and other types of Marine science meetings

Strategy R.4.1.5: Advertise the CMS seminar series to marine scientists at other UNC campuses

Objective R.4.2: Work with Duke University and other UNC campuses to foster an effective Oceanographic Consortium within North Carolina.

Strategy R.4.2.1: Continue to collaborate within the Duke/UNC Oceanographic Consortium

Strategy R.4.2.2: Work with sister institutions to determine if DUNCOC can be expanded to meet the Consortia needs for marine science in NC or if another mechanism would be more effective

Strategy R.4.2.3: Work with other institutions to encourage cooperative research projects, and expedite inter-institutional efforts in teaching, research, and public service in the field of marine science

Strategy R.4.2.4: Foster a true NC coast-wide, inter-institutional collaboration in estuarine and coastal ocean studies via a demonstration observing network project. This project should encompass the unique natural laboratory of North Carolina's barrier islands, inlets, sounds and tidal rivers, and the nearby ocean margin

Strategy R.4.2.5: Identify and target grant program managers, representatives of local, state, and national government to invite to CMS for discussion of funding opportunities and CMS capabilities

Target Completion: Ongoing

Objective R.4.3: Establish Cooperative Institute for Ocean Exploration, Service and Technology

Strategy R.4.3.1: Develop proposal for NOAA Cooperative Institute to replace National Undersea Research Program

Strategy R.4.3.2: Integrate the activities of the cooperative institute with other CMS activities (RESEARCH, EDUCATION AND OUTREACH)

Target Completion: Ongoing

Goal R 5: Foster and enhance faculty participation and productivity in marine science at UNCW

Background: An academic program is only as strong as its faculty. Faculty members benefit from assistance so they can remain productive and innovative in their research and teaching.

Objective R.5.1: Utilize faculty time efficiently.

Strategy R.5.1.1: Encourage departmental chairs to schedule teaching assignments for CMS based faculty to minimize travel time

Strategy R.5.1.2: Encourage cross disciplinary team teaching for interdisciplinary courses to maximize efficient use of faculty expertise

Strategy R.5.1.3: Establish block scheduling for graduate classes as appropriate

Objective R.5.2: Increase interaction among marine science faculty, especially between those at CMS and on the main campus.

Strategy R.5.2.1: Schedule a monthly social gathering for marine science faculty and students at 5 PM

Strategy R.5.2.2: Support interdisciplinary marine science seminars regularly each semester. These could be brown bag luncheons hosted by the academic departments and held in Dobo, DeLoach, and Friday Halls as well as at CMS

Strategy R.5.2.3: Schedule a social gathering for new faculty in all the departments with interests in marine science early in each semester

Strategy R.5.2.4: Schedule a social for all postdoctoral fellows (visiting research assistant professors) in all the departments with interests in marine science at least once a year

Target Completion Date: Ongoing

VI. Education

Goal Statement: Enrich marine science academic programs at all levels for students taking courses or conducting research in marine science, regardless of their degree program or faculty advisor

Goal E.1: Expand graduate educational opportunities in marine science

Objective E.1.1: Establish a Ph.D. in Marine Science at UNCW

Rationale: Marine science at UNCW has grown and matured in the five years since the Ph.D. in marine biology was implemented in 2002. Faculty expertise has strengthened in all areas of marine science, especially in physical oceanography. UNCW can now provide Ph.D. level students with a sound educational experience in all aspects of marine science, and the presence of students in marine science at this level would benefit students in the Ph.D. program in marine biology. With the participation of all the science departments, a Ph.D. program in marine science would expand the resource base and the potential student pool beyond that of the current program, which operates out of the Department of Biology and Marine Biology.

Several faculty members in departments other than the Department of Biology and Marine Biology are currently supervising and supporting Ph.D. students in the current program and through various arrangements with other universities. These arrangements tend to be cumbersome, and other universities receive all the credit for the effort and financial support provided by UNCW faculty.

Strategy E.1.1.1: Request that the Provost and Dean of the Graduate School appoint a committee to develop a proposal for establishing a PhD in Marine Science. The committee should be representative of all components of marine science at UNCW as defined in Goal A.1, and as the proposal develops, should seek the widest possible input through liberal use of open faculty forums and retreats.

Target Completion: Spring 2010

Objective E.1.2: Fully develop the new Coastal Ocean Policy masters program.

Target Completion: Ongoing

Objective E.1.3: Explore opportunities for other marine-related masters programs in light of the formalization of the Marine Science Program (see Goal A.1).

Strategy E.1.3.1: Utilize the faculty forums and retreats held under Strategy E.1.1.1 to identify opportunities to best utilize the disciplinary and interdisciplinary interests for the unified and coordinated Marine Science Program in light of new national thrusts, such as the Integrated Global Ocean Observing System and ecosystem based management, as identified in the report: “*Charting the Course for Ocean Science in the United States: Research Priorities for the Next Decade*”

Target Completion: Ongoing

Objective E.1.4: Explore the potential for inter-institutional marine-related masters programs to best utilize the combined marine science expertise of the UNC System

Strategy E.1.4.1. UNCW and CMS should take the lead by organizing and hosting inter-institutional workshops to explore the possibility of establishing articulation agreements among the various marine science programs in NC. These agreements must address issues of student exchanges, course and credit hour equivalencies, automatic transfer of credit, and payment of tuition to produce seamless inter-institutional educational programs.

Strategy E.1.4.2: CMS and the Marine Science Program should work with individual departments to identify the resources and personnel to develop and offer distance learning and block-scheduled courses as appropriate for inter-institutional programs.

Target Completion: Ongoing

Goal E 2: Implement and fully develop the articulation agreement between UNCW, the National Oceanographic Centre Southampton (NOCS), and the University of Southampton (UOS). Use this agreement as a basis for exploring avenues of cooperative research between the institutions. Use this experience to reach out to other national and international institutions.

Rationale: Developing the formal articulation agreement between UNCW, NOCS and UOS would allow expansion of the undergraduate and graduate marine science program offerings at UNCW with little formal cost to the UNCW. Such an agreement should lead to more interaction between the institutions that can only benefit UNCW as the University of Southampton is one of the top 10 research universities in the UK and has achieved consistently high scores for its teaching and learning activities while NOCS is the 5th ranked oceanographic research center in the world.

Hopefully, the experiences gained in the area of course and student exchange will lead to other formal and informal education and research activities which will prove to be beneficial to all the institutions.

Objective E.2.1: Foster and expand the existing student articulation agreement with SOC.

Strategy E.2.1.1: Appoint a faculty oversight committee to direct this program including arrangements for student and faculty exchange, course offerings, and scheduling

Strategy E.2.1.2: Work with the Office for Student Affairs and the Office of International Programs to explore the possibility of establishing formal student exchange programs for undergraduate and graduate students between the institutions, such as a semester abroad program

Strategy E.2.1.3: Establish a bi-monthly teleconference seminar series featuring scientists from UNCW, NOCS, and SU/SOC

Target Completion: Spring 2010

Objective E.2.2: Expand current agreements with SOC to include collaborative research activities

Strategy E.2.2.1: Establish a faculty exchange program between CMS and SOC

Strategy E.2.2.2: Support faculty travel grants to explore research opportunities with SOC faculty

Strategy E 2.2.3: Encourage collaborative research proposals between institutions

Objective E.2.3: Develop similar exchanges with state, national and international institutions, including the NC community colleges and other UNC marine science campuses in eastern NC.

Target Completion: Ongoing

Goal E.3: Develop the Master of Science in Marine Science Program to its full potential.

Background: This program is off to a good start since its beginning in 1998 with two students. It grew rapidly to 36 students in the Fall Semester of 2001, and produced its first graduate in May of 2001. The program produced 54 graduates by December of 2006, with the student body ranging between 28 and 40 students

Objective E.3.1: Maintain the optimum size of the student body for this program (30 – 50 students)

Strategy E.3.1.1: Increase the level of institutional support for this program by increasing the number of UNCW GTAs to 20, the number of out-of state tuition remissions to 15, and the number of in-state tuition scholarships, currently sufficient to funds two students, needs to increase dramatically

Strategy E.3.1.2: Continue supporting the James Merritt Fellowship, which was initiated in the Fall of 2006. This Fellowship supports one new student each academic year as an RA (\$16,000 per calendar year) with full tuition support (remission from UNCW Graduate School funds, and in-state tuition from Merritt funds)

Strategy E.3.1.3: Seek additional sources of funds and endowments to supplement UNCW student stipends to a competitive level of \$12,000 per academic year with full tuition support for both in-state and out-of-state students, and provide summer support by increasing the number of CMS summer research stipends to 20 and the amount to \$1500

Strategy E.3.1.4: Establish a Marbionic Fellowship for \$18,000 per calendar year with full tuition support

Strategy E.3.1.5: Place information about graduate student fellowships on the program web page, and encourage students to apply

Strategy E.3.1.6: Encourage new academic faculty and qualified research faculty to become graduate faculty and advisors for students

Target Completion Date: Ongoing

Objective E.3.2: Increase diversity and maintain balance of disciplines among students in this program

Strategy E.3.2.1: Increase the level of institutional support for minorities in graduate programs in marine science

Strategy E.3.2.2: Actively recruit students in lower enrollment areas of marine science

Strategy E.3.2.3: Increase faculty strength in physical oceanography and mathematical modeling of marine systems

Strategy E.3.2.4: Utilize video classrooms to take advantage of marine science courses offered by other universities but not available at UNCW

Target Completion Date: Ongoing

Objective E.3.3: Aggressively recruit highly qualified potential students to apply to the MS marine science program.

Strategy E.3.3.1: Update and maintain the web page for this program (uncw.edu/mms). The program assistant makes revisions to the web page at the direction of the Associate Director and with the help of CMS webmaster Melissa Smith

Strategy E.3.3.2: Prepare bookmarks or brochures that faculty can take to scientific meetings and use for recruiting

Target Completion Date: Ongoing

Objective E.3.4: Encourage faculty and student input into managing the program

Strategy E.3.4.1: Utilize graduate coordinators in the science departments as liaisons with faculty and to help match student applicants with potential faculty advisors

Strategy E.3.4.2: Maintain a good representation from different departments and from research faculty on the CMS Education Committee

Strategy E.3.4.3: Invite MS marine science students to volunteer to join the CMS Education Committee; select two from different disciplines to serve

Strategy E.3.4.4: Conduct exit interviews with student who are about to graduate

Strategy E.3.4.5: Hold an open meeting for students with the Associate Director for Education at least one time per year

Target Completion Date: Ongoing

Objective E.3.5: Develop and implement an assessment plan to ensure continual improvement of the MS Marine Science program

Strategy E.3.5.1: The CMS Education Committee will build upon assessment strategies of the Departments of Biology and Marine Biology, Chemistry and Biochemistry, and Geography and Geology to prepare an assessment strategy for the MS marine science program.

Strategy E.3.5.2: Monitor placement of graduates into relevant positions and Ph.D. programs and record on the program web page

Target Completion Date: Ongoing

Goal E.4: Increase the presence and involvement of undergraduate students at CMS

Background: Many UNCW undergraduates, including science majors, do not visit CMS during their whole academic career. They therefore miss out on participation in activities at this excellent laboratory facility.

Objective E.4.1: Increase undergraduate research activity

Strategy E.4.1.1: Submit an NSF REU proposal, which includes a request for funding for ship time

Strategy E.4.1.2: Encourage DIS and honors students to work in the marine sciences

Target Completion Date: Ongoing

Objective E.4.2: Continue current efforts to teach upper level courses and honors courses at CMS during the academic year

Strategy E.4.2.1: Monitor and improve instructional technology in classrooms at CMS

Target Completion Date: Ongoing

Objective E.4.3: Develop and offer complementary summer courses for UNC system undergraduates, for example advanced oceanography plus marine biology

Strategy E.4.3.1: Hold several slots in courses and dorms for UNC students from campuses other than UNCW

Strategy E.4.3.2: Investigate the possibility of expanding the summer program into a semester

Strategy E.4.3.3: Develop a plan for construction of an educational/instructional building at CMS with living space, a large classroom, a small classroom and several wet labs on-site

Target Completion Date: Ongoing

Goal E.5: Provide unique opportunities that enhance the educational experience for UNCW students in marine science

Background: Shipboard experience and experience in conducting field research are essential components of education in the marine sciences. The Center for Marine Science provides special resources including ship time, small boat use, docking facilities, diving support and laboratories with running seawater to promote education in marine science.

Objective E.5.1: Increase opportunities for students in the marine sciences to participate in cruises and other types of fieldwork

Strategy E.5.1.1: Fund increased use of the RV “Cape Fear” and other research vessels for courses to ensure adequate availability for all relevant courses as the marine science curricula evolve at UNCW

Strategy E.5.1.2: Submit proposals with requests for educational ship time including REU proposals and proposals to DUNCOC

Strategy E.5.1.3: Compile information about cruises and field programs at UNCW and other institutions that have space for student participation and send the information to students at the beginning of each semester

Strategy E.5.1.4: Offer adequate field experience courses such as MSC 526 “Cruise and Field Sampling” every semester

Target Completion Date: Ongoing

VII. Service and Regional Engagement

Goal Statement: The Center is committed to helping southeastern North Carolina and particularly the Cape Fear region by providing educational opportunities, professional expertise, and technical support to address the important issues of coastal sustainability in the region.

Goal S 1: Establish the Cape Fear Region Marine and Coastal Cooperative

Rationale: President Bowles in his inaugural address stated, “In partnership with business, government, and other sectors of education this University must continue to seek out ways to help every region of North Carolina foster and stimulate economic growth. ... We must find better ways to share and apply the technologies developed on our campuses, and we must supply the expertise communities need to adapt to this global economy.” The UNCW Strategic Plan places very high priority on “establishing partnerships that improve the quality of life within our region.” Goal V of that plan is to “strengthen the University’s regional engagement and outreach activities.”

Objective S 1.1: Facilitate communication and interaction among CMS and the UNCW marine science program, other regional academic institutions, regional businesses, and government organizations in order to address local, state and regional needs and opportunities in marine science.

Strategy S 1.1.1: Identify key stakeholders and individuals in the region and invite them to form an organization modeled after the Cape Fear River Program that would encompass the entire Cape Fear region from the shelf to limits of tidal influence

Strategy S 1.1.2: Develop and offer information programs for business leaders and representatives of other appropriate organizations

Strategy S 1.1.3: Create a new position (Information Specialist) to act as a liaison between CMS scientists and the public and private sectors

Strategy S 1.1.4: Partner with the nascent UNCW Regional Engagement Center

Target Completion: Spring 2010

Goal S 2: Identify funding for, and begin planning, a visiting scientists facility at CMS

Rationale: Expansion of the physical facilities at the Myrtle Grove site to include living quarters and meeting rooms for visiting scientists is an essential aspect of meeting several of the other goals in this strategic plan, including development of interinstitutional programs in research and education, and regional engagement activities.

Objective S 2.1: Provide meeting space, laboratory space and on-site housing for visiting scientists and students at CMS

Strategy S 2.1.1: Work with University Advancement, Provost's office and external advisory committee to identify funding for a residence/meeting facility for visiting scientists at CMS

Strategy S 2.1.2: In the meantime, identify university subsidized housing for visiting scientists and students, and establish a mechanism to publicize the availability of this space

Strategy S 2.1.3: Link and coordinate these efforts to efforts to develop year round programs for visiting students

Goal S 3 Aid the dissemination of information about ongoing marine science activities to faculty, community members and managers

Objective S 3.1: Maintain up to date summary of research focus areas.

Strategy S 3.1.1: Focus group coordinators providing overview of research in their focus areas for publications, presentations and web sites

Strategy S 3.1.2: Aid faculty in maintaining web page with up to date information on research interests and currently supported research activities

Target Completion: Ongoing

Objective S 3.2: Establish mechanisms to expand center outreach activities.

Strategy S 3.2.1: Establish CMS seminar series to include outside invited speakers and faculty research

Strategy S 3.2.2: Develop an undergraduate Student Ambassadors' Program to lead tours for prospective students and local populous of CMS

Strategy S 3.2.3: Sponsor CMS Open Houses annually

Strategy S 3.2.4: Establish rotating exhibits at the Cape Fear Museum and Fort Fisher Aquarium

Target Completion: Ongoing

Goal S 4: Enhance the visibility of the Marine Science Program at UNCW.

Objective S 4.1 Develop a strong advertising/marketing plan for CMS/UNCW Marine Science

Strategy S 4.1.1: Publish a high quality information brochure in the form of an annual report or some other appropriate format

Strategy S 4.1.2: Maintain membership in the Consortium for Ocean Research and Education (or whatever it evolves into)

Strategy S 4.1.3: Continue active membership in the Southeast Coastal Ocean Observations Regional Association (SECOORA)

Strategy S 4.1.4: Continually evaluate potential for membership in state, national and international organizations promoting marine science research

Strategy S 4.1.5: Take a leadership role in developing a coordinated marine science program for the State of North Carolina

Strategy S 4.1.6: Support faculty release time for participation in development and administration of large research programs and for serving in leadership roles in national/international organizations within the marine sciences

Strategy S 4.1.7: Encourage faculty to consider rotational assignments within national funding agencies

Strategy S 4.1.8: Work with appropriate UNCW Offices to inform faculty of new funding initiatives and on strategies for securing multidisciplinary funding sources

Strategy S 4.1.9: Maintain calendar to keep track of meetings in which UNCW CMS marine science faculty and/or staff should be present as our (UNCW CMS) representative

Strategy S 4.1.10: Support faculty participation at relevant meetings to insure that the “voice” of UNCW is heard

Strategy S 4.1.11: Develop and maintain an informational and easily to navigate CMS Web Site

Strategy S 4.1.12: Hire a full time web/information specialist

Target Completion: Ongoing

VIII. Technology Transfer

Goal Statement: Identify, promote, and assist in the commercialization process of any marine-based product, process or technology that is developed within the Center for Marine Science, or in collaboration with colleagues at other academic institutions

Goal T 1: Explore research activities within CMS that may have commercial value.

Objective T.1.1: Foster the concept and benefits of Technology Transfer among researchers at the Center

Strategy T 1.1.1: Conduct informational seminars at the Center

Strategy T 1.1.2: Invite speakers from the Technology Transfer office to present information on the Technology Transfer process

Strategy T 1.1.3: Invite academics to speak who have successfully engaged in Technology Transfer

Strategy T 1.1.4: Invite business and industrial senior managers who have collaborated with academic research groups to present their recommendations

Objective T 1.2: Identify research activities at the Center that may have commercial value

Strategy T 1.2.1: Conduct an annual 1-day scientific meeting at the Center where faculty, students and staff, present their latest research results

Objective T 1.3: Facilitate communication and interaction with business, industry, and government

Strategy T 1.3.1: Invite appropriate representatives from industry and business to speak at Center seminars

Strategy T 1.3.2: Conduct a Round Table meeting with interested Center faculty students, and staff, with their counterparts from industry and business

Strategy T 1.3.3: Provide funding incentives to faculty and students to attend at least one business-orientated conference

Strategy T 1.3.4: Organize a 1-2 day conference on Marine Biotechnology at the Center

Objective T 1.4: Promote the opportunities that exist through the MARBIONC program and encourage additional faculty participation in the program.

Strategy T 1.4.1: Conduct an afternoon seminar at the Center describing MARBIONC activities

Strategy T 1.4.2: Invite external collaborators to present their experiences and results at this afternoon seminar

Strategy T 1.4.3: Inform faculty, students, and staff of the range of MARBIONC activities with brochures and features