

LOUISIANA UNIVERSITIES MARINE CONSORTIUM (LUMCON)

STRATEGIC BUSINESS PLAN

A ROADMAP FOR MISSION ALIGNMENT, CONSORTIUM
EFFECTIVENESS, AND FINANCIAL SUSTAINABILITY



BUSINESS PLAN TASK FORCE
OCTOBER 2015

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EXECUTIVE SUMMARY

“Field stations and marine centers are crucial components of our national scientific infrastructure that serve to connect scientists, educators, policy makers, and communities to their environments and enable scientific discovery and invention. In order to fulfill their vital roles, these centers and their leadership must continue to evolve, and remain financially viable¹”.

LUMCON VISION

The Louisiana Universities Marine Consortium will maintain a national and international reputation as a leading marine research and education consortium, and stimulate, coordinate and facilitate scientific research among the marine science and education programs within Louisiana.

LUMCON MISSION

To promote, facilitate and conduct research and education collaborations among Louisiana’s universities in marine and coastal sciences relevant to the sustainability of coastal and marine environments of the Gulf of Mexico.

Established in 1979 by the State legislature, under the Board of Regents, the primary function of Louisiana Universities Marine Consortium (LUMCON) is to serve in such a role for the State of Louisiana in marine and coastal sciences. The Consortium’s mission is to conduct research and promote education in the marine sciences and marine technology, particularly where related to coastal resources and the impact of energy-related industries upon these coastal resources. These functions are performed principally at the DeFelice Marine Center at Cocodrie, on the Louisiana Gulf Coast.

The Consortium, as a statewide academic endeavor, serves to focus and strengthen the effectiveness of the foundational marine science knowledge needed to address the environmental and socio-economic challenges facing Louisiana, specifically those related to coastal resources. The challenges facing policy makers, decision makers, and community leaders do not just remain; rather, their scope and complexity continue to grow as the impacts of changing climates, natural and man-made disasters, interactions between humans and their ecosystems, and the related ecological thresholds become more fully understood.

This report explores strategies to harness the power and potential of LUMCON to operate truly as a consortium of scientists and educators across the state. It seeks to address complex challenges facing LUMCON: developing stronger networks with universities,

establishing more entrepreneurial leadership and business planning, and documenting their performance. It is germane to note that the document outlines a Business Plan for financial stability and offers some suggestions related to operations including staffing. The authors acknowledge that while some of the proposed recommendations are within the purview of the LUMCON Executive Board, operational issues are governed by the Louisiana Board of Regents. Regardless, these hands need to steer the ship, collectively and with great intentionality, for the Consortium to succeed.

¹ *Enhancing the Value and Sustainability of Field Stations and Marine Laboratories in the 21st Century*, National Academy of Sciences, July 2014

PURPOSE AND BACKGROUND

The LUMCON 2016-2020 Strategic Business Plan presents the actions that need to be taken to achieve its Vision and Mission. The 5-year Master Plan for LUMCON² was approved by its Executive Board on August 19, 2015. This Master Plan articulates an overarching aspiration to grow LUMCON into a truly collaborative research and education consortium for the engagement and benefit of Louisiana's higher education community, by addressing the following goals:

- Strategic Goal 1.** Enhance Louisiana universities' marine science curricula with engagement in skill-based, field-based courses at the Marine Center and collaborative teaching opportunities across the state's universities.
- Strategic Goal 2.** Enhance the opportunities for research led by Louisiana's university faculty that utilize LUMCON's outstanding facilities and resources to their best advantage.
- Strategic Goal 3.** Support and maintain an outstanding marine facility for coastal and marine studies.

By achieving these goals, LUMCON is well-positioned to play a critical role in science and society by helping scientists better understand nature's response to shifting climate, to create the information and knowledge we need to act appropriately to conserve our marine and coastal ecosystems of the Gulf of Mexico, and to preserve our quality of life. The complexity of these challenges will increase in coming years. Louisiana Policy makers, community leaders and interested stakeholders increasingly recognize the value of using the best and the most current scientific knowledge to make well-informed decisions.

Increasing Demand; Decreasing Supply.

While demand for this type of research is growing, especially in the aftermath of the BP Oil Spill crisis, the supply of state funds for LUMCON is decreasing due to budget cuts at the state level, particularly for higher education. This situation is likely to remain the same in the near term, given the present price of oil and the state economy. LUMCON's primary challenge in the next 3-5 years is to evolve to a more financially sustainable model of operations with a lessened dependence on state allocated dollars; one that supports universities in the development and dissemination of new knowledge; and one that invests in maintaining a world-class marine center to support research and education.

In an era of tighter budget constraints, achieving its mission will take business acumen as well as scientific expertise on part of LUMCON's leadership. While the small contingent of Marine Center resident research faculty and staff have done an exemplary job of generating outcomes in marine education and research, they neither have all the resources nor the operating scale commensurate with the magnitude of the marine science challenges we face as a society. Through networking, incorporating more entrepreneurial leadership and developing new metrics of performance and impacts, LUMCON can better meet the challenges of a rapidly changing world. LUMCON must be strategic in its business decisions in order to successfully address the scale, scope and complexity of these challenges. And, it must operate within anticipated funding levels, while staying true to its mission and the three Strategic Goals articulated within LUMCON's 5-Year Master Plan.



² Louisiana Universities Marine Consortium (LUMCON) 5-Year Master Plan, 2016-2020

STRATEGIC BUSINESS PLANNING PROCESS

At the Executive Board meeting on August 19, 2015, Dr. Laura Levy, Chair of the LUMCON Executive Board and Dr. Joseph Rallo, Commissioner of Higher Education for the Louisiana Board of the Regents tasked Dr. Ramesh Kolluru, past Chair and member of the Executive Board, to assemble and coordinate a task force of business experts from member institutions to develop a Strategic Business Plan for LUMCON.

The overarching goals of the Business Plan are to make LUMCON viable, mission-aligned, and financially sustainable by 2020, enabling generations of marine scientists, educators, and students to benefit from this unique asset. In support of these goals, the Business Plan Task Force conducted an assessment of LUMCON's financial viability; a review of its products and services; an evaluation of staff activities in pursuit of the development and advancement of those products and services; and an examination of the alignment of current staff activities and resource allocation with the organization's Mission, its 2016-2020 Master Plan, and the three Strategic Goals contained therein.

The LUMCON Business Plan Task Force is comprised of the following members:

- Ramesh Kolluru (Chair), Vice President for Research, University of Louisiana at Lafayette
- Michael Banks, Instructor, Rucks Department of Management; Flores MBA Program; and Stephenson Entrepreneurship Institute, Louisiana State University
- Kenneth Chadwick, Head, Department of Management and Marketing, Nicholls State University
- Cherie Courseault-Trumbach, Associate Professor, Department of Management and Marketing, University of New Orleans
- Sherif Ebrahim, Director of Entrepreneurship and Innovation Education, Tulane University
- Quoc Hoang, Administrative Faculty, A.B. Freeman School of Business, Tulane University
- Geoffrey Stewart, Associate Professor in Marketing, University of Louisiana at Lafayette
- James H. Underwood III, Professor in Marketing, University of Louisiana at Lafayette

The LUMCON Business Plan Task Force identified the following key issues for its review:

- Identify opportunities for improved financial planning and operational efficiencies. Determine opportunities to reduce costs and use resources more effectively and efficiently.
- Define opportunities for expanding current business lines. Explore approaches to capture greater market share with current business lines, and the possibility of adding new lines.
- Provide operational guidance on activities and programs to be implemented as per the proposed Business Plan, including: Identify timelines for activities and programs; Establish realistic targets for defined timeframes, including quantitative objectives, where possible.
- Define the skills needed in the leadership team to pursue the implementation of the plan. Identify the need for new staff members (e.g., Development Officer) and any structural changes, such as the establishment of a 501c(3), to help implement the Plan. Provide guidance on the amount of time required in the on-going development and implementation of the Business Plan.

Based on an initial review of LUMCON's programs and functional units, the Business Plan Task Force organized its efforts to conduct a detailed review, and to provide recommendations for operational improvements and development of new opportunities in each of the following areas:

- Budgeting and Cost Accounting
- Education Programs: Marine Education (K-12) and University Education
- Research: Marine Center Resident-faculty Research, University Collaborative Research, and Marine Center Use as Core Facility
- Community and Industry Engagement
- Leadership & Staffing for Plan Implementation

A series of interactions (one-on-one phone calls, conference calls, and emails) between members of the Task Force; a site visit to LUMCON's Marine Center; detailed discussions with its faculty and staff as well as BTNEP leadership; emails to university representatives that serve on LUMCON Science and Education Advisory Council (SEAC) and Surveys of faculty members and researchers who taught courses at LUMCON's Marine Center and conducted their research using the facility followed as part of the discovery process. Conversations with leaders within stakeholder organizations (universities, organizations like the Water Institute) in Louisiana and marine centers/field stations outside of Louisiana, particularly the Dauphin Island Sea Lab (DISL) in Alabama, provided unique perspectives on the opportunities and challenges facing LUMCON. A complete list of interviewees may be found in Appendix A.

Staff at LUMCON's Marine Center, primarily Ms. Heidi Boudreaux and Dr. Nancy Rabalais, contributed immensely by providing financial, programmatic and operational data and spending countless hours on phone calls, meetings and emails. Their efforts were integral to our analyses and to our ability to provide informed recommendations. Members of the Business Plan Task Force are very grateful for their support. Further, we are in great awe of the research leadership of Dr. Nancy Rabalais, whose passionate and capable efforts have positioned LUMCON as a nationally recognized research program.

The Chair of the Business Plan Task Force, Dr. Ramesh Kolluru, is extremely grateful to all members of the Task Force for their diligence, persistence, and talent. While each member contributed their expertise in an exemplary fashion, and under significant time constraints, the Chair reserves his most humble thanks to Jim Underwood and Quoc Hoang. Without their intellect and support, this project would have been *work*.

Finally, the Chair owes a huge debt of gratitude to Dr. Joe Rallo, Commissioner of Higher Education; Dr. Laura Levy, LUMCON Chair & Vice President for Research of Tulane University; Ms. Uma Subramanian, Deputy Commissioner for Legal and External Affairs; and Regent Richard Lipsey. Their clarity of vision, understanding of the landscape, and sense of purpose epitomize the extraordinary virtues that are essential leadership traits for the successful implementation of this Business Plan.

KEY FINDINGS& RECOMMENDATIONS

An organization can only succeed when its key activities are in alignment with its core mission. It is evident from the LUMCON Master Plan for 2016-2020, and the three major Strategic Goals referenced earlier, that the stakeholders have a strong commitment to grow LUMCON into a truly collaborative research and education consortium, supporting Louisiana's higher education community in their efforts to enhance marine and coastal science. The Business Plan Task Force looked at strategic investments made, activities pursued, and key outcomes achieved, to determine the alignment between LUMCON's actions of today and expectations of tomorrow.

Key findings of the Business Plan Task Force are as follows, starting with *Good News* first:

- **STRONG FINANCIAL FOUNDATION:** While LUMCON still depends on a State investment of approximately \$2.3M annually, it is on a *robust financial footing*, with cash reserves carried over from year to year. The Center is likely to carryover about \$3M in residual funds into FY 2016. A significant amount of these funds have accrued from Indirect Cost (IDC) Recovery across multiple years, thanks in large part to two major GOMRI grants (2011-2015; and 2015-2020) that are currently active. Dr. Nancy Rabalais, LUMCON Executive Director, and a nationally regarded scientist, serves as PI of both major research grants.
- **GOOD FINANCIAL STEWARDSHIP:** The Executive Director and Chief Administrative Officer seem to have done a good job of financially managing the center within its means. The Center's accounting procedures and financial systems, however, lack capacity to determine if it is making money or losing money within each of its functional areas.
- **PROFIT CENTERS:** To the staff's credit, large Vessels are operated efficiently and effectively, not only covering their operating costs but also generating modest profits. During our discovery process, the Task Force members were informed and noted that there was excess capacity available (approximately 25%) to generate even greater revenues through vessels.
- **A MARRIAGE MADE IN HEAVEN?** Upon our analysis of incomes and expenses, Barataria-Terrebonne National Estuaries Program (BTNEP) seems to be a financially-robust, well-run, and operationally-aligned potential partner. There is already an MOU in place between LUMCON and BTNEP to leverage resources, including the BTNEP Foundation, a 501c(3) organization. There is a likely opportunity to operationally integrate BTNEP staff and programs with those of LUMCON in a more cohesive fashion, by:
 - Leveraging the existing Advancement/Development staff person at BTNEP. According to BTNEP director, there is a possibility to use this position for about 25-33% time to pursue advancement efforts for LUMCON.
 - Utilizing the BTNEP Foundation. LUMCON currently uses LSU Foundation to manage its endowments, donations, and gifts. According to Marine Center staff, their prior efforts in Advancement and Development efforts were sometimes unsuccessful because potential donors wanted to contribute to the Consortium and not any single member university as implied by donating to the LSU Foundation. The Task Force recommends that LUMCON move its foundation account from the LSU Foundation to the BTNEP Foundation (or create its own separate Foundation), and maintain separate accounts within the Foundation, as needed, pursuant to State law.



- Shifting LUMCON's current K-12 activities to BTNEP, where appropriate, leveraging its Community Education and Outreach mission.
- Exploring partnership with BTNEP to provide enhanced IT support at the Marine Center and to the Consortium, including networking; website design and maintenance; and marketing.

Now, here's the *Not-So-Good* News:

- *"TELL ME WHERE YOU INVEST, I WILL TELL YOU WHAT YOUR PRIORITIES ARE!"* Of the total state allocation of \$2.3M, \$460K is earmarked for BTNEP; of the remaining \$1.85M, approximately \$400K is spent on covering 75% of the resident Research Faculty salaries and benefits (over 21% of net state allocation), while University Education programs receive less than 5% of the overall state budget. Given the recently adopted 2016-2020 Master Plan, and the 3 Key Strategic Goals it identifies, historic patterns of spending state funds and resource allocations must be brought into alignment with LUMCON's mission priorities.
 - University Education Recommendation: Allocate greater amount of budget and resources to University Education which is one of the three Goals. Develop business models, marketing plans, and agreements with universities to make it attractive for students, participatory for universities, and profitable for LUMCON.
 - Resident Faculty Research Recommendation: Given the remoteness of its location, LUMCON's Marine Center is a difficult place to recruit resident faculty, especially into positions that are not tenured. The Task Force fully understands that historically LUMCON had to guarantee faculty 75% of their 12-month salary to work at the Marine Center (this % was set by the Executive Board and is not in legislation). It is clear that resident faculty and the director have been successful at generating external funds for their research, which could cover a portion of the academic year salaries in addition to summer support. Encourage faculty to cover more of their 9-month salaries from grants (while maintaining the 75% guarantee in the event of slow funding years), and incentivize them for doing the same. (e.g. Research Salary Incentive Program policy³ at UL Lafayette). This is likely to result in some savings of state allocated funds.
 - Member University Research: Within the overall research program, while it is necessary to allocate funds and resources to resident-faculty led research, it is also important to make investments in appropriate outreach efforts aimed at increasing research initiated by faculty members across the consortium member universities.
- *"WAL-MART LOW PRICE GUARANTEED!" IS NOT THE IDEAL BUSINESS MODEL FOR SCIENCE EDUCATION*: The K-12 and Marine Education programs seem to require significant resources. They do not, however, generate substantial offsetting revenues.



³ Research Salary Incentive Program, University of Louisiana at Lafayette, Office of Vice President for Research. <http://vpresearch.louisiana.edu/node/1377>

- K-12 Education Recommendation: The Task Force recommends that LUMCON's Marine Center re-evaluate the current "volume model" of K-12 education, and redirect resources to reentering the market with well-branded, higher-value programs (e.g., summer camps for Gifted-Talented Students.) In the meantime, and in addition, LUMCON should explore leveraging BTNEP's outreach and K-12 education mission to support current K-12 activities.



- *FIND SUNKEN TREASURE!* LUMCON spends more money on maintaining a library (~\$146K) - mostly a legacy of books inherited from Nicholls - than it does on arguably more important mission-critical operations such as Facility Maintenance and Operations (~\$138K); Security (~\$118K); University Education (~\$103K); and Café/Dorms (~\$122K). At a time when organizations are turning to digital collections, spending funds on staffing and maintaining a book/publication collection seems quaint and not a very good use of taxpayer dollars. We suggest that LUMCON Management Board establish a working group to explore the costs versus benefits of maintaining the Library. That said, the Business Plan Taskforce recommends turning over Library operations to its IT Division (to simultaneously achieve staffing cost reductions and modernization) and also explore opportunities to partner with BTNEP in strengthening IT infrastructure at the center and overall web-support (*see Appendix E, Fig E.6.*)



- *BE PROACTIVE*: Large vessels, the RV *Pelican* and RV *Acadiana*, are amongst the biggest sources of revenue generation for LUMCON. However, both of them are at risk and will face an eventual retirement in the next few years. LUMCON needs to be proactive and immediately develop and implement the *Asset Management Plan* called for in its Master Plan. The asset management plan should be connected to priorities and investments in vessels and facilities. The Center should earmark an appropriate amount of residual funds annually on Deferred Maintenance issues, while working with the BOR/DOA on annual capital outlay requests.
- *"NETWORKING IS CRUCIAL"*: A major part of the job duties of the Executive Director and leadership of marine centers involves networking with academic, community, political, civic, industry, and sponsor- agency leaders. Best practices suggest that the director, if a researcher, spend no more than 25% of time conducting and supervising research⁴. This referenced Manual and other marine center experts interviewed also recommend that these networking interactions must happen regularly with Presidents or Chancellors of member universities as well as research and academic leaders, on the campuses of member institutions. In addition, the leaders of the marine centers are expected to meet civic, business and political leaders to generate support and revenues for the Center. LUMCON should start looking into the future and develop a leadership model that enables the development & sustenance of relationships with key constituencies.

⁴ Proceedings of the National Science Foundation Workshop, "*An Operations Manual for Field Stations and Marine Laboratories*", April, 2001, edited by Susan Lohr.

- “*UNDER-PERFORMING AS A CONSORTIUM*”: While LUMCON may be succeeding as a Marine Center, a review of research and education collaborations, particularly those initiated by member institutions, suggests they do not fully exploit the potential for collaboration.
 - On their part, LUMCON’s Marine Center resident-faculty are doing their best, developing research on which they include researchers from member universities as co-PIs (*Appendix E, Table E.1.*) Likewise, the resident-faculty members seem to voluntarily spend significant time on member university campuses, teaching courses and mentoring students. Unfortunately, their collaboration is not proportionally reciprocated by member institutions. A review of research proposals initiated by member universities that include Marine Center resident faculty as co-PIs is disappointing. The picture looks only slightly better when one reviews research of members who use the Marine Center as a core facility (*Appendix E, Table E.2.*) We recommend that LUMCON hire a University Research Coordinator to continually work with the community of university researchers to build these collaborations.
 - We recommend that resident-faculty members minimize their participation in teaching classes and mentoring students at member universities, instead focusing their efforts on pursuing research and education activities that are vital to the Center’s operations. The SEAC & Executive Board should review and revise research, teaching and service expectations of new resident faculty hires (currently around 70%-20%-10% for research, teaching and service) and bring them more in line with that of soft-funded Research Scientists (100% research and teaching Marine Center courses) within research centers/labs than faculty at tenure-granting universities.⁵
 - We further recommend that LUMCON SEAC, Executive Director and the Executive Board review its request of pending resident-faculty hires (including, *Fisheries Ecology; Coastal Ecosystems Ecology; Coastal Hydrology; and Wetland Science*) and focus on defining positions that not only have the potential for generating external research funds and supporting university education at the Marine Center, but also strategically complement the strengths of LUMCON as a Consortium. As a consortium, LUMCON should continually review and evaluate its collective strengths, identify gaps therein and make strategic hires that fill those gaps. Engaging SEAC in LUMCON faculty search process will be critical in this regard.
 - We recommend that, whenever possible, resident faculty should be offered academic affiliations (tenured or otherwise non-tenured) with members, opening the door for leveraged hires (split salaries), shared indirect costs on research grants and enhanced collaborations.
 - Likewise, in University Education area, there are a number of LUMCON courses listed on course catalogs of member universities. However, only a small number of students and even smaller number of universities participate in LUMCON’s Marine Center summer courses. Revenue sharing and cost recovery models for educational use of the Marine Center by member institutions and non-member out-of-state entities could be vastly improved. There is a need to increase staffing and coordination within the areas of University Education and University Research.

The following sections present key **Observations** of the Task Force in each of the areas of study, along with their understanding of the **Implications** of current LUMCON practices and approaches. In addition, the Task Force members provide specific **Recommendations** for actions along with a

⁵ No changes are recommended for contractual arrangements of existing resident faculty.

timeline. Finally, the Task Force identifies ways to measure (Metrics) the ***Outcomes*** and sets some measurable, quantifiable Objectives (***Underlined***) for an implementation period of 2016-2020.

STRATEGIC BUSINESS PLAN & ACTIONS

According to Jerry Schubel⁶, “*To be sustainable, many field stations will need to place greater emphasis on good business practices. A business plan that includes a clear, compelling, and comprehensive value proposition is crucial both to secure continuing support from host institutions and to develop new and diverse sources of funding. Furthermore, station leaders should be recruited and evaluated not only for their scientific credentials, but also for their leadership, management and entrepreneurial skills. Mentoring of field-station leaders would help them develop and hone management, business planning, and fundraising skills.*”

The Business Plan for LUMCON is predicated upon the following principles:

- 1) There will continue to be an annual allocation from the Louisiana Board of Regents,
- 2) As recommended in the Budgeting and Cost Accounting section, cost centers for each program will be developed and income/expenses determined for each cost center,
- 3) LUMCON will establish a process to review periodically and assess the performance of its programs to assure they are meeting operational goals and quantitative objectives,
- 4) While financial viability is desired, total financial self-sufficiency is not a goal, and
- 5) Achieving the mission of consortium operations as defined in the Master Plan, *albeit difficult*, will take precedence and receive priority in the allocation of resources.

The LUMCON Business Plan lays out recommendations for addressing budgets, and costs and financial management of programs and facilities, based on the principles identified in the seminal treatise on operating field stations and marine labs⁷. The following steps are essential for creating a business plan that leads to cost-recovery for a field station:

a. Recognize and quantify the fundamental institutional obligation.

Best practices in marine centers suggest that a fundamental financial commitment from the sponsoring institution is essential. Such a commitment is expected by donors and by outside funding sources such as the National Science Foundation (NSF) and other granting agencies. In the case of LUMCON, the Louisiana Board of Regents has taken an appropriate leadership role in providing baseline funding and leadership oversight to the Center. While challenges remain, this funding and leadership by the BOR is critical to continuing the successes of LUMCON. We urge the Board of Regents to continue to maintain its current level of investment (~\$2.3M) in LUMCON.

b. Develop and define cost-centers for all activities.

LUMCON needs to determine the cost of providing research space, courses, housing, food service, utilities, maintenance and deferred maintenance, depreciation, etc. by assessing the expenses associated with each functional area at the marine center. This process will enable LUMCON to better manage its revenue and cost centers. The accounting systems in place at the Center today do not allow for this type of analysis.

The basic cost of providing the facility can be divided by the number of potential daily users to develop a station use fee. Eventually this fee will lead to reducing then minimizing the basic expense to the BOR for providing support to LUMCON. Fees for use of specific services such as courses or housing can be calculated by knowing the cost of providing those services.

⁶ Public Report Briefing, Jerry Shubel, “*Enhancing the Value and Sustainability of Field Stations and Marine Laboratories in the 21st Century*”, July 2014.

⁷ Proceedings of the National Science Foundation Workshop, editor Susan Lohr, “*An Operations Manual for Field Stations and Marine Laboratories*”, April 2001.

c. Determine which programs can legitimately recover costs.

There are a number of policy decisions that must be made to determine how to charge for LUMCON facility use. Should lab rental and can faculty expenses be charged back to universities, if they are not grant-funded? If faculty members have research grants, then they definitely should be charged use fees, at rates that recover LUMCON's cost of providing those services. Once areas of subsidy are recognized and accepted, space allocations need to be made for each type of activity, to avoid having all the space at LUMCON taken up by subsidized programs, leaving no room for income-producing users.

d. Develop programs that meet mission and recover costs.

While there are an almost infinite number of possible programs that will fill up the day and consume precious resources, there are potentially a large number of current and new programs that will pay fees for use of LUMCON, and will also generate revenue to offset the BOR's financial obligation. Some examples for consideration of the leadership include summer courses for select high school students; multiple runs of summer undergraduate and graduate students; intensive workshops; corporate training or retreats or conferences relating to science and policy integrated with a complete "*South Louisiana Immersion Experience*" that includes culture, cuisine and eco-tourism; and sponsored research with grant and overhead income.

Any proposed program should undergo an effort/return on investment (ROI) analysis, and decisions should tend to promote those programs that offer maximum financial return for effort expended, as long as the mission of the Center isn't violated.

e. Target grants, donations and gifts in a focused development program.

Although fundraising activities directed toward donors should not provide the basic operating income for LUMCON, it can be a significant component of overall financial health. Any opportunity to generate an endowment should be taken. For example, ideally a portion of funding for capital improvements would be set aside in a maintenance endowment to provide future annual income toward the expense of staff and materials for facility upkeep.

Development staff at BTNEP will likely be very helpful in outlining realistic approaches to the wide variety of fundraising options available. Planned or deferred giving (wills, trusts, etc.) should not be overlooked.

f. Identify specific programs that can grow to enhance cost recovery.

There are several current programs that do not produce revenue or have participation to a desirable level of their potential. Among these are the University Education program which is low on both the number of universities offering courses through LUMCON and the number of students enrolled from each university. The LUMCON marine division (vessels) reports having excess capacity which it can use effectively to produce more revenues.

g. Develop long-term projections of revenues and costs.

Based on the aforementioned, and recommendations contained hereinafter, LUMCON's leaders should develop a model for projecting revenues and costs associated with the various programs, and continue doing so as new opportunities arise and are explored.

Each of the following sections contains a table that details the specific **Observations, Implications, Recommendations** (R1-R19), and **Outcomes**, pertaining to each component of this plan. We begin with matters related to Budgeting, and Accounting and the overall management of Costs and Revenues s. This is followed by a review of Marine Center Education programs, Marine Center Research, University Collaborative Research, University Researchers' use of the Marine Center as a Core Facility, and Community and Industry engagement. The final section addresses LUMCON and Marine Center management and leadership matters.

BUDGETING AND COST ACCOUNTING

Good management and governance require, in general, that the organization's leadership understand the basic financial underpinnings of each of its business units, individually and as they contribute to the overarching organization. Accordingly, organizations must create functional accounting systems that enable them to fulfil their fiduciary responsibilities to their governing institutions, and manage their activities according to good business principles. The Executive Director bears the proximate, if not the ultimate, fiduciary responsibility for the financial health of LUMCON. As a statewide consortium of universities in marine sciences, LUMCON is governed by the fiscal policies of the Louisiana Board of Regents and the Division of Administration.

Task Force members conducted an assessment of LUMCON's Budgets and Marine Center's functional unit costs, based on FY11-15 data that was made available by staff to determine where funds are spent and revenues are generated. The Task Force reviewed actual incomes and expenditures through fiscal year closeout by categories (salary, services, supplies, etc.) and by function/institutional department (i.e., research, public, admin, vessels/café/dorms, etc.). The team evaluated the financial reports that LUMCON's staff produced and submitted to the Executive Board, Louisiana Board of Regents and other entities. Table 1 below summarizes the results of Task Force analyses of Budget and Cost Accounting procedures.

Table 1 Task Force Analysis of Budgeting and Cost Accounting Procedures

Observations	Implications	Recommendations	Metrics, Outcomes, and Objectives
LUMCON's financial budgeting/reporting is based on standard state agency format, and not well-suited to managing its business operations.	Difficult to match program costs/revenues with activities. Today, significant staff time is needed to produce management reports for main activities. Any additional performance metrics & reporting is maintained in separate spreadsheets. Hard to identify revenue /cost /profits for activities.	R1. Define cost center framework for managing finances across various areas of operation with appropriate levels ⁸ . Align the existing chart of accounts with cost center structure, so it becomes clear if each functional unit is losing or making money.	Develop <u>Cost Center Structure</u> , with supporting <u>Chart of Accounts</u> , by the end of current fiscal year.
In FY15, LUMCON has carryover funds of \$6.8M including accumulated surplus (\$2.9M) and obligated research funds (\$3.9M). However, all direct and indirect costs are not included in these carryover amounts.	Some programs show a profit carryover, due to the fact that a portion of related direct and indirect costs were not allocated to the program. Unclear which programs are profitable and which are not.	R2. Develop a policy and a shared governance model to allocate a portion of carryover funds and annual state budget towards investments in areas that are strategically important.	A <u>Policy</u> for using state allocation and surplus funds is developed and approved by the Executive Board by the end of the current fiscal year.

⁸ Consistent with recommendations related to finances in section V of *An Operations Manual for Field Stations and Marine Laboratories* (Lohr, April 2001).

Observations	Implications	Recommendations	Metrics, Outcomes, and Objectives
Absence of periodic (e.g., quarterly) financial management audit reporting (e.g., income statement, balance sheet) in more detailed than the BOR format.	Difficult to proactively manage Center operations and assess the cost → revenue → profit consequences of management decisions.	R3. Develop periodic (e.g., quarterly) financial statements and audit reports that includes detail at the Revenue /Cost Center level.	Develop a format of periodic <u>Audit Reports and Financial Statements</u> by the end of the current fiscal year.

Based on the foregoing, LUMCON should develop Cost Recovery policies based on specific knowledge as to exactly what its expenses are for each activity, and where the funds come from to meet those expenses. While LUMCON is not in the business of making profits, it cannot afford to lose money either. Therefore, determination of appropriate usage fee is important. It is better to have a set fee and make a waiver or offer a scholarship, rather than not having a fee. ***Subsidy decisions should be intentional, not subliminal.*** It is important, however, to set reasonable fees so as to not discourage use or limit research and educational productivity. The fees should take into account ***ALL Costs of*** service contracts for vessels, cafeteria, and replacement costs of equipment. LUMCON could consider setting up different usage fees depending on the user, i.e. internal versus external users; academic fees versus corporate/industry fees, etc.

As a Marine Center, LUMCON is extremely *valuable*. We need to ensure that it remains financially *viable*!

EDUCATION PROGRAMS

Most marine centers consider education programs as integral to their mission, *and* opportunities for revenue generation. Planning efforts must, therefore consider which educational programs are appropriate from both a mission and revenue perspective. Most marine centers consider the following types of educational programs:

- ***Pre-Kindergarten through 12th grade (PreK-12).*** The Operations Manual for Field Stations and Marine Labs states that “*the role of FSMLs in formal PreK-12 education should be carefully defined, since these programs can easily come to dominate the daily life of a FSML.*”
- ***Supporting undergraduate education.*** The role of LUMCON in undergraduate educational offerings should be clearly defined at the Board of Regents level, and in working with each university. The Marine Center’s role can range from offering a site for visiting classes during regular semesters, to sponsoring undergraduate courses from the sciences, arts, humanities or other disciplines, during summer sessions. Uses include being a field trip destination, providing space and resources for resident courses, part of a required curriculum component for some majors, or providing research training in the field.
- ***Facilitating graduate student research and education.*** Marine Centers may provide facilities for graduate students to undertake their thesis or dissertation projects. The benefit of having graduate students extends beyond supporting their research to having in-house resources to support other Marine Center educational programs, such as PreK-12.



The Task Force reviewed current K-12, university undergraduate and graduate programs for the past 3 years. The two following sections discuss the findings of the Task Force.

MARINE EDUCATION PROGRAMS

Marine Education Programs of LUMCON are geared toward K-12 students and providing educational opportunities for K-12 teachers during summers at the Marine Center. It is germane to note that the newly approved LUMCON Master Plan prioritizes University education over K-12. An analysis of the K-12 program activities, costs and revenues over the past few years reveals that the Marine Education staff has been operating a "low-price/high-volume" program for quite some time (and therefore has little experience operating "high value/high-impact" programs).

Any consideration of increasing the costs of programs, even by small amounts, has been disregarded because of concerns for lost activity and interest. In addition to staff salaries, K-12 education requires significant overhead, employee resources, facilities, and opportunity costs because of the current high volume model. Further, considering that the facility is geographically remote, Marine Center Staff opine there are limited opportunities to increase volume (necessary for the current low-price/low-cost strategy) of K-12 activities during the school year for students, and that traditional patronage would decline if the Marine Center increased fees.

There is little evidence, however, to support either of the following implicit contentions:

- 1) the K-12 program creates opportunities to generate future revenues, and therefore is an acceptable "loss-leader"; and
- 2) the students/parents/teachers of Louisiana are not willing to pay a premium for the LUMCON experience, as is packaged and provided today.

Table 2 Task Force Analysis of Marine Education (Pre-K – 12) Programs

Observations	Implications	Recommendations	Metrics, Outcomes, and Objectives
The fees charged for LUMCON's Marine Education program are generally low; staff is concerned about raising fees. LUMCON pays K-12 teachers to spend a portion of their summer at the Center to get trained.	LUMCON is not recovering the cost to deliver these high-volume programs. Even when K-12 programs are funded by grants (not the case), there are opportunity costs. People often equate low cost to low value.	R4. Re-evaluate K-12 education and Teacher Training programs. Leverage K-12 partners to serve as a feeder to high-value programs. R5. Develop high-impact programs for niche audiences.	Exit current programs after completing contract obligations, preferably by June 2016; Develop a <u>Revenue Model</u> and a <u>Marketing Plan</u> around niche K-12 programs, and re-enter the market by July 1, 2017.

Summary Recommendations: LUMCON should transition from a mass-market/ low-cost strategy to a more focused-differentiation strategy.

- Survey past and current patrons to determine which of the current K-12 efforts might serve as feeders to the niche program, while simultaneously exiting the business of K-12 education as it stands right now. Explore a partnership with BTNEP to serve K-12 segment. Likewise, eliminate Teacher Training programs – they are costing LUMCON money that it can't afford to spend⁹.
- Re-prioritize investments in niche "high-impact/high-value" programs that focus on (1) AP® courses (e.g. *Environmental Science*), especially given LA's push for increased access through MFP-funded *Supplemental Course Academy*. AP enrollment has increased 18.6% from 2014 to 2015. (2) Summer camps for gifted-talented (GT) students, and (3) adult education (e.g. photography). These programs would target a more "attractive" niche of students - in terms of academic achievement and also willingness to pay a premium for the LUMCON experience.
- Increase fundraising activities related to development/investment in education infrastructure at LUMCON (classroom, Internet connectivity, labs, forms, facilities), so that LUMCON can provide a more high-value experience for new target patrons.

UNIVERSITY EDUCATION PROGRAMS

At the current time, the University Education Programs of LUMCON are primarily focused on supporting Undergraduate Education, primarily during the summer session. The Task Force used 2014 and 2015 program data as base line for developing recommendations and objectives for LUMCON's University Education programs. The analysis entailed identifying the following:

- Name and number courses currently offered at the Marine Center, by member universities.
- Names of instructors and universities teaching courses.
- Amount of tuition and fees collected by host universities for those courses.
- Amount of facility fees collected by the Marine Center for those courses.
- Amount of stipends and support costs are paid by the Marine Center to university faculty teaching courses at the Marine Center.
- Name and number of courses taught during regular semesters and during intersessions.
- Types of activities in which existing University Education/Marine Education staff members at the Marine Center are currently engaged.

Analysis of this information enabled the team to assess the costs and revenues of LUMCON's University Education program, identify opportunities for growing the program by using activities such

⁹ Exit programs only upon completing deliverables on existing contracts such as CWC/GOMRI.

as distance learning technology, creative scheduling, field study excursions, team teaching, visiting scholar programs, and graduate student research programs. The focus is on increasing student enrollment, and university offerings of courses to enhance and grow the program to the point where it is attractive to students, teaching faculty, host universities, and other participants.

The University Education program is fundamental to LUMCON's mission. It serves a valuable role for marine education for both undergraduate and graduate students. It also offers LUMCON research and teaching staff opportunities to interact with member university faculty and students, thus complementing university research and education programs across the state. However, the University Education program, as presently structured, is not fulfilling its promise in two important ways. First, Marine Center course offerings are not financially self-sustaining because their costs to the Marine Center exceed their revenues. This situation comes about because: (1) course offerings are limited in number, timing, and delivery methods, (2) while some universities are actively using and supporting the Marine Center in a significant manner, the number of universities offering courses at the marine center is low, (3) overall, the number of courses offered is low, and (4) the average enrollment per university is low. The first four columns of Table 3 show the specific numbers. Second, enrollment and university participation aside, the Marine Center incurs faculty and other instructional costs in conducting courses but student tuitions and fees remain at the universities through which students register. In sharp contrast to LUMCON is the Dauphin Island Sea Lab, where member Alabama universities send 90% of the tuition and fees they collect to DISL.

In the interest of growing the present University Education program, the team constructed a business model of revenue growth based on past course offerings, enrollments, university fees and tuition charges, and LUMCON fees and charges, using 2014-2015 as base year. The model combines these numbers to arrive at revenues generated by the Higher Education program and projects objectives for revenue performance for a three year period, if 33%, 50%, and 66% of tuition and fee revenues collected by the Universities were shared with LUMCON's Marine Center.

The model is based on an objective of increasing both student enrollment and university participation by 25% each year for three years hence. While a 25% growth rate may seem large, the numbers are actually reasonable given where the Higher Ed program is now, particularly in the absence of an existing concerted program to grow it. Table 3 shows the numbers accompanying these growth objectives. Mobilizing an outreach program to reach these objectives and combining it with a means for the Marine Center to share appropriately in university tuition and fee revenue will make its Higher Education program financially sustainable, almost immediately. It is worth noting that this example in Table 3 is based on increasing market penetration with existing products (courses); the opportunity is higher when products are expanded.

Table 3 Enrollment and Revenue Generation Potential of University Education Programs

Year	Average Enroll Per Univ.	# Univs. Teaching Courses	Total Enroll all Univs.	Objective: # Enroll Per Univ.	Total Revenue all Univ.	Average Revenue Per Student	LUMCON Revenue @ 33% share	LUMCON Revenue @ 50% share	LUMCON Revenue @ 66% share
2014-2015: ~ Baseline	9	10	90	9	\$167,114	\$1,857	\$55,649	\$83,557	\$111,298
2015-16: Objective	11	13	141	11	\$261,116	\$1,857	\$78,335	\$130,558	\$173,903
2016-2017: Objective	14	16	220	14	\$407,993	\$1,857	\$122,398	\$203,997	\$271,723
2017-2018: Objective	18	20	343	18	\$637,489	\$1,857	\$191,247	\$318,745	\$424,568

To meet, and possibly exceed, these objectives, recommendations are summarized in Table 4:

Table 4 Task Force Analysis of University Education Programs

Observations	Implications	Recommendations	Metrics, Outcomes, and Objectives
LUMCON pays University faculty to teach summer courses at the Center, but receives no share tuition and fees	Program generates costs but limited revenues. Instructional and support resources used are non-trivial.	R6. Hire a full-time Univ. Edu. Coord. to develop MOUs with universities, to grow the program	Work with SEAC to develop <u>MOUs with members and equitable Revenue Sharing Agreements</u> between LUMCON & members, by FY 16.
Courses presently offered have low enrollment. University participation is low. Course offerings (content/format/delivery) are limited except for summer.	LUMCON has opportunity to deepen relations with universities for curriculum development, course offerings and delivery methods.	R7. Engage member & universities; focus on expanding market penetration; new curriculum; timing alignment; and delivery methods.	<i>Metrics:</i> Develop <u>Plan</u> to grow enrollment & university participation by 25% annually enrollment; no. of courses; no. of universities; revenue; cost. <i>Outcomes:</i> Growth; cost recovery; "profit"
LUMCON's Marine Center should be marketed to students outside of LA, especially where such marine centers are not available.	Today, this asset is not serving its fullest potential in developing the next generation of marine scientists.	R8. Address issues of <i>out-of-state fees; need for a host university & course articulation</i> with non-member schools.	Develop <u>Plan</u> to market LUMCON courses beyond LA, by FY 2017. See Metrics, Outcomes, and Objectives above; establish comparable targets for non- member Universities.
LUMCON should offer training/certificate courses to non-traditional students in the workforce, or seeking to move from 2- to 4-year programs.	Opportunities for revenue generation; expansion of interactions with industry remains unexplored.	R9. Engage clients in public and private sectors; work with BTNEP & LCTCS to use IWTP and establish a training program.	Develop <u>Plan</u> to market LUMCON courses to industry and 2-year programs, by FY 2017. Launch demand-driven training programs in FY 17, with 10% yearly increase in courses, enrollment and revenues.

Summary Recommendations: Establish a university outreach program, with a dedicated University Education Program coordinator, to:

- Work with member universities to grow enrollments in marine center courses; expand university participation/offering in marine center courses; expand, enhance Marine Center course offerings; enhance delivery methods for Marine Center courses including distance learning, and enhance scheduling of course offerings for flexibility in timing and duration.
- Explore and develop opportunities for non-member universities to participate in LUMCON University Education, including out of state and international universities.
- Explore and develop opportunities for other potential educational- and public-private sector collaborations, such as Community and Technical Colleges; Public Safety and First Responders; and Oil, Marine, Maritime. Louisiana Workforce Commission's Incumbent Worker Training Program is a potential source of funding.

As a Marine Center, LUMCON is an invaluable asset for Education! We need to be thoughtful about the programs we pursue. Make it powerful!

RESEARCH

LUMCON supports research needs of resident faculty as well as faculty from member universities. According to the Operations Manual¹⁰, marine centers should recognize that agencies like the National Science Foundation tend to decline proposals that do not show significant research use (approx. > 25%) by the scientific community beyond the resident faculty. Today, most visiting faculty members use the Marine Center as a core facility; there are untapped opportunities for research collaborations between resident and consortium researchers. We reinforce that LUMCON and Marine Center should actively be involved in research, given the opportunities in place today, and funds for coastal protection and restoration through various sources such as the RESTORE Act, CPRA, the Water Institute for the Gulf Center of Excellence, and others that will soon become available.

In order to examine the research profile and productivity of LUMCON – as a Marine Center and as a statewide consortium, the Task Force members looked at three distinctive models of research currently in place at LUMCON. Firstly, the Task Force examined research activities of the resident research faculty at the Marine Center. The center’s budget was evaluated to understand the allocation of state funding to resident research faculty and to determine if there was a positive return on investment in terms of externally generated funds (direct and indirect costs) by these researchers. Secondly, the Task Force members evaluated the effectiveness of LUMCON as a consortium by examining funded research projects that were initiated by Marine Center resident-faculty that included member universities as partners and vice-versa – to examine the level and reciprocity of funded research collaborations by university partners. Thirdly, the Task Force studied the usage of the Marine Center as a core facility by studying the invoices issued by the center to university researchers for the use of the vessels, boats, dorms and cafeteria to support their externally funded research.

Table 5 below summarizes the results of Task Force analyses of Research at LUMCON.

Table 5 Task Force Analysis of LUMCON Research

Observations	Implications	Recommendations	Metrics, Outcomes, and Objectives
The small number of Marine Center resident-faculty conduct funded research that generates direct and indirect costs vital to operate the Center.	Over the past 4 year period (and for the next 4 years,) resident-faculty research is generating a positive return on investment for LUMCON, generating substantially more funds than it is consuming.	R10. LUMCON must re-evaluate current & future resident-faculty effort loads to place greater emphasis on funded research to grow the Center.	By the end of the FY 16, develop a <u>Resident-faculty Effort Policy</u> that is more in-line with national labs than with academic programs.

¹⁰ *An Operations Manual for Field Stations and Marine Laboratories* (Lohr, April 2001).

Observations	Implications	Recommendations	Metrics, Outcomes, and Objectives
The resident-faculty include researchers from member universities as co-PIs on their projects. This is not reciprocated by member universities in a commensurate way.	Member universities benefit from funded research of resident-faculty (See Appendix E, Table E.1.) ¹¹ The Marine Center or its faculty members are not included for funding on research grants of members in a similar manner.	R11. Hire a full-time Univ. Research Coordinator and use SEAC to fill vacant resident faculty positions to create greater synergies. Leverage resources for joint-hires between the Center & members.	Working with the SEAC, develop a <u>Strategic Research Collaboration Plan</u> by the end of FY 17 to identify issues and to increase collaborative research annually by 25%.
When member university faculty engage the Marine Center (as research collaborator or core facility), fees are charged to use LUMCON assets (e.g., researchers, vessels, café, dorm, etc.) based on published rates.	On paper, research seems to generate a profit, assuming that the Fee Schedule reflects true direct costs. While they <u>may</u> be covering direct costs, LUMCON is not receiving any portion of indirect costs because there is no current mechanism in place.	R12. LUMCON conducts a cost analysis of its research support to member & non-member universities to make sure loaded costs (direct plus marginal indirect costs) are fully recovered.	LUMCON updates <u>Pricing Schedules for Research</u> by the end of FY 16. Future sub-award & core facility proposals should use this costing.

As indicated in the foregoing, Marine Center resident-faculty are doing their part, developing research proposals on which they include researchers from selected member universities as co-PIs, who receive substantial amounts of funding through sub-awards. Likewise, the resident-faculty seem to spend significant portions of their time on some member university campuses, teaching courses and mentoring students, for which they seem to receive little or no credit, funding, or recognition.

Unfortunately, their spirit of collaboration is not commensurately reciprocated by all member institutions. A review of research proposals initiated by member universities that include Marine Center resident faculty as co-PIs is disappointing. The picture looks only slightly better when one reviews funded research activities of member universities who use LUMCON's Marine Center as a core facility (Appendix E, Table E.2). We recommend that LUMCON hire a University Research Coordinator to continually work with Executive Board and the community of university researchers to establish defined goals and objectives for University-initiated research collaborations.

Summary Recommendations: Establish an outreach program, with a dedicated University Research Program Coordinator, to:

- Develop effort policy for resident faculty to ensure that resident-faculty time is spent on activities directly aligned with revenue generation needs of the Marine Center; All resident-faculty hires coordinated with, and annually evaluated by, the SEAC to make sure they are actually strengthening the Consortium, as opposed to becoming competitors. When possible, resident faculty should have academic affiliations (tenured or non-tenured) with members, leveraging funds

¹¹ For example, of the total \$34M across 5 funded projects led by Dr. Rabalais, the Marine Center retained only \$9.0M (26% of the total); LUMCON university members received \$15.8M (46%), with LSU System accounting for \$15.2M of the \$15.8M

for joint-hires (split salaries between the member and LUMCON), shared indirect costs, and enhanced collaboration. When tenure is offered, salary burden could fully transition to the member institution; if denied, these scientists could transition to non-tenured soft-funded positions at the Center, at the discretion of the Executive Board & Executive Director.

- Work with member and non-member universities to grow collaborations with the Marine Center;
- Develop pricing schedules for research related services to recover all direct costs and indirect costs, while keeping prices affordable to engender collaborations;
- Develop a policy for sharing of indirect costs on collaborative research projects with members;
- Develop a policy for intellectual property (IP) protection, technology transfer, commercialization, and revenue distribution for the Marine Center researchers, and consortium member collaborations
- Develop policies to determine the relative allocation of resources to resident researchers and visiting researchers from other academic institutions. Procedures should be developed to allow decisions about resource allocations to researchers when demand for funding support, housing, labs, research sites and other facilities exceeds capacity.

**As a Marine Center, LUMCON is an asset for scientific discovery and innovation!
LUMCON needs to stimulate University Research collaborations across the state.**

COMMUNITY AND INDUSTRY ENGAGEMENT

It is important to note that many marine centers enter into community engagement, education and outreach activities to generate some revenue, and find they are ultimately overwhelmed with requests to accommodate school groups. A careful watch should be kept on what percentages of LUMCON's resources are devoted to participation in community engagement and public education, since conflicts with research use of space and facilities are common. Respondents to a survey of the National Association of Marine Laboratories and the Organization of Biological Field Stations (OBFS) ranked *collaboration* and *networking* as the two greatest public benefits that field stations could provide (NAML-OBFS 2013b). Over 40 percent of the respondents reported that their field station is involved in some type of public outreach or engagement activity—spanning traditional public outreach, consultation with industry, community mediation, and environmental policy mediation and advising. Comments indicate that those field stations are highly engaged in their communities and responsive to their communities' needs and opportunities.

Marine Centers often pursue formation of local and informal networks. Networking can also help in raising funds from nontraditional sources. For example, foundations often have specific funding priorities for projects that are either topically or regionally based. Available grant funds vary from a few thousand dollars to millions of dollars. Table 6 below defines a roadmap proposed by the Task Force for an effective community engagement program.

Table 6 Task Force Analysis of LUMCON's Community Engagement Potential

Observations	Implications	Recommendations	Metrics, Outcomes, and Objectives
LUMCON mission is in-sync with interests of many organizations, not just in Louisiana, but across the US and around the world.	Opportunity to partner with organizations to carry out similar missions. Opportunity for grant monies in support of LUMCON's mission.	R13. Identify and prioritize such organizations based on mission match and potential for value creating relationships. Identify organizations that fund solicited and unsolicited grants.	Within 6 months of adoption, identify 25 organizations with similar missions; Within 12 months submit grants to 2 organizations.
LUMCON/BTNEP and Barataria-Terrebonne Estuary Foundation (BTEF) agreement calls for BTEF to solicit gifts for the support of LUMCON/BTNEP's programmatic goals.	Agreement has potential to provide needed assistance in industry & community development, gift solicitation, and other program support for LUMCON.	R14. Explore the possibility of establishing broad-based synergistic linkages between LUMCON and BTNEP, as constrained by their missions, funding, and governing bodies. Develop a plan that defines the collaboration, clarifying roles and expectations.	Within 3 months develop a plan with BTNEP on initiatives they can develop in support of LUMCON specific to K-12 instruction, Teacher Preparation, IT support, outreach, community engagement, and public service missions.
Lack of outreach /engagement with community and industry for <i>development</i> and <i>advancement</i> .	Missed opportunities for enhancing revenue, programs & image, through the BTEF agreement that is in place.	R15. Even if broad-based links can't be established, implement the current BTEF Agreement to charge a staff member with Outreach /Community Engagement jointly on behalf of LUMCON & BTNEP.	Define a position to be charged with Industry & Community Outreach within 6 months. Establish an industry training programs in partnership with LCTCS to produce credit and non-credit certifications.
Community engagement should focus on activities that increase an understanding of LUMCON's value.	Importance of community engagement not fully realized.	R16. LUMCON doesn't have to do it all by itself. Develop a "Citizen Science" Plan to engage enthusiasts & volunteers in initiatives. (e.g., America's WETLAND Conservation Corps).	Within 3 months identify programs to involve citizens in the observation, collection, and analysis of data; Within 12 months implement plans for dissemination of impact.

Summary Recommendations: Establish a community engagement and outreach program, in conjunction with BTNEP, to establish mutually beneficial results.

- Numerous individuals and organizations in the region and across the globe care about marine science, earth and environment. Identify and establish databases with their contact information. Build programmatic guidelines for time and resource allocation. The desired return from outreach activities should be weighed against the effort of time and expense involved. Many outreach activities involve great expenditures of effort for little potential return.
- LUMCON has an opportunity to go beyond its current “Program Administrator” role for BTNEP to doing more together. It should explore a broad-based partnership because both organizations seem aligned in mission and values - making a positive impact on communities and the environment through research, education and outreach.
- Utilize the existing Affiliate Agreement with BTNEP to explore and implement a joint Development /Advancement strategy for donations, corporate gifts, etc., using the BTEF. Alternatively, establish a separate 501c(3) Foundation to support LUMCON in accordance with state regulations, or something similar. Leverage the Foundation to pursue funding sources, including:
 - ✓ **Foundations:** There are a large number of foundations that are possible funding sources for activities being carried out at LUMCON. Foundation grants or gifts are possible to obtain for education, research and outreach. This often requires initially establishing a relationship with the foundation.
 - ✓ **Individuals** (planned giving, endowment, gifts): Acquiring resources from individuals is an important opportunity for LUMCON. Fundraising from individuals requires establishment of a relationship with the individual. It is beneficial to have the potential donor visit LUMCON for first-hand exposure to the exciting activities that are ongoing. Stewardship related to individual donors is critical for long-term fundraising success.
 - ✓ **Annual campaign, memberships:** The ability to raise funds routinely on an annual basis can be accomplished through an annual campaign and/or memberships. An annual effort is a way to begin the establishment of local friendships while building a sense of community. Such an effort also serves as a way to introduce people to the activities and benefits provided by LUMCON’s Marine Center. Annual campaigns also constitute a mechanism for establishing relationships that over time can develop into potential major donations.
 - ✓ **In-kind gifts:** A possible funding source can be in the form of in-kind gifts from industry, which might donate equipment, instrumentation, marine hardware, software, etc. Establishment of corporate and industry relationships enhances such possibilities. The ability to use in-kind gifts for training or education strengthens such requests.
- LUMCON is not alone, and doesn’t have to do it all by itself. Mobilize the power of people and their passions about the earth and environment. Citizen Science is a powerful tool to engage people, raise awareness and generate revenue.

ORGANIZATION, LEADERSHIP & STAFFING

In this section we identify the Organizational Structure, Leadership and staffing that are required to implement the plan. Desired skills and qualifications of the Executive Director are defined.

ORGANIZATIONAL STRUCTURE

The original governing structure for LUMCON was a 13-member Council, amended in 1995 to an Executive Board of three governing universities (Louisiana State University and Agriculture and Mechanical College, the University of Southwestern Louisiana (now University of Louisiana at Lafayette), and Nicholls State University). As provided by R.S. 36:651(M) and R.S. 36:801.5, the Executive Board shall be the governing body of LUMCON for budgetary review and control. The Louisiana Board of Regents serves as the fiscal agent and approves all funds awarded or bequeathed to LUMCON. The 2012 legislation amended the governing structure of LUMCON as shown below:

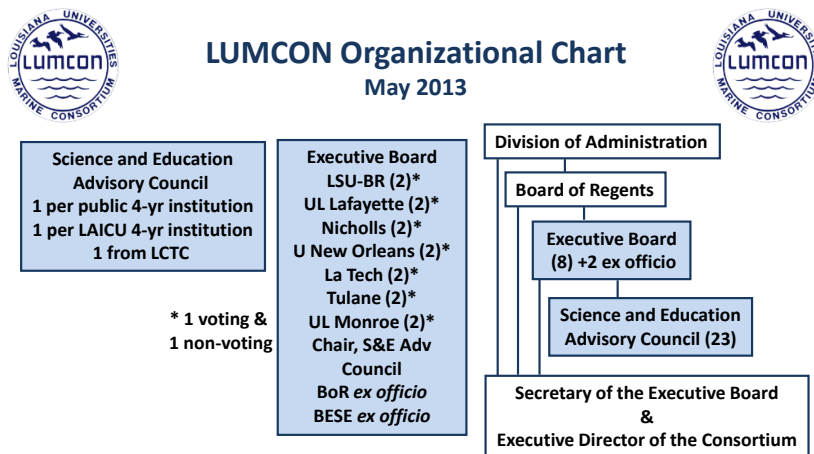


Figure 1 LUMCON's Current Organizational Chart

It is the recommendation of the Task Force that a Business Advisory Council (BAC) be constituted to provide oversight to the implementation of the LUMCON 2016-2020 Business Plan. Given their familiarity with the challenges and opportunities, members of the Business Plan Task Force may be called upon to serve in this role, as an initial slate of members of the BAC. A modification of LUMCON's Bylaws might be needed for the creation of the BAC.

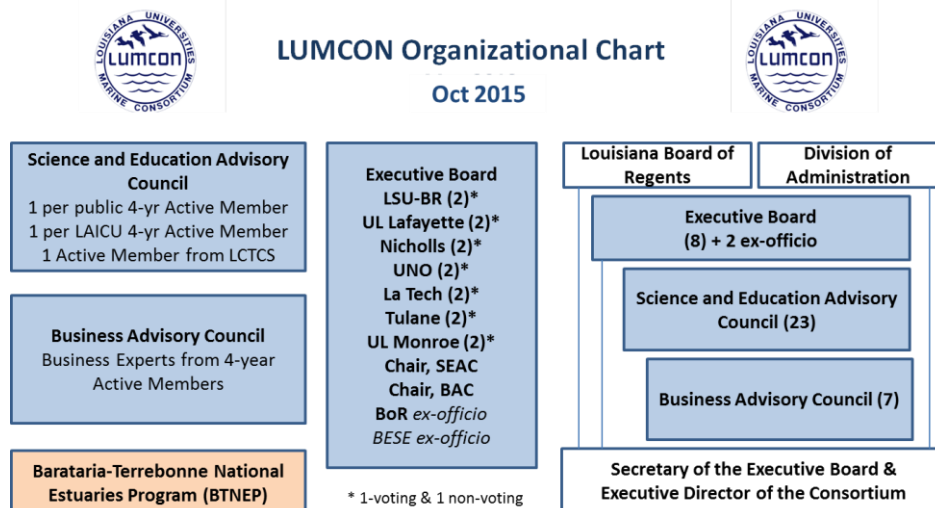


Figure 2 Proposed Changes to LUMCON's Organizational Chart

While shared governance is desirable, LUMCON's organizational structure governance model has led to representation without either involvement or contribution. It is time for Louisiana's universities to fulfill their obligations in support of this marine consortium. Membership to LUMCON, *while no-cost*¹², should be considered a valuable privilege.

We recommend that the Louisiana Board of Regents, and the Executive Board work with member universities to develop a "*Consortium Member Participation Policy*" that defines a Memorandum of Agreement on tuition revenue sharing; defines goals and objectives for participation of each consortium member (teaching courses at the Marine Center, using its facilities to conduct research, or otherwise contribute financial support); and identifies consequences for their lack of participation. We further encourage members of the Executive Board to proactively work on building collaborations between faculty from their respective universities and the Marine Center resident faculty to pursue funded research and education opportunities.

Task Force proposed recommendations for "*Consortium Member Participation Policy*" are outlined below:

*In order to remain a member of the consortium, each institution must agree to sign the Memorandum of Agreement (MOA), wherein they agree to share a percentage of revenue they generate from tuition and fees for summer courses taught at the Marine Center*¹³. *This percentage will be determined by the LUMCON Executive Board, though a range of 50%-66% of tuition and fees is recommended by the Task Force.*

If an institution doesn't sign the MOA by July 31, 2016 it will lose the ability to access the Marine Center at consortium member rates; however, it will still be eligible to access the marine center's assets at non-member rates.

In addition, we recommend that each member institution is called upon by the Louisiana Board of Regents and the Executive Board to establish metrics for their utilization of the Marine Center and contribute as a member of the Consortium.

*At a minimum, we recommend that they manifest their participation in **one of the following two options**, in order to maintain their status as an "active" member. These include:*

- 1. Each fiscal year, utilizing LUMCON's Marine Center for at least 1 course listed in its course catalogs; encouraging its students to enroll in the course; and sharing tuition it generates for these course, as agreed upon in the MOA. (OR)*
- 2. Each fiscal year, utilizing LUMCON's Marine Center for at least 1 funded research project, resulting in direct and indirect costs to LUMCON.*

Members not exercising Option 1 or 2 above, in any given year, will lose the eligibility to access the Marine Center at consortium member rates; however, they will still be eligible to use the marine center's assets at non-member rates.

Based on the foregoing, we offer the following recommendations, summarized in Table 7.

¹² **Important Note:** Select stakeholders of LUMCON suggested that LUMCON should charge an annual membership fees and establish tiered membership fee model to address diversity of the members. While this will require new legislation, the Task Force strongly recommends that the BOR and Management Board revisit this suggestion no later than two years after the implementation of the *Consortium Member Participation Policy*, and an evaluation of its impact on member participation.

¹³ **Note:** According to leaders of the Dauphin Island Sea Lab (DISL), Alabama's marine center, member universities in Alabama share 90% of a course's tuition they generate with DISL, if the course is taught at the center. In contrast, Louisiana universities share 0% with LUMCON's Marine Center. A copy of this agreement may be found in Appendix D.

Table 7 Task Force Analysis of LUMCON's Organizational Model

Observations	Implications	Recommendations	Metrics, Outcomes, and Objectives
LUMCON's current fiscal oversight is not fully adequate to monitor the Business Plan implementation.	The plan will likely become a failed attempt to revitalize LUMCON as a consortium - a document that sits on a book shelf.	R17. Leveraging members of the Business Plan Task Force, develop a Business Advisory Council (BAC) to provide oversight, assist in annual performance evaluation of Executive Director, and on-going evolution of the Business Plan.	Within 3 months of Plan adoption, formally establish the BAC and define its charter. Within 6 months, develop a timeline for plan implementation, with concrete performance measures.
Current SEAC members aren't fully leveraged to serve as campus liaisons to promote LUMCON.	There doesn't seem to be an expectation or assessment of the effectiveness of SEAC members in advancing awareness and collaborations.	R18. Develop a charter for SEAC and a Handbook for SEAC members on promoting the consortium and assets of the Marine Center on their campuses for instruction and research. Host meetings of SEAC at the Center twice a year.	Within 3 months of Plan adoption, formally define the SEAC charter. Within 6 months, define activities and metrics for SEAC members related to advancement of LUMCON on their campuses.
An Exec. Board of all LA colleges and shared governance are not well exploited to ensure success of LUMCON as a consortium.	There are missed opportunities to support the small number of LUMCON's staff as they carry out the mission of the Center.	R19. Develop " <i>Consortium Member Participation Policy</i> " to encourage active participation by members in research and educational activities using the Marine Center. Revise the Bylaws of LUMCON, if needed, to adopt the Policy.	By the end of fiscal year 2016, implement new Bylaws and the <i>Consortium Member Participation Policy</i> with clearly defined utilization metrics for each member, and ramifications for non-compliance and inactivity.

THE EXECUTIVE DIRECTORSHIP

*"There are parallels between the management needs of field stations and the management needs of **businesses**. One could say that field stations are in the "business" of scientific research, conservation, education, and public outreach. As such, the management of a field station requires individuals not only with scientific credentials, but also skills and experience in running successful businesses.*

Often, the most common criterion in selecting the director of a field station, particularly one affiliated with a university is the person's stature as a scholar who will command the respect of participating faculty. Equally important, however, is that the director have strong leadership and management skills and is able to gain the respect of employees, students, potential funders, and members of the public. The leader needs to be willing to put the success of the organization that he or she leads ahead of—or at least on a par with—his or her own success as a scholar.¹⁴"

Qualities of LUMCON Executive Director: In the excerpt above, we use **bold** font to highlight the word "**businesses**" and to emphasize the importance of running LUMCON and its Marine Center as a business. Effective leadership is one of the most critical factors in financial sustainability of field stations (Lohr 2001, NRC 2005). The Executive Director of LUMCON is in a unique position within the organization. He/she may be expected to interact with the President of a member university on one day, brief business and civic leaders at a Rotary Club luncheon the next, and transition quickly to his/her research that very afternoon.

¹⁴ *Enhancing the Value and Sustainability of Field Stations and Marine Laboratories in the 21st Century*, National Academy of Sciences, July 2014.

Successful directors of marine centers are those who have vision; administrative, supervisory, and fund raising experience from agencies, industry, and non-profit organizations; are interested in strategic planning and development of programs in education and research while focused on running the marine center as a business; and are broadly trained in the sciences.

Managerial Responsibilities of Executive Director: LUMCON is a complex, multi-stakeholder, multi-million dollar operation employing dozens of people; having very large physical plant; and large-scale marine infrastructure. Given the Marine Center's remote location and shared governance model, LUMCON demands more administrative skill and effort on part of the Executive Director to manage properly than comparable facilities located in close proximity to their home institutions, or those centers managed by a single entity.

Amongst the most pressing priorities of the Executive Director is the integration of the Marine Center into educational curricula and research activities of LUMCON's university members. And, to accomplish this in a manner that not only advances the mission of the Consortium as noted in the 2016-2020 Master Plan, but also adheres to the business principles and models laid out in this Strategic Business Plan.

To accomplish these priorities, the Consortium Director is well advised to establish a strong presence within member universities and with the sponsoring institution, Louisiana Board of Regents. The director will be expected to visit campuses of each member university, at least once a year, meeting with Presidents/Chancellors, Provosts/Vice Presidents for Academic Affairs, Vice Presidents/Chancellors for Research, CFO/Vice Presidents for Finance, Deans of the colleges of science/engineering/liberal arts whose faculty are likely current and future collaborators and users, SEAC representatives, and faculty.

The Director should also consider reciprocal visits from member institution personnel, so that they have a context for understanding the special challenges faced by the Marine Center staff with whom they interact. The Director's efforts at establishing relationships with key administrators will with time lead to inclusion in the informal problem-solving and mutual support networks that, beyond the formal administrative structure, are usually the route by which needs are addressed and problems solved. This outreach effort should be focused on establishing an on-going dialog to understand their needs for course offerings, joint research, and marine center infrastructure, and delivering on those needs in intentional, purposeful and fiscally responsible manner. In addition, the Director will be responsible for communication up and down lines of administration; and program planning and implementation, consistent with the directives of the Master Plan and Business Plan.

Specific responsibilities and expected effort commitment to each area of responsibility include:

- Consortium Management & Networking: (35%)
 - Establish and maintain linkages with administrators, faculty and researchers across all member Universities.
 - Ensure appropriate allocation of LUMCON resources (funds and infrastructure) to support member universities in their instruction and research at the Marine Center.
 - Pursue programs and initiatives that will contribute to the success of LUMCON, not only as a marine center but also as a consortium.
- Administration & Marine Center Oversight: (30%)
 - Lead the development of and oversee the implementation of the 2016-2020 Master Plan as well as the Strategic Business Plan, which will outline the research, education, and policy initiatives.

- Prepare an annual budget and oversee the financial operations of LUMCON, in addition to prioritizing resource allocation consistent with the Master Plan and the Strategic Business Plan.
- Provide management and direction to all staff and resident-faculty within the Center, in order to implement the Master Plan and the Strategic Business Plan.
- Develop and maintain an Asset Management Plan to ensure cost-effective deployment and preserve the viability of the Marine Center as a world-class facility, by investing in timely and appropriate maintenance.
- Research¹⁵: (20%)
 - Provide technical and research leadership and mentorship, not only to marine center staff, but also faculty across the Consortium by supporting the development of their research initiatives.
- Community Engagement & Outreach: (15%)
 - Build partnerships with state agencies; other non-universities outside of Louisiana; community and technical colleges; foundations; business and industry organizations; civic and community leaders; non-profit organizations, as well as appropriate departments and agencies within state and federal government to increase awareness, demonstrate performance and impact, and diversify funding sources.

Directorship Model & Skills: The LUMCON Executive Director plays a critical role in the integration of tasks and information, in reporting to the sponsoring institution, and for budgetary and programmatic planning. It is preferred that the Director have business experience or acumen, especially given the responsibility of implementing the Business Plan, and likelihood of significant amount of interaction with the public and/or business community.

Specialized skills will include being an excellent communicator, being knowledgeable in management by data and business principles, and having some experience in working effectively with the public, government organizations, non-government organizations and private foundations. Successful directors are often personable, extroverted, high-energy people with well-developed people skills. They will not be afraid to get their hands dirty during the operation of the Center. An effective Director doesn't necessarily need a Ph.D. Many of the skills needed for success in leading a field station are not part of the skill set of the typical academic scholar. A combination of experience, skills, knowledge and personality are often more important than academic credentials.

If LUMCON is to survive, let alone succeed, it must be indispensable to the member universities. From the analysis of University Education and University Research sections described earlier, this currently does not seem to be the case. The idea of LUMCON as a Marine Center that is a separate and independent unit, so remote as to be forgotten, needs to become a thing of the past.

The increasing sophistication of science, challenging economic realities, and the demand for greater accountability increase the demands and expectations of LUMCON's leadership. It behooves the Louisiana Board of Regents, member institutions and the Executive Board to set these requirements on the Executive Director and to place appropriate emphasis on his/her skill set, for LUMCON to succeed as a Consortium.

¹⁵ According to Susan Lohr ("An Operations Manual for Field Stations and Marine Laboratories", April, 2001), best practices indicate that most marine centers could truly use a 100% administrative Director. If research must be part of the Director's job description, then it should not exceed 25% of the Director's time in order for the Center to be administered effectively.

Role Summary:

The Executive Director reports to the LUMCON Executive Board, and is ultimately responsible for the successful implementation of the 2016-2020 Master Plan and the proposed 2016-2020 Strategic Business Plan. Under the overarching direction of the Executive Board, and in consultation with members of the Science and Engineering Advisory Council (SEAC) and the Business Advisory Council (BAC), the Executive Director provides leadership, fiscal management, strategic resource management, performance measurement, operational oversight as well as collaborative integration of research and educational activities in coastal and marine sciences of all member institutions with those of the Marine Center.

The Executive Director establishes an Asset Management Plan to maintain and enhance the marine center as a world-class facility that meets the educational and research needs of Consortium members. In addition, the Executive Director provides research and scholarly guidance, as necessary, establishing the Consortium as a national leader in marine and coastal sciences. Strong organizational, fiscal management, personal interaction, policy development, and leadership skills are essential, and an ability to secure external funding is a key component of this position. The Executive Director must have the capability to engage with internal and external stakeholders.

Required Qualifications and Experience:

- Excellent communication and relationship-building skills; someone who can effectively work with individuals from diverse groups and disciplines and engage internal and external stakeholders. An ability to build and sustain partnerships among these diverse groups is critical. A high degree of comfort and flexibility in working across local, regional and national boundaries.
- Entrepreneurial and innovative skills and acumen in identifying opportunities and in positioning LUMCON to take advantage of them, creating and implementing new initiatives, and fostering the entrepreneurial spirit of others.
- Evidence of strong leadership skills with a record of setting a vision and implementing this vision in a collaborative manner.
- A proven record of research that includes obtaining grants and contracts from governmental agencies and other sources of external support.
- Broad multidisciplinary intellectual interests that span the domains related to coastal ecology, marine science, and engineering and that support an integrative approach that links research to policy and practice.
- Strong academic credentials with a Ph.D. in a relevant discipline, while preferred, are not mandatory. The director must have a demonstrated track record as a successful leader within a complex organization.
- A proactive leader who is not afraid to challenge the status quo or to take measured risks in the quest of excellence.
- Outstanding interpersonal skills, abundant imagination, a high level of energy, a can-do attitude, a willingness to learn, and a good sense of humor are essential qualities.
- Strong management experience with a broad working knowledge of industry, state and federal operations.

Evaluation of the Director: The Executive Board as well as the Louisiana Board of Regents recognize the diversity of responsibilities of the Executive Director and accordingly must establish evaluation procedures that reflect that diversity.

- Consortium Management & Networking: (35%) Performance metrics include:
 - Number and level of representation in bi-directional visits of Executive Director to member campuses and vice-versa;

- Number of Memoranda of Agreements executed with members for enhanced education and research utilization;
- Number of robust partnerships with members leading to increase in number of students taking courses at the Center; expansion in the number of courses offered at the Marine Center; Increased revenues from University Education programs;
- Increased usage of the Marine Center for research by university faculty – as a collaborator as well as a core facility.
- Administration & Marine Center Oversight: (30%) Performance Metrics include:
 - Restructuring/elimination of under-performing programs and creation of new value-added services;
 - Appropriate allocation of resources in line with priorities outlined in the Master Plan and the Strategic Business Plan;
 - Effective fiscal management of the Center, to include appropriate cost center structures, financial management tools and business models to ensure profitable operations of the Center, with reduced reliance on state funds;
 - Appropriate and proactive investments into the maintenance of a world-class marine center infrastructure that meets the needs of university community;
 - Marketing and promotion of Marine Center products and services to member universities in Louisiana and beyond.
- Research: (20%) Performance Metrics include:
 - Strategic hiring of one or more resident-faculty researchers, during the course of the next three years, aligned with external funding opportunities and overall consortium needs for research;
 - Increased research revenues (to cover direct and indirect costs) generated by the Marine Center resident-faculty on externally funded grants and contracts;
 - Increased usage of the Marine Center resident-faculty as research collaborators by university research community;
 - Increased usage of the Marine Center as a core facility by university research community, allowing full recovery of direct and indirect costs.
- Community Engagement & Outreach: (15%) Performance Metrics include:
 - Identify Corporations and Foundations (C&F) as targets for potential grants, as well as individuals, community and civic organizations as targets for gifts, based on alignment of mission and interests;
 - Exploration of a broad-based collaborative partnership with BTNEP to exploit mission and value commonality;
 - Leveraging existing affiliation agreement with BTNEP, to hire an Outreach/Community Engagement specialist to implement a joint Development/Advancement strategy for donations, corporate gifts, etc.,
 - Development of a 501 c(3) Foundation, separately, or in conjunction with BTNEP, to enhance advancement and charitable gift giving opportunities;
 - Establishment of an industry training programs in partnership with Community and Technical colleges to produce credit and non-credit certifications;
 - Creation of a public outreach program to disseminate impact to stakeholders.

The annual review is an important process that not only aligns the priorities of the BOR and the Executive Board with LUCMON, but also aligns the performance of the Director with the mission, goals, and objectives of the Consortium. Since no individual at the BOR or the Executive Board may have direct experience with marine center administration, it is highly desirable to establish periodic external reviews which include administrators from other field stations or marine centers with established records of excellent administration.

STAFFING NEEDS & RESOURCES

The current Organizational Staffing Chart of the Marine Center is shown in Figure 3 below.

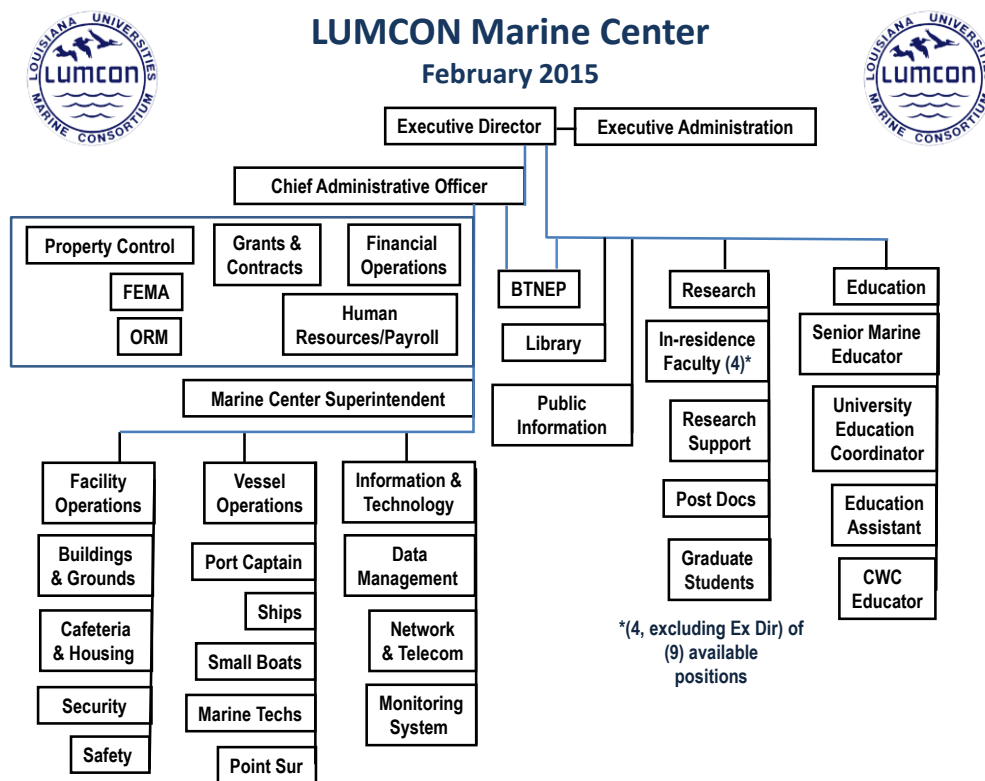


Figure 3 Current Organizational Staffing Chart of LUMCON's Marine Center

In light of the aforementioned chart and the Business Plan, we recommend that the following new positions be created and added over the course of the next three years:

- **University Education Programs Coordinator:** Promote within or recruit a University Education Programs Coordinator to develop MOUs, expand courses, and participation.
- **University Research Coordinator:** Create, advertise and fill this new position to help build research collaborations with member universities and beyond.
- **Resident Research Faculty (3):** Fill one current vacancy per year for the next three years; ensure they are hired in coordination with the SEAC to fill state-wide needs for marine science research & education. Further ensure that they are 100% dedicated to research and educational activities at the Marine Center, in order to maximize their impact and revenue generation potential. Guarantee each faculty member 100% of their 12-month salary in Year 1; 75% in Year 2; and 50% in Year 3. Encourage all researchers to maximize their salary coverage from external grants and contracts, while using state funds as a back-stop. Further encourage resident faculty to explore academic affiliations with member campuses, leveraging funds as joint-hires.
- **Community and Business Engagement Development Officer** (jointly) with BTNEP: Pursuant to the exploration of possibilities for linkages with BTNEP, invest 50%-50% into a Development Coordinator to pursue gifts/grants from organizations, businesses, etc.
- **High-Value K-12 Program Specialist:** After exiting the commodity K-12 program, hire a K-12 Program Specialist to develop high-value, niche programs. Take a year to assess market needs for (or create new markets in the form of) a niche K-12 program that is packaged to maximize the "Marine Center Experience" to target audiences.

These positions are integral to the implementation of the Business Plan. Based on the Marine Center's current salary structures, the costs for these positions will be as follows:

Table 8 Positions & Funds Needed for Plan Implementation

Budget Needed For Business Plan Implementation							
Position Title Created	Qty	Percentage	Salary + Fringe	FY15-16	FY 16-17	FY 17-18	Totals
University Education Programs Coordinator	1	100%	\$ 70,000	\$ 35,000	\$ 70,000	\$ 70,000	\$ 175,000
University Research Coordinator	1	100%	\$ 70,000	\$ 35,000	\$ 70,000	\$ 70,000	\$ 175,000
Research Faculty (3 faculty, 1 new/year - 100% in Year 1; 75% in Year 2; 50% in Year 3)	3	100%	\$ 120,000	\$ 120,000	\$ 210,000	\$ 270,000	\$ 600,000
Community and Business Engagement Coordinator (jointly 50-50% with BTNEP)	1	50%	\$ 70,000	\$ 17,500	\$ 35,000	\$ 35,000	\$ 87,500
High-Value K-12 Program Specialist	1	100%	\$ 70,000		\$ 70,000	\$ 70,000	\$ 140,000
Marketing & Communications Specialist, including IT/Digital Libraries	1	100%	\$ 70,000	\$ 35,000	\$ 70,000	\$ 70,000	\$ 175,000
Totals				\$ 242,500	\$525,000	\$585,000	\$1,352,500

Funds for these positions can be realized by judiciously and strategically utilizing a small portion of the annual carryover funds, as needed. The primary source, however, will be the salary savings accrued by the elimination of the positions and programs, previously identified throughout this document, as illustrated in Table 9 below:

- Public Relations/Information Technology: Strengthen IT infrastructure services at the Marine Center, in a potential partnership with BTNEP; transition from the current multi-purpose approach to specialized IT staff to create a more effective and specialized Internet-based Marketing & Communications strategy that includes enhanced social media presence.
- Marine Education (K-12) Programs: reinvigorating current K-12 programs, while simultaneously strengthening University Education Programs
- Library staff: to transition to digital libraries and enhanced web marketing.

Table 9 Potential Funding Sources for Plan Implementation

Potential Savings to Fund Business Plan Implementation							
Position Title Realigned	Qty	Percentage	Salary + Fringe	FY15-16	FY 16-17	FY 17-18	Totals
Public Information Specialist/Senior Data Manager	1	100%	\$ 55,000	\$ 55,000	\$ 55,000	\$ 55,000	\$ 165,000
Information and Technology Specialist	1	100%	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 180,000
Marine Education Associate (K-12)	1	100%	\$ 48,000	\$ 48,000	\$ 48,000	\$ 48,000	\$ 144,000
Librarian	1	100%	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 270,000
Librarian Assistant	1	100%	\$ 65,000	\$ 65,000	\$ 65,000	\$ 65,000	\$ 195,000
Totals				\$ 318,000	\$318,000	\$318,000	\$ 954,000

RECOMMENDATIONS

Issue 1: Budgeting and Accounting Systems and Procedures

- **Recommendation 1:** Define cost center framework for managing finances across various areas of operation with appropriate levels of accounts for managing activities; Align the existing chart of accounts with cost center structure, so it becomes clear if each functional unit and activity is losing or making money.
- **Recommendation 2:** Develop a policy and a shared governance model to allocate a portion of carryover funds and annual state budget towards investments in areas that are strategically important.
- **Recommendation 3:** Develop periodic (e.g., quarterly) financial statements and audit reports that includes detail at the Revenue /Cost Center level. Develop format for periodic audit reports and financial statements.

Issue 2: Marine Education; K-12 Programs

- **Recommendation 4:** Exit K-12 education business and Teacher Training programs. Leverage K-12 partners and efforts to serve as a feeder to high-value programs.
- **Recommendation 5:** Work on revamping K-12 efforts to produce well-packaged, high-value programs that are marketed to specific niche audiences. Develop a Revenue Model and a Marketing Plan around niche K-12 program

Issue 3: Marine Education; Higher Education Programs

- **Recommendation 6:** Hire a full-time University Education Programs Coordinator to develop MOUs with universities, to grow the program & share tuition revenues.
- **Recommendation 7:** Develop plan to engage member universities; focus on expanding market penetration; new curriculum; timing alignment; and delivery methods; Develop Plan to grow enrollment & university participation by 25% annually.
- **Recommendation 8:** In order to promote LUMCON's educational offerings nationally and globally, address issues of *out-of-state fees*; *need for a host university & course articulation* with non-member schools.
- **Recommendation 9:** Reach out/engage other potential educational & organizational clients in the public and private sectors; work with BTNEP outreach as appropriate, to establish an industry training program (credit and non-credit certifications.) Develop plan to market LUMCON courses to industry, other public sector partners and 2-year community-college and vocational programs.

Issue 4: University Research Program

- **Recommendation 10:** LUMCON must re-evaluate current and future resident-faculty effort loads to have greater emphasis on funded research to support and grow the Marine Center.

- **Recommendation 11:** Hire a full-time University Research Coordinator and use the vacant resident faculty positions to create greater research synergies between the Marine Center and member universities.
- **Recommendation 12:** LUMCON must conduct a cost analysis of its research support to member & non-member universities to make sure loaded costs (direct plus marginal indirect costs) are fully recovered. LUMCON updates Pricing Schedules for Research.

Issue 5: Community Engagement Program

- **Recommendation 13:** Identify and prioritize such community organizations based on mission match and potential for creating value relationships. Identify organizations that support solicited and unsolicited grant applications.
- **Recommendation 14:** Explore the possibility of establishing broad-based synergistic linkages between LUMCON and BTNEP, as constrained by their missions, funding, and governing bodies. Develop a plan that defines the collaboration, clarifying roles and expectations.
- **Recommendation 15:** Even if broad-based links can't be established, implement the current BTEF Agreement to charge a staff member with Outreach /Community Engagement jointly on behalf of LUMCON & BTNEP.
- **Recommendation 16:** LUMCON doesn't have to do it all by itself. Develop a "Citizen Science" Plan to engage enthusiasts & volunteers in initiatives. (e.g., America's WETLAND Conservation Corps.)

Issue 6: Organizational Model

- **Recommendation 17:** Leveraging members of the Business Plan Task Force, develop a Business Advisory Council (BAC) to provide oversight to the implementation, performance monitoring, and on-going evolution of the Business Plan.
- **Recommendation 18:** Develop a charter for SEAC and a Handbook for SEAC members on promoting the consortium and assets of the Marine Center on their campuses for instruction and research. Host meetings of SEAC at the Center twice a year.
- **Recommendation 19:** Develop "Consortium Member Participation Policy" to encourage active participation by members in research and educational activities using the Marine Center. Revise the Bylaws of LUMCON, if needed, to adopt the Policy.

Table 10 Timeline and Parties Responsible for Implementation of Recommendations

Recommendation	Recommendation Detail	Owners	Nov 1 2015	Jan 31 2016	Mar 31 2016	Apr 30 2016	Jun 30 2016	Jul 31 2016	Sep 30 2016	Dec 31 2016	Mar 31 2017	Jun 30 2017
R-1	Refine Accounting System to define cost & revenue centers and supporting chart of accounts	CFO, BAC					X					
R-2	Develop shared Governance & Fund Carryover Policy	CFO, BAC					X					
R-3	Establish Procedure for Producing Periodic Financial Statements and audit reports	CFO, BAC					X					
R-4	Exit Current K-12 & Teacher Training	Edu Coord, SEAC					X					
R-5	Draft High Value K-12 Plan	Edu Coord, SEAC					X	X				
R-6	Hire a Full-time University Education Coordinator to develop MOU's with members & Grow Higher Education Programs	Exec Dir, Exec Board, SEAC; Edu Coord			X							
R-7	Develop Plan to Grow University Education Enrollment and Member Participation	Edu Coord, SEAC								X		
R-8	Address: Out of state fees; Host University Articulation with non-member universities	Edu Coord, SEAC										X
R-9	Engage other potential clients: Public & Private sector; CC & Vo-tech via BITNEP Outreach	Edu Coord, SEAC										X
R-10	Re-evaluate Resident faculty effort loads for funded research to emphasize growing it	Exec Dir, Exec Board, SEAC; Research Coord.					X					
R-11	Hire Full-time University Research Coordinator to promote & grow statewide research collaborations with Marine Center	Exec Dir, Exec Board, SEAC;			X							
R-12	Complete analysis of Research support costs to ensure relevant costs are fully recovered & update fees	CFO, BAC									X	
R-13	Identify & prioritize compatible community organizations that invite grant applications	Exec Dir, Comm. Coord.				X			X			
R-14	Explore Broad LUMCON-BTNET linkages; develop collaboration plan for K-12, Teacher prep; IT support ; Outreach; & Public service; Develop initiatives plan.	Edu Coord.										
R-15	Implement Current BTEF agreement to define and charge staff position with business/community outreach	Exec Dir										
R-16	Develop " Citizen-Science" plan for marine science enthusiasts	Edu Coord.			X							
R-17	Establish a Business Advisory Council (BAC) for Business Plan oversight, Implementation, and followup	Exec Dir, CFO, Exec Board										
R-18	Develop a charter for SEAC and a Handbook for SEAC members on promoting the consortium and assets of the Marine Center; host meetings of SEAC at the Center twice a year.	Executive Board, Exec Dir, SEAC										
R-19	Revise LUMCON Bylaws to develop and include a Consortium Member Participation Policy to encourage participation and Marine Center use.	BOR, Exec Board, Exec Dir.			X							

APPENDICES

APPENDIX A: LIST OF INTERVIEWEES

With our grateful thanks, members of the Business Task Force acknowledge contributions of the following individuals for their invaluable input. We are humbled by their intellect and continually inspired by their passion to realize the fullest potential of LUMCON as a statewide consortium!

LUMCON Staff:

- Nancy Rabalais, Executive Director, LUMCON
- Heidi Boudreaux, Chief Operations Officer, LUMCON
- Ed Chesney, Associate Professor, LUMCON
- Jennifer “Murt” Conover, Senior Marine Educator, LUMCON
- Joseph Malbrough, Superintendent, Marine Operations and Facilities
- Susan Testroet-Bergeron, Director, BTNEP
- Paul Sammarco, Research Scientist, LUMCON
- Brian Roberts, Associate Professor, LUMCON
- Alexander Kolker, Professor, LUMCON
- Holly Hebert, Public Relations & Information Technology, LUMCON

Leadership:

- Joseph Rallo, Commissioner of Higher Education, Louisiana Board of Regents
- Laura Levy, Chair, Executive Board, LUMCON & Vice President for Research, Tulane University
- Uma Subramanian, Deputy Commissioner for Legal and External Affairs, Louisiana Board of Regents

SEAC Members:

- Ioannis Georgiou, Chair, Associate Professor of EES/PIES, University of New Orleans
- Robert Twilley, Executive Director, Louisiana Sea Grant, Louisiana State University
- Gary Lafleur, Jr., Associate Professor, Department of Biological Sciences, Nicholls State University
- Mark Hester, Professor of Biology, College of Sciences, University of Louisiana at Lafayette
- William Campbell, Professor & Interim Director, Biological Sciences, Louisiana Tech
- Michael J. Blum, Associate Professor of Ecology & Evolutionary Biology, Eugenie Schwartz Professor of River and Coastal Studies, Tulane-Xavier Center for Bioenvironmental Research, Tulane University
- Sushma Krishnamurthy, Professor & Director, School of Science, University of Louisiana at Monroe

Other Expert Contributors:

- John Valentine, Executive Director, Dauphin Island Sea Lab
- David England, Associate Director, Dauphin Island Sea Lab
- John H. Caruso, Ph.D., Senior Professor of the Practice Emeritus, Tulane University
- Nick Speyrer, Director of Planning, Coordination, and Outreach, The Water Institute of the Gulf
- Jenneke Visser, Associate Director Institute for Coastal and Water Research, Associate Professor School of Geosciences, University of Louisiana at Lafayette
- Tom Pears, Director of Auxiliary Services, University of Louisiana at Lafayette
- Dave Norris, Chief Innovation Officer, Louisiana Tech University

APPENDIX B: BUDGET ANALYSIS

When our review team asked to review LUMCON's financials, we were provided revenue and expenditure data that was in the format required by the Board of Regents ("BOR"). This format, used by all Louisiana universities, enables the BOR to consolidate information from all of its institutions. However, this format overly broad and was challenging to use and draw insights into LUMCON's operations.

- Refer to FY15-16BOR1-6.xls (below): For example, there are 12 types of expenditures used in the 'Expenditures by Function' section of the BOR format. LUMCON uses 9 of 12 lines but several descriptions do not entirely reflect the underlying expenditures:

BOR Expenditure Description	Related LUMCON Operations/Activities
Instruction	Costs associated with LUMCON's Marine Education (e.g., K-12) and University Education programs
Research	Costs associated with LUMCON's research activities; also includes contractual sub-awards related to grant funding that will flow-through to partner universities
Public Service	Costs associated with The Barataria-Terrebonne National Estuary Program ("BTNEP")
Academic Support	Costs associated with the library facilities at LUMCON
Institutional Services	Costs associated with support staff such as administration, information technology, accounting, etc.; also includes office supplies and similar
Plant Operations and Maintenance	Costs associated with maintaining the facility (electricity, water, insurance, security and monitoring, lawn and other maintenance); also includes costs related to the Fourchon facilities (closed post-Katrina but may be reopened in the near future)
Other	Costs associated with operating the research vessels as well as operating the dorm and café at LUMCON

In order to determine major cost centers, our review tried to identify LUMCON's main activities and match revenues/costs related to these activities; however, this was not possible with the BOR format. As a result, we requested more detailed reporting from LUMCON's Chief Administrative Officer (Heidi). These reports were not readily available as there does not appear to be periodic (e.g., monthly) financial and management reporting (e.g., income statement, balance sheet) that is more detailed than the BOR format. As a result, Heidi had to spend significant time pulling detailed data out of LUMCON's financial systems and organizing the data in a format that was more conducive to analyzing revenue/costs by major activities.

- Detailed Budget by Department (table below): For example, Heidi provided the 2015-16 detailed budget by department which showed each major activity (instruction, research, etc.) and broke out the summary BOR figures into more detail (salaries, fringe, etc.). This report enabled the review to better understand, at least from a budget perspective, the nature of LUMCON's costs.

Table B-1 Budget Breakdown by Department

2015-16 Detailed Budget by Department							
	INSTRUCTION	RESEARCH	PUB SERVICE	ACAD SPRT	INST SERV	OPS & MAINT	TOTAL
SALARIES	122,400	669,230	301,882	102,293	388,757	227,445	1,812,006
FRINGE BENEFITS	43,393	248,698	153,058	44,194	172,435	90,488	752,266
TRAVEL	1,500	33,000	-	-	9,000	4,000	47,500
OPERATING SERVICES	10,000	401,500	-	9,700	52,650	241,068	714,918
SUPPLIES	-	511,000	-	500	16,500	91,350	619,350
OTHER	-	300,000	184,808	-	-	-	484,808
CONTRACTUAL	-	4,600,000	125,000	-	-	-	4,725,000
INTERAGENCY	-	300,000	6,628	-	30,485	117,533	454,646
ACQUISITIONS	-	-	-	18,224	26,150	49,000	93,374
TOTAL	177,293	7,063,428	771,376	174,911	695,977	820,884	9,703,869

Table B-2 A More Useful Functional View of the Budget

LUMCON 2015-16 BUDGET BY FUNCTIONS								
Detailed breakdown across revenues sources and expense line items								
	FUNCTIONS - Operations Only; Non-Auxiliary							
	Instruction (U-Ed/K-12)	Research	Public Service (BTNEP)	Academic Support (Library)	Institutional Services (Admin)	Plant Operations / Maintenance	Other (Aux)	TOTAL
REVENUE SOURCES								
STATE	102,243	482,261	461,568	169,911	523,677	584,734		2,324,394
SELF GEN	-	4,070,000	-	5,000	-	-	1,030,000	5,105,000
FEDERAL - IDC	75,050	11,500	-	-	172,300	236,150	1,100,000	1,595,000
FEDERAL - OTHER	-	2,124,667	309,808	-	-	-		2,434,475
IAT	-	375,000	-	-	-	-		375,000
TOTAL REVENUE	177,293	7,063,428	771,376	174,911	695,977	820,884	2,130,000	11,833,869
EXPENDITURES								
SALARIES	122,400	669,230	301,882	102,293	388,757	227,445	727,000	2,539,006
FRINGE ACT.	43,393	248,698	153,058	44,194	172,435	90,488	21,000	773,266
TRAVEL	1,500	33,000	-	-	9,000	4,000	211,000	258,500
OPERATING SERS	10,000	401,500	-	9,700	52,650	241,068	-	714,918
SUPPLIES	-	511,000	-	500	16,500	91,350	-	619,350
OTHER	-	300,000	184,808	-	-	-	-	484,808
CONTRACTUAL	-	4,600,000	125,000	-	-	-	-	4,725,000
INTERAGENCY	-	-	6,628	-	30,485	117,533	1,171,000	1,325,646
ACQUISITIONS	-	300,000	-	18,224	26,150	49,000	-	393,374
TOTAL EXPENDITURES	177,293	7,063,428	771,376	174,911	695,977	820,884	2,130,000	11,833,869
Per BOR1	177,293	7,063,428	771,376	174,911	695,977	832,567	2,130,000	11,845,552
Diff	-	(0)	0	0	(0)	(11,683)	-	
QH Reconcile						Budget Cut		

In the end, while the detailed 'Budget by Department' report provided a deeper understanding of LUMCON's major costs/activities (e.g., \$2.6M in salaries and fringe, \$4.7M in contractual sub-awards, etc.), it was still difficult to fully match revenues with costs for major activities. In order to fully inform future decisions about LUMCON's operations, we recommend that LUMCON define a cost center structure that provides the framework for managing finances across various areas of operation and align the existing chart of accounts to support that cost center structure.



FY15-16BOR1-6.xls

APPENDIX C: UNIVERSITY EDUCATION PROGRAMS

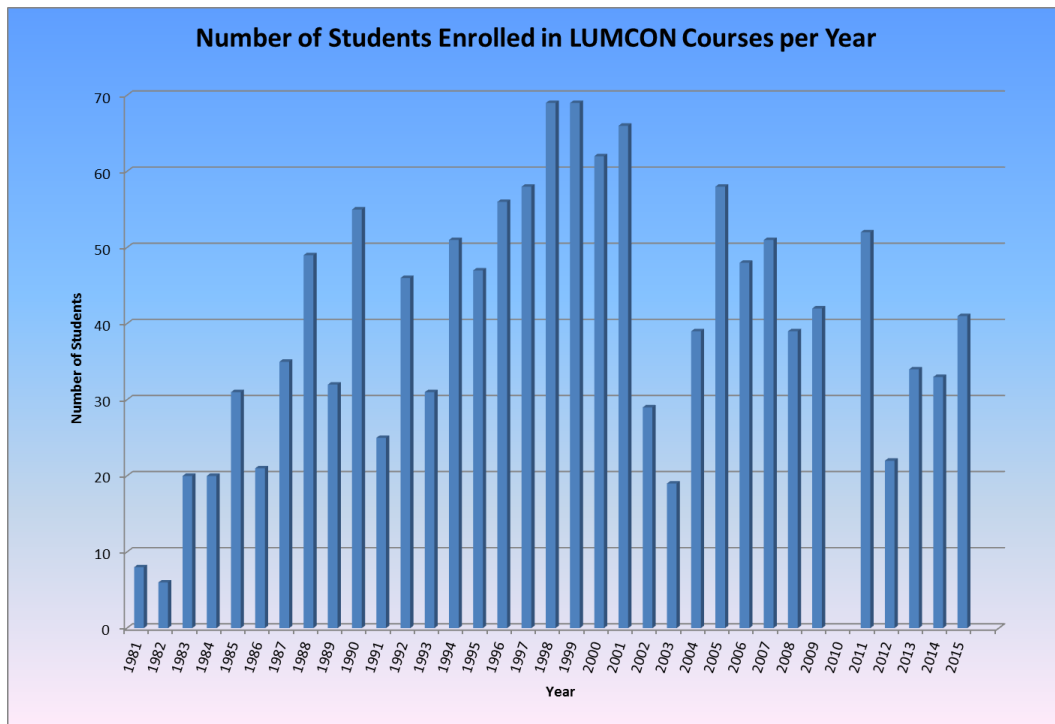


Figure C.1. Student Enrollment in LUMCON Courses

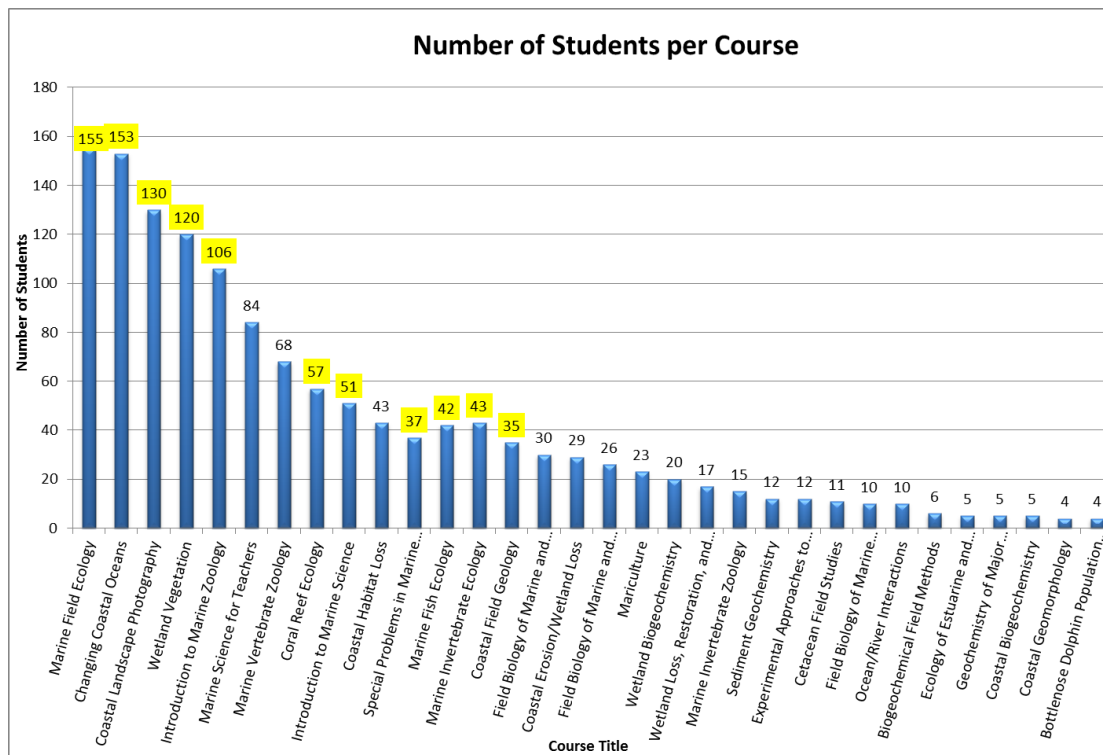


Figure C.2: Demand for Current Courses Offered at LUMCON

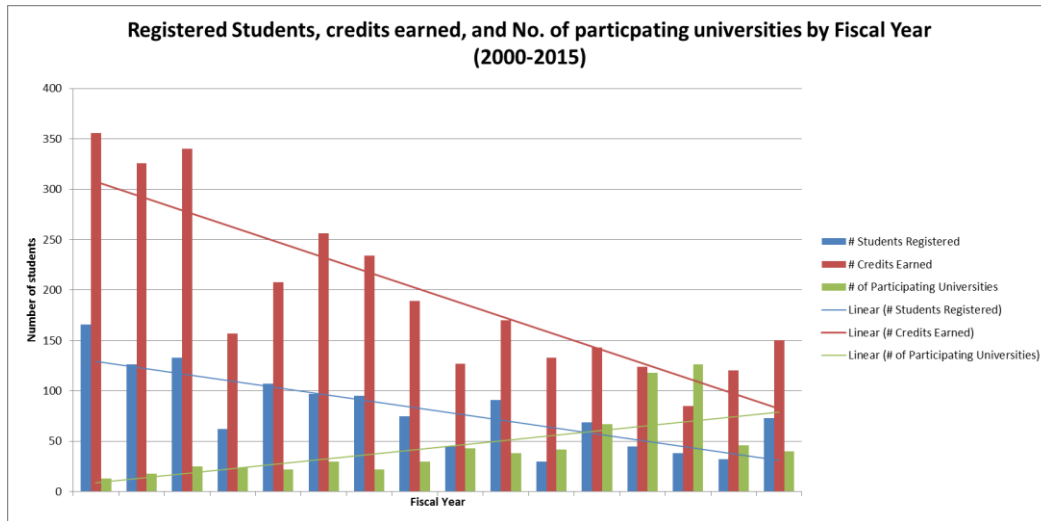


Figure C.3: Enrollment & Participation Trends

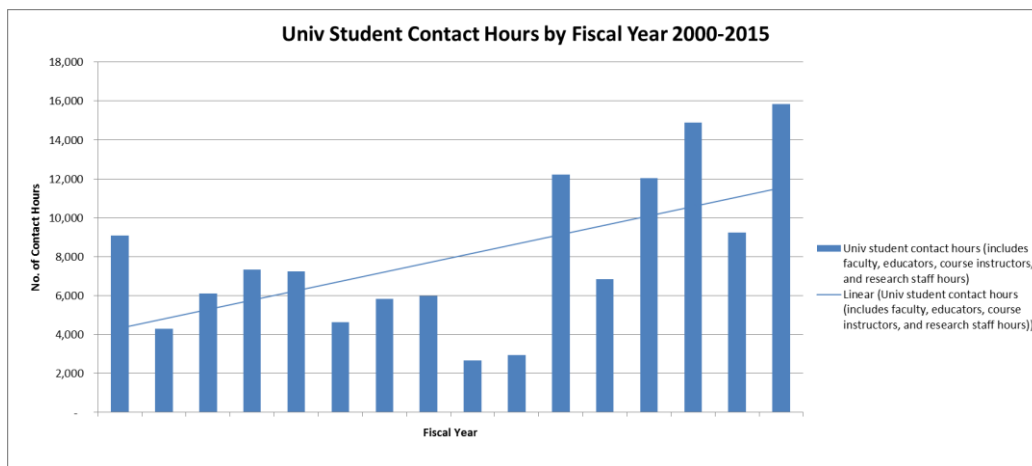


Figure C.4: University Student Contact Hour Trends

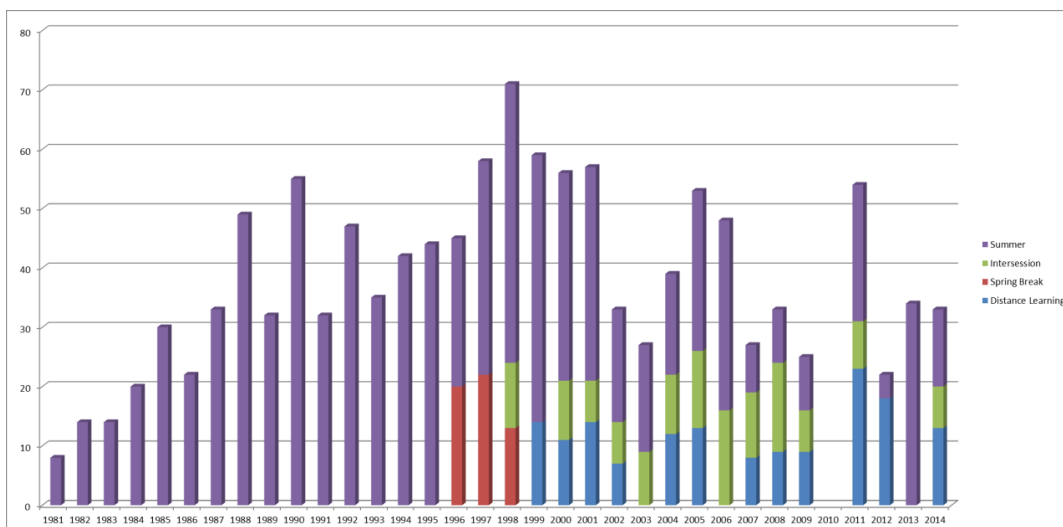


Figure C.5: Opportunity Areas: Summer, Intercession, and Distance Learning

APPENDIX D: MODEL REVENUE SHARING AGREEMENT

Exhibit D.1. MOU between Dauphin Island Sea Lab and its Members

**Memorandum of Understanding for Academic Partnership
between
The University of South Alabama
And
The Marine Environmental Science Consortium**

I. Purpose

The purpose of this Memorandum of Understanding (MOU) between the University of South Alabama (USA) and the Marine Environmental Science Consortium (MESC) is to outline the services provided by each party with respect to teaching and graduate mentoring activities. Recognizing that the academic mission of institutions of higher education is a costly endeavor and that both parties receive State appropriations to defer costs not recovered from other revenue streams, the MOU is also intended to serve as an agreement to guide the sharing of revenue generated from tuition.

II. Background and Rationale

USA is a member of the Marine Environmental Science Consortium (MESC) along with 21 other member Universities and Colleges and holds a permanent seat on the Executive Committee of the MESC Board. The MESC operates the Dauphin Island Sea Lab (DISL) as its primary facility to fulfill its research, teaching, and service mission.

USA continues to be a strong partner with DISL. This strong relationship stems from USA's geographic proximity to DISL, the fact that USA has the only Marine Sciences Ph.D. program in the State of Alabama, the strong interest of many USA undergraduate students in Marine Biology, the long history of the partnership, the residence of USA faculty at DISL, and the granting of tenure by USA to many DISL scientists among other synergies.

The partnership between USA and DISL is a mutually beneficial relationship. DISL provides valuable space for research for USA faculty members, access to boats, laboratory and mesocosm facilities, technical support, and general administrative assistance. DISL has also historically provided USA graduate students with the opportunity to compete for fellowships annually, support for travel to meetings, access to vessels at little or no charge, office space, email, and subsidized campus housing. Further, DISL provides access to high quality marine sciences courses to undergraduate students at USA through the DISL summer teaching program. DISL also offers graduate courses throughout the year. In addition to formal classes, DISL provides support for USA graduate programs in Marine Science by allowing their paid faculty members to advise graduate students (Ph.D. and M.S. students) in return for the opportunity to pursue tenure at USA.

III. Revenue Sharing

This past level of sharing has allowed both institutions to leverage support and excel in marine sciences related research and education. Going forward, we propose a more formal sharing arrangement with

RLO

respect to graduate teaching. ~~Sharing of~~ Indirect costs associated with extramural research grants is covered under the 2012 Master Agreement for Indirect Costs.

Executed June 10, 2013,

SV 

1. Tuition for Graduate Students

Recognizing that the majority of costs associated with delivering college level courses are in faculty salaries and benefits, a change to the existing reimbursement model for graduate coursework that factors salary paid by the respective institution is warranted. Graduate tuition paid to USA will be shared by both parties according to a 75%:25% formula whereby the institution that pays the faculty members salary receives 75% of the tuition revenue (determined by the tuition portion of the credit hour rate approved by USA Board of Trustees) and the other party receives 25% to defer program or facility costs.

USA will waive this formula for non-USA graduate students taking courses taught at DISL by USA faculty. DISL will recapture graduate tuition from other member institutions enrolled in courses taught by USA paid faculty at DISL according to the agreement between DISL and those institutions. Tuition for a USA student taking a graduate course from a non-DISL and non-USA paid faculty member (i.e. a faculty member of another AMESC school) would be reimbursed at the 75%:25% with DISL receiving 75%. DISL reserves the right to reduce support historically provided to students in residence on its campus should tuition revenues decline below current levels following the approval of this MOU.

For the purposes of this MOU, a "USA paid faculty member" is a faculty member whose salary is paid by USA. However, for summer undergraduate courses taught by USA faculty with compensation from DISL, the reimbursement policy described in section III (2) of this document "Summer Undergraduate Courses" will apply.

This agreement is also valid for classes offered via interactive video originating from either DISL or USA. Again, the institution paying the faculty member will be paid 75% of the tuition. Both USA and DISL agree to make available interactive video classrooms for this activity.

2. Summer undergraduate courses

Tuition paid to USA will continue to be shared by both parties according to a 90%:10 % formula, which is the current agreed upon rate by the MESC Executive Committee on April 24, 2003, whereby DISL receives 90% of the tuition cost (determined by the tuition portion of the credit hour rate approved by USA Board of Trustees) and USA retains 10%.

DISL will retain 100% of course fees it collects directly from USA students.

DISL will retain 100% of housing and meal plan revenues it collects directly from USA students for food and housing provided on the DISL campus.


IV. Effective Date and Changes to MOU

Terms and conditions of this MOU are effective from August 15, 2015. This MOU is valid until such time as USA or AMESC provides a one semester written notice that the agreement is dissolved. Amendments to this agreement must be approved by both USA and MESC.

IN WITNESS WHEREOF, the parties hereto have executed this MOU as of August 15, 2015.

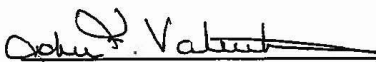
UNIVERSITY OF SOUTH ALABAMA

**MARINE ENVIRONMENTAL
SCIENCE CONSORTIUM**



G. David Johnson, Ph.D.
Provost and Senior Vice President for
Academic Affairs

Date: 9/3/15



John F. Valentine, Ph.D.
Executive Director

Date: 8/13/2015

John W. Smith, Ed.D.
Executive Vice President and Interim Vice
President for Finance and Administration

Date: _____



Robert K. Davis
University Contract Officer

Date: 9/23/15

Exhibit D.2. Payments from Tulane to LUMCON Based on Prior Agreement in 1994

30 August 1994

Dr. Richard Marksbury
University College
124 Gibson Hall
Tulane University
6823 St. Charles
New Orleans, LA 70118

Dear Dr. Marksbury:

This past summer, three students registered through Tulane University have completed courses at the Louisiana Universities Marine Consortium. As outlined in the terms of membership for affiliate universities, LUMCON should be reimbursed for expenses incurred from instruction during the LUMCON Summer Program. The students, their social security numbers, course numbers, course names, credit hours, and tuition remission are listed below (charges are based upon the amount Tulane charged per credit hour this past summer, \$372):

Mr. James Bolden SS# XXXXXXXXXX	EEOB.777.01 Special Problems in Marine Science	6 credits	66.6% of \$2232 =\$1487
Mr. Nigel Fields SS# XXXXXXXXXX	EEOB.666.01 Introduction to Marine Science	4 credits	66.6% of \$1488 =\$991
Mr. Peter W. Ward SS# XXXXXXXXXX	EEOB.777.01 Special Problems in Marine Science	4 credits	66.6% of \$1488 =\$991
TOTAL			\$3469

I have thus asked our accounting office to submit an invoice for \$3469 along with this letter.

It was a pleasure having your students with us this past summer, and we look forward to having more Tulane students attending our summer program in the future.

Thank you very much and very best regards.

Sincerely,

John H. Caruso, Ph.D.
University Education Coordinator

Enclosure

cc: Dr. P. W. Sammarco, Executive Director
Mr. D. G. Broussard, Assistant Director for Finance

UNIVERSITY EDUCATION MEMORANDUM

TO: Don Broussard
FROM: John Caruso
DATE: 31 August 1994
SUBJECT: Tuition remission from Tulane University

Attached is a copy of a cover letter to be sent to Dr. Richard Marksbury of Tulane University along with a bill for tuition remission. I would appreciate it if you would prepare an invoice to be sent to Tulane University for the tuition remission for the students listed in the cover letter. Please send the cover letter and invoice to Dr. Marksbury.

When received, these funds (\$3469) should be put in the 6740003-22101 account. I would you appreciate it if you would provide me with a copy of the invoice for my files.

Thank you very much.

JHC

cc: Dr. P. W. Sammarco
Dr. N. N. Rabalais

Exhibit D.3. Payments from Tulane to LUMCON Based on Prior Agreement in 1998

3 September 1998

Dr. Richard Marksbury
University College
124 Gibson Hall
Tulane University
6823 St. Charles
New Orleans, LA 70118

Dear Rick:

This past summer two Tulane University undergraduates, Ms. Kelaine Chalkey (SS# xxxxxxxxxx) and Ms. Hillery C. Martin (SS# xxxxxxxxxx), attended the LUMCON Summer Program. Ms. Chalkey was enrolled in *Marine Ecology* (EEOB.604), and Ms. Martin was enrolled in *Marine Vertebrate Zoology* (EEOB.630). These students earned a total of eight credit hours from instruction provided by LUMCON.

As outlined in the terms of membership for affiliate universities, LUMCON should be reimbursed for expenses incurred from instruction it provides. It is my understanding that Tulane charges a tuition of \$XXX per credit hour during the summer, or \$XXXX for eight credits. Therefore, I have asked our accounting office to submit to Tulane University an invoice for two thirds of the aforementioned amount (\$XXXX.XX) along with this letter. I would be most grateful if you would forward the enclosed invoice to the appropriate individuals.

It was a pleasure having your students with us this past summer. Ms. Martin was enrolled in my course, *Marine Vertebrate Zoology*, and I am pleased to report she earned the highest average in the class of eleven students (which included two graduate students).

Thank you very much and very best regards.

Sincerely,

John H. Caruso, Ph.D.
University Education Coordinator

Enclosure

cc: Dr. Michael J. Dagg, Executive Director
Mr. William Hebert, Finance Manager

UNIVERSITY EDUCATION MEMORANDUM

TO: Bill Hebert
FROM: John Caruso
DATE: 3 September 1998
SUBJECT: Tuition remission from Tulane University

Attached is a copy of a cover letter to be sent to Dr. Richard Marksbury of Tulane University along with a bill for tuition remission. I would appreciate it if you would prepare an invoice to be sent to Tulane University for the tuition remission for the students listed in the cover letter. Please send the cover letter and invoice to Dr. Marksbury.

When received, these funds (\$XXXX) should be put in the 674003-2211 account. I would appreciate it if you would provide me with a copy of the invoice for my files.

Thank you very much.

JHC

cc: Dr. M. J. Dagg

APPENDIX E: UNIVERSITY RESEARCH

Exhibit E.1. Research Collaborations Initiated by Marine Center Researchers (Since 2010)

Summary of Research Collaborations since 2010:

- *LUMCON award with sub-award to LA university (6)
- ~LA university award with sub-award to LUMCON (**none**)
- +LA university award with unpaid collaboration by LUMCON (2)

A snapshot of select projects is provided below in Table E.1. The table shows in a very clear and compelling fashion that the Marine Center researchers and the Consortium Executive Director are doing their part to collaborate with member university faculty. They are playing ball, and sending more money out of Cocodrie towards their colleagues on member campuses. However, the flow of funds is unidirectional.

Table E.1: Illustrative Example of Marine Center Researchers Doing the Right Thing

Project	Total	LUMCON	LSU	LSUAg	UL	Member Total	Other	LUMCON %	Member %	Other %
CWC	\$16,113,929	\$1,307,453	\$3,055,038	\$1,981,517	\$644,939	\$5,681,494	\$9,124,982	8%	35%	57%
GRI 1	\$12,185,000	\$5,084,825	\$6,207,457	\$851,616	\$0	\$7,059,073	\$41,102	42%	58%	0%
NGOMEX08	\$4,000,000	\$1,800,000	\$2,200,000			\$2,200,000	\$0	45%	55%	0%
Toxin	\$193,063	\$84,189	\$50,000	\$0	\$0	\$50,000	\$58,874	44%	26%	30%
NGOMEX06	\$2,260,022	\$783,724	\$906,320	\$0	\$0	\$906,320	\$569,978	35%	40%	25%
Totals	\$34,752,014	\$9,060,191	\$12,418,815	\$2,833,133	\$644,939	\$15,896,887	\$9,794,936	26%	46%	28%

Listing of Grants (since 2010) Initiated by LUMCON Researchers including LUMCON

Member institutions for funding:

- BP, Gulf of Mexico Research Initiative, RFP-IV, Coastal Waters Consortium, The Effects of the Macondo Oil Spill on Coastal Ecosystems, PI/PD with 24 co-PIs, \$16,113,929, Jan 2015 – Dec 2017. LUMCON provided sub-awards to multiple collaborators at LSU.
- U.S. EPA Gulf of Mexico Program, Supplemental Support for 2014 Shelfwide Hypoxia Cruise, \$88,474, Jul 2014 – Jan 2016. LUMCON was the sole awardee.
- BP, Gulf Research Initiative, Request for Proposals I, The Effects of the Macondo Oil Spill on Coastal Ecosystems, PI/PD with 26 collaborators \$12,185,000, Sep 2011 – Dec 2014. LUMCON provided sub-awards to multiple collaborators at ULL and LSU.
- BP Gulf Research Initiative Request for Proposals III, Impact of oil spill on summer hypoxia and water chemistry in the northern Gulf of Mexico, with W.-J. Cai, University of Georgia, \$17,000, July – December 2011. The lead was the University of Georgia, but there was no sub-award to LUMCON, but support in form of vessel platform.
- ~ Lake Pontchartrain Basin Foundation, Effects of Bonnet Carré Opening during Mississippi River Flood of 2011, \$10,000 for phytoplankton community composition, May 2011 – December 2011. Direct from the Lake Pontchartrain Basin Foundation, but only because of the work of Gene Turner, LSU, to have LUMCON as a co-collaborator.
- CNH: Collaborative Research: Northern Gulf of Mexico Hypoxia and Land Use in the Watershed: Feedback and Scale Interactions, National Science Foundation, DEB-1009417, with Iowa State University, \$100,744, Sep 2010 – Aug 2015. Iowa State University was the lead with a separate sub-award to LUMCON and a sub-award to LSU.
- ~ NGI BP sub-award, Post Macondo Well Oil Spill Water Quality Sampling - Barataria, Lake Pontchartrain, and Coastal Waters, with R. E. Turner, LSU, \$60,000.
- NSF RAPID, Improving Communication of Oil Spill Research, with Graduate School of Oceanography, University of Rhode Island, Sunshine Menezes, Christopher D'Elia, Lisa K. Lundy, Nancy N. Rabalais, Robert Goidel. Sought by University of Rhode Island as a collaborator but with no funds.
- FSML: Acquisition of environmental chambers to examine the impacts of climate change and anthropogenic disturbance on coastal ecosystems, Alexander S. Kolker, Brian J. Roberts, Geoffrey A. Sinclair, Nancy N. Rabalais, Paul W. Sammarco, NDG, \$131,076, Sep 1, 2010 – Aug 31, 2011. LUMCON only for development of facilities at the Marine Center available to all collaborators.

- ~ A century-of-change online GIS database for agricultural and water quality information, N. Rabalais, PI/PD, B. Babin, Co-PI, sub-award from University of Louisiana Lafayette, \$48,202, Jul 2009 – Jun 2011. Main award to ULL, with a sub-award to LUMCON to provide technical support of the LUMCON IT department to provide server support and code development.
- NGOMEX09: Integrated Ecosystem Modeling of the Causes of Hypoxia; N. Rabalais, PI/PD, B. Roberts, Co-PI, G. Sinclair, Co-PI, LUMCON; sub-award to R. E. Turner PI, D. Justić, Co-PI, B. Fry, Co-PI, C. Li, Co-PI, Louisiana State University; sub-award to D. Scavia, PI, University of Michigan. Total project budget over 5 years is \$4 million; LUMCON 5-year total is \$1.8 million, including vessel rentals; LSU would be \$2.2 million; year 1 is \$392,298. Aug 2011-Sep 2016. The collaboration ended in two subawards—one to LUMCON and one to LSU, so that NOAA could avoid an additional loss of research funds to indirect cost recovery.
- Iowa floods, nitrate and hypoxia cycling in a river-dominated continental margin, Schnoor, J. et al. 2008 – 2009, National Science Foundation, Collaborative Research: SGER, \$26,409 to N. Rabalais, LUMCON, Aug 2008 – Jul 2009. Award to University of Iowa with a sub-award to LUMCON and a sub-award to LSU.
- Coastal Restoration through Enhanced Science and Technology (CREST), NOAA Office of Response and Habitat Restoration, \$1,442,000, Apr 08 – Jun 12. Award to LUMCON to direct a research program, multiple sub-awards including to LSU, UNO, SELU, ULL, USM, Tulane, LSU AgCenter, and two out-of-state.
- Standardization of Local Data Network Nodes in the GCOOS-RA, Co-Investigator, Texas A&M University Foundation, DOC/NOAA, \$66,316, Feb 08 – Apr 11, May 11 – Jun 17, LUMCON only
- + The potential effects of environmental stressors on the diatom *Pseudo-nitzschia pseudodelicatissima* and Cyanobacteria – common HAB species in Louisiana. RCWQ-03PD, co-Principal Investigator with Sibel Bargu and Ed Laws, LSU, \$12,702 year 1, total \$26,454, Nov 07 – Oct 09. [contract end of Feb 08] Lead by LSU with collaboration with LUMCON Rabalais at no expense, but support of vessel rentals.
- + Distribution and potential toxicity of the diatom *Pseudo-nitzschia* spp. in Mississippi River influenced Louisiana coastal waters, Louisiana Board of Regents Quality Support Fund, co-Principal Investigator with Sibel Bargu, Louisiana State University, \$116,127 funds to LSU, LUMCON mentoring and logistical support as match, Apr 07 – Mar 09. LSU award with collaboration at no cost (i.e., support of cruises) by LUMCON Rabalais.
- Operation of LUMCON Doppler Radar Profiler, Minerals Management Service, Coastal Marine Institute, Louisiana State University, Principal Investigator, \$215,472, Sep 07 – Aug 10; \$208,472, Sep 10 – Aug 13. LUMCON only.
- Toxin Detection in Potentially Harmful Algae and their Consumers in the Barataria Bay System: Implications for Humans, EPA, Gulf of Mexico Program, Principal Investigator, \$193,063, Dec 06 – Dec 09. LUMCON award with sub-award to LSU for \$50,000.
- NGOMEX06, Integrated Observational Studies of Hypoxia in the Northern Gulf of Mexico, NOAA, Center for Sponsored Coastal Ocean Research, Principal Investigator, \$2,260,022, subcontract of \$906,320 to R.E. Turner et al. LSU, Aug 06 – Jul 10. LUMCON award with a sub-award to LSU.

Exhibit E.2. Use of the Marine Center by University Members Since 2014

Analysis of data provided by LUMCON staff revealed that there was not even a single funded research collaboration initiated by member institution faculty in this period that included resident researchers at the Marine Center. Table E.2. provides a summary of Research Usage of Marine Center as a Core Facility (2014-2016) by member university researchers.

A single individual, Dr. Natalia Sidorovskaia, Chair of the Department of Physics at UL Lafayette was responsible for approximately 50% of these usages, generating revenues for the Marine Center as part of her GOMRI grant.

Table E.2: Usage of Marine Center by Member Universities as a Core Facility

Member	FACILITIES	VESSELS	TOTAL
BRCC	\$ 234	\$ 700	\$ 934
LOYOLA	\$ 602	\$ 350	\$ 952
LSU	\$ 17,225	\$ 51,124	\$ 68,349
LSU AG	\$ 330		\$ 330
LSU SEA GRNT	\$ -	\$ 2,207	\$ 2,207
LSU SHREV	\$ -	\$ 299	\$ 299
LSU ALEX	\$ 2,137	\$ -	\$ 2,137
LA TECH	\$ 2,017	\$ 350	\$ 2,367
NSU	\$ 5,468	\$ 2,529	\$ 7,997
SOUTHERN	\$ 290	\$ 350	\$ 640
SOUTHEASTERN	\$ 2,070	\$ 1,050	\$ 3,120
TULANE	\$ 8,690	\$ 6,266	\$ 14,955
ULL	\$ 3,683	\$ 112,389	\$ 116,072
UNO	\$ 220	\$ 974	\$ 1,194
TOTAL	\$ 42,965	\$ 178,587	\$ 221,553

APPENDIX F: SURVEY OF STAKEHOLDERS

Exhibit F.1. Survey Request

Survey of University Stakeholders

Dear SEAC & Executive Board Members:

As part of developing the Business Plan for LUMCON, we are very interested in your experiences with LUMCON and your thoughts on increased usage of LUMCON as a facility to support university educators and researchers. In large part, LUMCON's reason for existence is to support university faculty and researchers in their efforts to enhance marine education, research and discovery in Louisiana.

Please fill out the survey, providing as much detail as possible. Please also forward the link to faculty members on your campus who are current and/or potential users of LUMCON for their research and instructional interests.

Your input is confidential and highly valued, for it will provide us insights into market expansion and new product development opportunities for LUMCON.

Sincerely,

Business Plan Task Force

Exhibit F.2. Survey Results

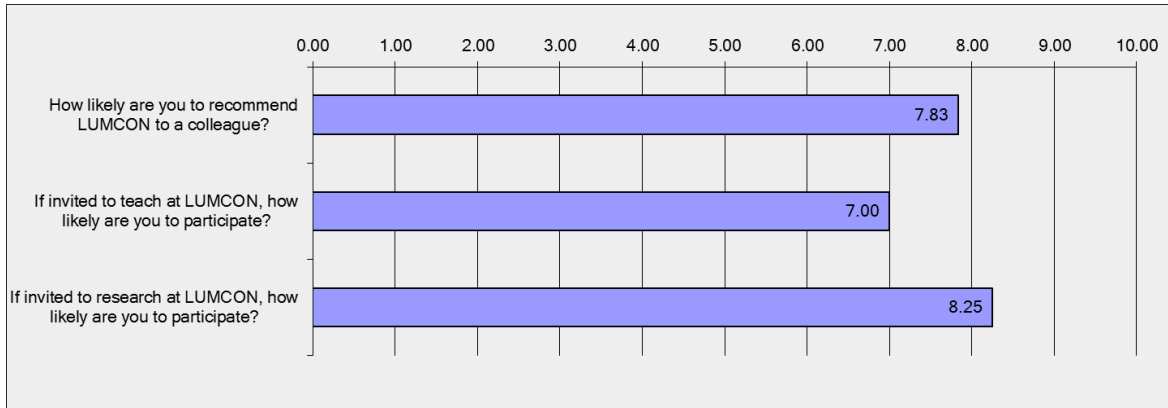


Figure E.1: Average to High Overall Satisfaction Index

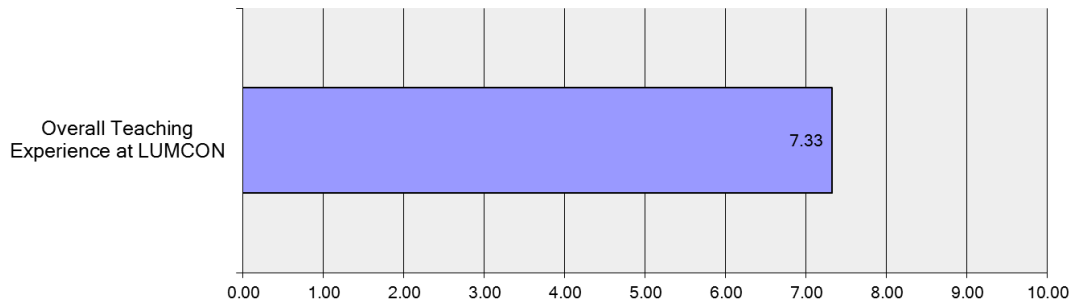


Figure E.2: High Teaching Experience Satisfaction Index

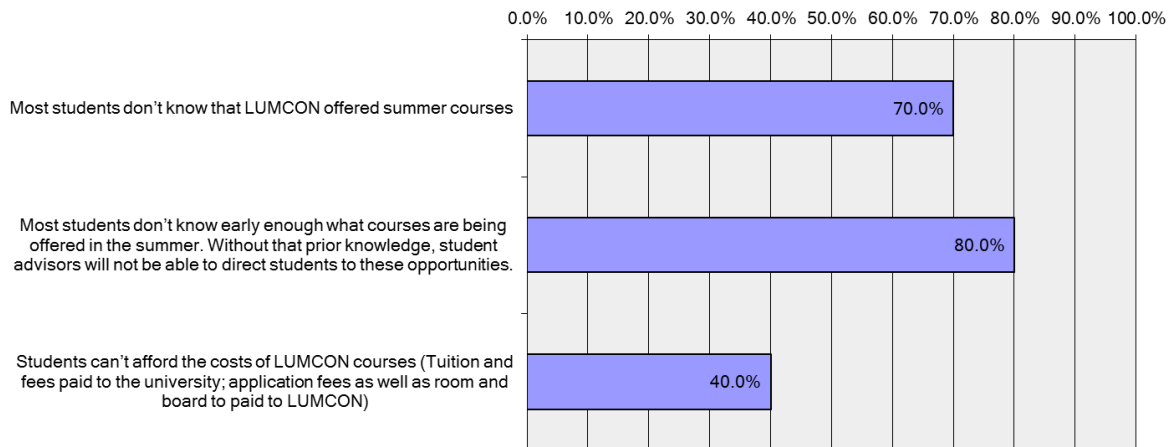


Figure E.3: Insight into Low University Education Participation

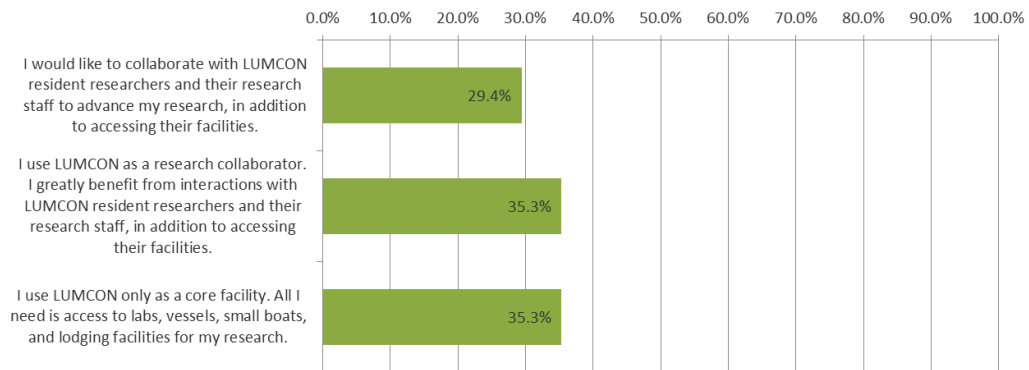


Figure E.4: Challenges Ahead for Collaborative Research: Low Interest

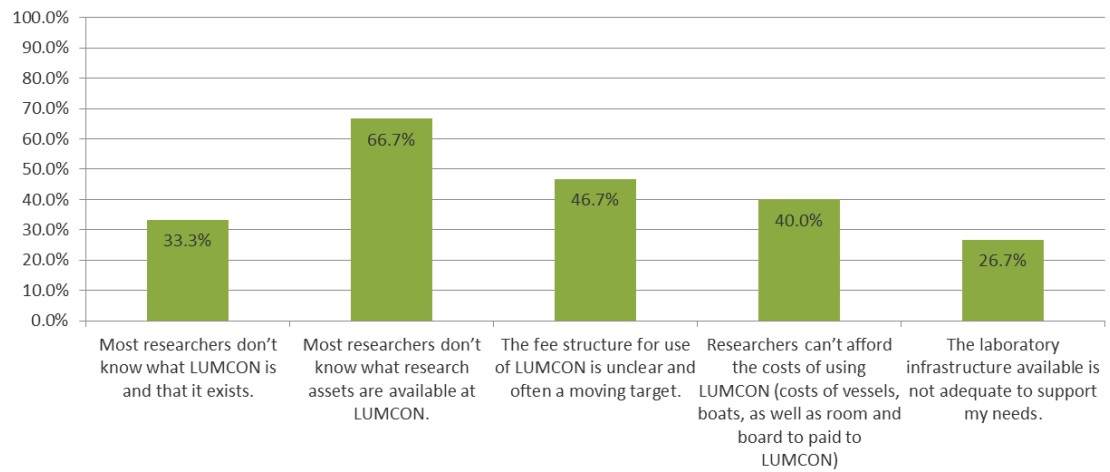


Figure E.5: More Insight into Challenges for Collaborative Research

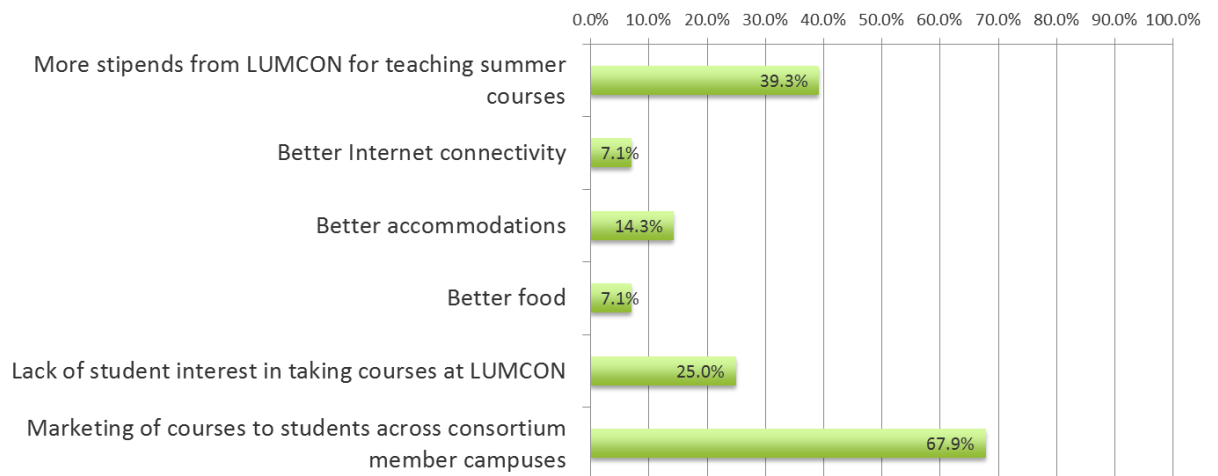


Figure E.6: Insight into Challenges for Collaborative University Education Programs

