Louisiana Universities Marine Consortium
8124 Highway 56
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BIENNIAL REPORT

FY2010 & FY2011

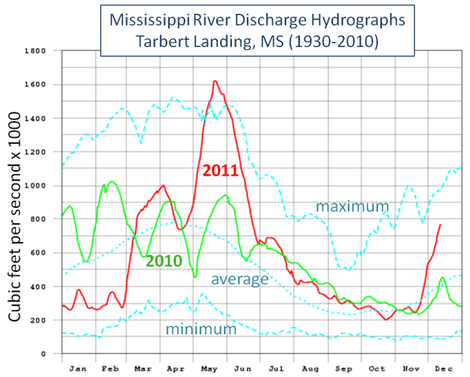
Retrospective

Two major external forces drove much of LUMCON's research and education missions in the past two years.

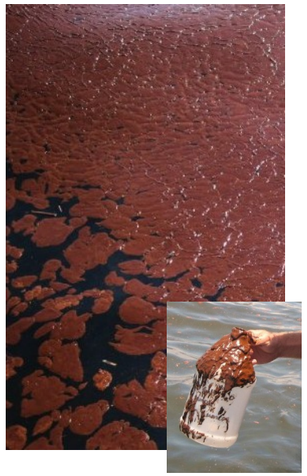

Opening of Morganza Spillway, Times-Picayune

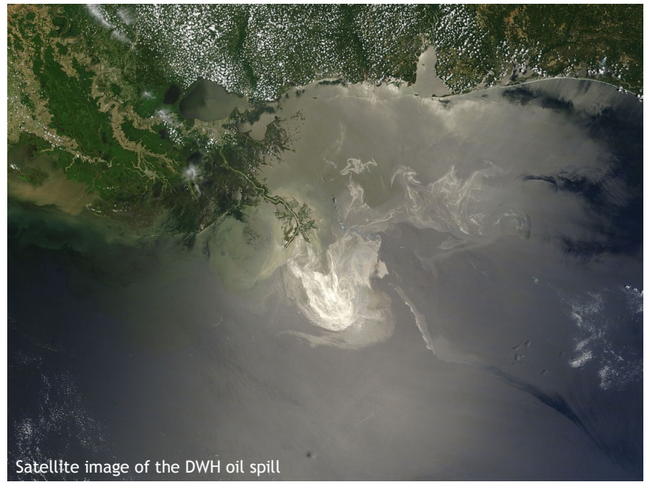
FY2010 and beyond – the BP Deepwater Horizon oil spill continued through mid-July 2010 after almost three months of discharging over 200,000,000 gallons of oil. The impacts continue to be documented and research programs continue to address ecosystem-related processes during the spill and after the spill.

FY2011 and beyond – major flooding of the Mississippi River reached the magnitude of or exceeded 20th century records of freshwater discharge, sediment flux and nutrient loads through the watershed and into the northern Gulf of Mexico.



With a BP Operations Center within a quarter mile of the Marine Center, Cocodrie and the surrounding areas saw a level of intensity unlike anything seen in the past. Businesses and waters were closed to the usual fare of commercial and recreational fishers, weekend visitors, boaters, and us. The uncontrolled gusher of oil from deep in the Gulf of Mexico off the Mississippi River delta and its spread across the northern Gulf of Mexico called for urgent action to stop the gusher, prevent its movement onto shore, and do the best possible to capture and remove oil that landed. The LUMCON research staff was already busy with spring and summer field trips, collections and experiments. The level of activity at the DeFelice Marine Center was already high when the spill began and continued as best it could, unless there was interference from oiled waters or marsh lands. The research community sprang into extra action with development of rapid response experiments and observations. The vessels responded as possible to the increased demand on an already busy schedule. The LUMCON staff also provided information for the ravenous media in a thoughtful and tempered manner. At a time when the Marine Center could have been more helpful, we were still hampered by having only half of our dormitories and apartments available to house researchers, emergency wildlife responders, and state and federal agency employees. The LUMCON Fourchon Lab was able to reopen in summer 2010 with support from the U.S. Environmental Protection Agency that used the lab as a sample processing site.




Satellite image of the DWH oil spill

FY2010—FY2011 Employees

Alexander Ameen	Research Assistant
Melissa Baustian	Student Worker / Research Assistant
Bruce Benoit	Information Technology Specialist
Tad Berkey	Able-bodied Seaman R/V *Pelican*
Shanna Bonvillain	Assistant Librarian
Heidi V. Boudreaux	Finance Manager / Human Resources
Ivy Boudreaux	Facility Technician/Security
Edward Chesney Jr	Associate Professor
Jennifer Conover	Marine Education Associate/Aquarist
John Conover	Librarian
Nicole Cotten	University Education Coordinator / Instructor
Valerie Cruz	Research Assistant
Jessica Czubankowski	Research Assistant
Michael Dagg	Professor
Dinah Daigle	Cafeteria/Dormitories
Ross Del Rio	Research Assistant
Wilton Delaune	Facility Technician
Kenneth Dies	Captain R/V *Acadiana*
Dara Drew	P/T Captain R/V *Pelican*
Quay Dortch	Adjunct Professor
Gwendolyn Duplantis	Cafeteria/Dormitories
Reid Endsley	Facility Technician
Amanda Fontenot	Student Worker
Melissa Genazzio	Research Assistant I
Daniel Guidry	Administrative Assistant, Vessels
Holly Hebert	Public Information Specialist
Karen Johnson	Cafeteria/Dormitories
Steven Joltki	Cook R/V *Pelican*
John Klingler	Marine Technician
Alexander Kolker	Assistant Professor
Jenn Lasseigne	Student Worker / Research Assistant
Craig LeBoeuf	Captain R/V *Pelican*
Samuel LeBouef	Vessel Technician R/V *Pelican*
Kenneth Lecompte	Security Guard
Charo Luke	Accounts Payable / Contracts
Joseph Malbrough	Marine Superintendent
Tony Malbrough	Captain R/V *Acadiana*
Russell Martin	Facility Technician
Jeremy Miller	Research Assistant
Wendy Morrison	Senior Research Associate
Jack Pennington	Chief Engineer/Operations Manager - Vessels
Gene Pontiff	Security Guard
Scott Porter	Research Associate I
Shirley Price	Cafeteria/Dormitories
Lora Pride	Research Associate III
Samantha Primer	Research Assistant
Jean Rabalais	Research Assistant
Nancy Rabalais	Executive Director & Professor
Cyndhia Ramatchandirane	Student Worker/Research Assistant
Rodney Redmen	Deckhand R/V *Pelican*
Danielle Richardi	Research Assistant III
Alice Richoux	Cafeteria/Dormitories
Brian Roberts	Assistant Professor
Richard Robichaux	Facility Technician
Jennifer Robinson	Marine Education Assistant
Stephen Rodriguez	Relief Captain
Paul Sammarco	Professor
Carrie Semmler	Research Assistant
Carl Sevin	Vessel Technician
Cindy Sevin	Receptionist
Wayne Simoneaux	Marine Center Superintendent
Geoffrey Sinclair	Assistant Professor
Emily Speir	Research Assistant
Justin Stelly	Student Worker
Kelly Stoerman	Cook R/V *Pelican*
Maria Suarez	Instrument Technician
Keith Thibodeaux	Security Guard
Joseph Thomas Jr	2nd Captain R/V *Pelican*
Gerald Walker	Facility Technician
Jordan Westmoreland	Marine Technician
Thomas Widgeon	Marine Technician
Max Wike	Relief Captain/ROV Operator
Kelly Williams	Student Worker

BTNEP

Andrew Barron	Water Quality Coordinator
Matthew Benoit	Plant Materials Coordinator
Dean Blanchard	Habitat Enhancement Coordinator
Richard DeMay	Senior Scientist
Kristen Galler	Student Worker
Sandra Helmuth	Office Manager
Melvin Landry III	Volunteer Coordinator
Michael Massimi	Invasive Species Coordinator
Meredith McKoin	Student Worker
Alma Robichaux Wagner	Education Coordinator
Shelley Sparks	Media Relations Coordinator
Kerry St.Pé	BTNEP Program Director

FINANCIAL REPORTS, CONT.

LUMCON'S CURRENT FY 2010-2011 BUDGET STATUS AS OF 6/30/2011

EXPENDITURES	FY 2010-11 BUDGET	FY 2010-11 ACTUAL EXPENDITURES THRU 6/30/2011	FY 2010-11 BUDGET BALANCE 6/30/2011
STATE FUNDS			
Salaries and Wages	1,363,777	1,363,777	0
Student Wages	0	0	0
Fringe Benefits	429,484	429,484	0
Travel	0	0	0
Operating Services	212,921	212,921	0
Supplies	65,109	65,109	0
Professional Services	0	0	0
Acquisitions:			
Library	20,651	24,943	-4,292
Other Acquisitions	17,933	13,641	4,292
IAT-UPS- TRANSFERS, OTM Charges	384,538	384,538	0
STATE FUNDS EXPENDITURES*	2,494,413	2,494,413	0
*With Statutory Dedication Funds			
OTHER FUNDS			
Barataria-Terrebonne National Estuary	900,000	852,736	47,264
Restricted Fund (Research,IDC,FEMA)	2,854,667	2,739,879	114,788
Vessel Operations	2,250,000	2,242,825	7,175
Cafeteria / Dormitory	130,000	103,980	26,020
TOTAL EXPENDITURES	$8,629,080	$8,433,833	$195,247

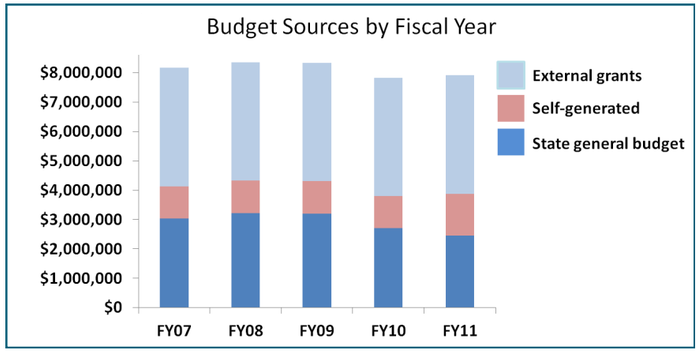
SOURCE OF REVENUE:	FY11 BUDGET	FUNDS DRAWN OR COLLECTED	FY11 BUDGET BALANCE
State General Fund	2,455,660	2,455,660	0
Restricted Fund: (Research,IDC,FEMA)			
Federal Funds	2,934,667	2,958,964	-24,297
Self Generated Fees	145,000	145,000	0
Interagency Trans.	675,000	488,807	186,193
Ancillary Funds:			
Vessel Operations	2,250,000	2,242,825	7,175
Cafeteria Dormitory	130,000	103,980	26,020
Statutory Dedications:Fac.Pay	38,753	38,597	156
Statutory Dedications:Hier Ed Init	0	0	0
TOTAL REVENUE	$8,629,080	$8,433,833	$195,247

Prior Year-End Fund Balances:	
Restricted Fund: (Research)	
Federal/Self-Gen. Fees, IAT,IDC Funds	993,421
Ancillary Funds:	
Vessel Operations w/IDC	90,386
Cafeteria / Dormitory	81,222
Act 971 Carryover (Prev. Maint.)	0
	1,165,029

While the effects of the BP DWH oil spill continued to be documented and studied, the Mississippi River showed a harbinger of record floods to come when it peaked well above average in early April 2011. The discharge reached a record peak in mid-May, a bit more than the discharge peak that threatened the integrity of the Old River Control Structure in 1973. Decisions were made early to break levees south of Missouri and use the flood plain of the Mississippi River to take some of the volume away and to divert water through the Bonnet Carré Spillway, the Old River Control Structure and the Morganza Spillway. Waters rose within the Atchafalaya Spillway and along the length of the Mississippi River below Baton Rouge, while at the same time south Louisiana and much of the Gulf Coast continued under record drought conditions. Bayous went dry, aquifers became precariously low, and crops suffered. The increased precipitation, earlier snow melt and increased flow in the Upper Mississippi River and less rain fall in the Lower Mississippi River watershed are predictions for change in the watershed in a warmer world. The year 2011 brought both climate scenarios.

Hurricanes and tropical storms did not darken the LUMCON doorstep in the most recent two fiscal years, but there were some high water events including Tropical Storm Lee (Labor Day 2011).

A wonderful news item to report for FY11 was the completion of repairs and reoccupation of the remainder of the dormitories and apartments in the DeFelice Marine Center damaged in Hurricane Katrina in 2005. Yes, more than five years. The downstairs lobby and display area damaged in Hurricanes Rita (2005) and Ike (2008) were not mitigated as preferred, so we opted for a complete gutting of the area. The feeling is now open and airy rather than damaged and sodden. And we have three new shiny aluminum outside stairwells that are safe!



The FY2010 State General Fund budget was down by 13% from FY07, and the FY2011 State budget fell an additional 10% from the previous year. It remains a challenge to continue the level of services in which LUMCON excels—research and education that serve the important needs of Louisiana and support of research and education. Budget shortfalls for Louisiana remain part of our immediate future.

Still, LUMCON remains open to researchers, students, educators, visiting school groups, university field trips, summer camp, adult education programs, and local, state and federal agency staff in the follow-up to the BP Deepwater Horizon oil spill as well as continued research efforts there as well as continuing research efforts resulting from grants related to the 2011 Mississippi River flood. Plans for FY2012 include expanded education and research programs at all levels across Louisiana, the Gulf of Mexico and the nation. LUMCON continues as a unique and valuable asset in research and science support for the State universities and many visitors from elsewhere.

Nancy Rabalais

Consortium Members

University of Louisiana System
- Grambling State University
- Louisiana Tech University
- McNeese State University
- • Nicholls State University
- Northwestern State University
- Southeastern Louisiana University
- • University of Louisiana at Lafayette
- University of Louisiana at Monroe
- University of New Orleans

Louisiana State University System
- • Louisiana State University in Baton Rouge
- Louisiana State University in Shreveport

Southern University System
- Southern University in Baton Rouge
- Southern University in New Orleans

Louisiana Private Institutions
- Centenary College of Louisiana
- Dillard University
- Louisiana College
- Loyola University
- Our Lady of Holy Cross College
- Tulane University
- Xavier College

• Governing University

Education and Outreach

Open House 2011: A very successful day of learning and play

Even before Open House kicked off at 9 AM, visitors started filing into the DeFelice Marine Center. And they kept coming and coming! As in years past, this year's Open House featured free lunch of red beans and rice, a challenging scavenger hunt, a touch tank, water quality testing at the "Lemonade Stand," hands-on lab demonstrations and many opportunities for learning and play. This year we also offered children's games and a snowball vendor. Airboat rides into the marsh gave a new experience to many visitors, including Commissioner of Higher Education, Dr. Jim Purcell.

Of the 762 visitors who signed in, most resided in Louisiana. However, we had attendees from other areas in the U.S., and even from other parts of the world. So many, from so many areas of the state, nation and world were visiting the LUMCON Marine Center and all had a good time.

Drs. Purcell and Rabalais

Educating the public: Gulf Lagniappe and Wetland Warriors workshops

LUMCON began two successful adult education programs to inform people about the challenges facing coastal Louisiana and to promote environmental stewardship.

Gulf Lagniappe was a series of six one-day workshops that featured a talk given by a LUMCON researcher followed by activities that pertained to the subject of the researcher's talk. Some community members attended all of the workshops! Funding for Gulf Lagniappe was provided by the Gulf of Mexico Alliance through the Dauphin Island Sea Lab.

Wetland Warriors was a two-day workshop in which participants learned about the environment in classrooms, labs, and field activities. The attendees took away with them many resources related to coastal ecosystems and coastal restoration. Participants stayed overnight at the Marine Center in Cocodrie. Wetland Warriors was also supported by funding from the Gulf of Mexico Alliance through the Dauphin Island Sea Lab.

"To increase society's awareness of the environmental, economic and cultural value of Louisiana's coastal and marine environments"

LUMCON'S CURRENT FY 2009-2010 BUDGET STATUS AS OF 06/30/2010

EXPENDITURES		FY 2009-10 BUDGET	FY 2009-10 ACTUAL EXPENDITURES THRU 6/30/2010	FY 2009-10 BUDGET BALANCE 6/30/2010
STATE FUNDS				
Salaries and Wages		1,564,991	1,557,546	7,446
Student Wages		0	0	0
Fringe Benefits		415,715	423,161	-7,446
Travel		920	920	0
Operating Services		231,547	231,547	0
Supplies		73,240	73,240	0
Professional Services		0	0	0
Acquisitions:				
	Library	30,500	30,302	198
	Other Acquisitions	31,127	31,325	-198
IAT-UPS-	TRANSFERS, OTM Charges	393,240	393,240	0
	STATE FUNDS EXPENDITURES*	2,741,280	2,741,280	0
	*With Statutory Dedication Funds			
OTHER FUNDS				
Barataria-Terrebonne National Estuary		1,024,156	809,027	215,129
Restricted Fund (Research,IDC,FEMA)		2,830,511	2,591,455	239,056
Vessel Operations		2,000,000	1,981,364	18,636
Cafeteria / Dormitory		130,000	124,001	5,999
TOTAL EXPENDITURES		$8,725,947	$8,247,128	$478,819

SOURCE OF REVENUE:		FY10 BUDGET	FUNDS DRAWN OR COLLECTED	FY10 BUDGET BALANCE
State General Fund		2,699,875	2,699,875	0
Restricted Fund: (Research,IDC,FEMA)				
	Federal Funds	2,934,667	2,957,783	-23,116
	Self Generated Fees	70,000	70,000	0
	Interagency Trans.	850,000	375,643	474,357
Ancillary Funds:				
	Vessel Operations	2,000,000	1,981,364	18,636
	Cafeteria Dormitory	130,000	124,001	5,999
Statutory Dedications:Fac.Pay		41,405	38,462	2,943
TOTAL REVENUE		$8,725,947	$8,247,128	$478,819

Prior Year-End Fund Balances:	
Restricted Fund: (Research)	
Federal/Self-Gen. Fees, IAT,IDC Funds	514,891
Ancillary Funds:	
Vessel Operations w/IDC	886,116
Cafeteria / Dormitory	16,158
Act 971 Carryover (Prev. Maint.)	0
	1,417,165

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University Education

LUMCON courses accrue credits to undergraduates and graduates at the member universities. They include summer courses, spring semester distance video courses, spring break courses, and intersession courses:

Introduction to Marine Science
Introduction to Marine Biology
Marine Invertebrate Ecology
Marine Vertebrate Ecology
Coral Reef Ecology
Wetland Vegetation
Marine Field Geology
Marine Field Ecology
Coastal Landscape Photography

Directed research hours are available for undergraduate and graduate students.

LUMCON offers a spring semester distance learning course "Changing Coastal Oceans" to several universities at a time. The spring 2011 class was the best attended class since its inception, from an average of 10 to over 20 students. Overall, the video learning course is one of LUMCON's best subscribed university courses. It provides a broad perspective of marine science, the forces acting to change environmental conditions, and the response of coastal and marine ecosystems to multiple stressors. A three-day, overnight field trip including excursions into local bays and marshes is an integral part of the course instruction.

A Tulane University Neurophysiology course was taught

during the spring/summer intersession of 2011 in support of an NSF Early Career grant to Dr. Benjamin Hall of Tulane University. This will be repeated in spring of 2012 and 2013.

LUMCON initiated its first of several summers of a National Science Foundation REU program (Research Experiences for Undergraduates) with a focus on *Interdisciplinary Research Experiences in Changing Coastal Environments*. The faculty hosted nine undergraduates from across the U.S. to a ten-week internship program. Students represented University of North Carolina, Boston University, University of New Orleans, Georgia Institute of Technology, Grinnell College, University of Washington, University of Michigan, Pennsylvania State University, and University of South Carolina. Research topics included impacts of oil on speckled trout larvae, the Mississippi River flood and nutrient cycling in the Atchafalaya River Delta Estuary, relationships between bottom-water oxygen and pH parameters, competition among invasive coral species and drivers of seasonal sea level change, among others.

18,776
University Student Contact Hours in FY2010 & FY2011

133
University Student Credit Hours in FY2010

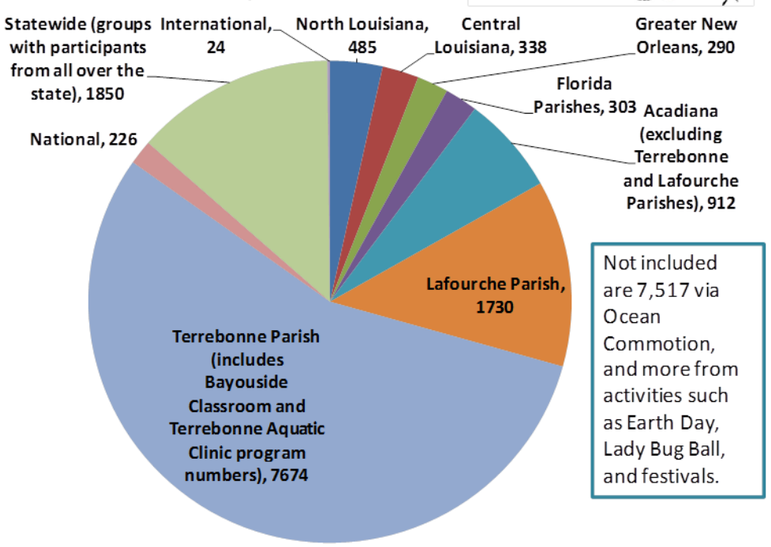
144
University Student Credit Hours in FY2011

K—12 Education

LUMCON's K-12 and Teacher Education program continues to offer high quality programs that can be adapted to meet the needs of a wide variety of participants. The programs that introduce participants to the surrounding marine and coastal environments continue to be in demand by educators around the state and Gulf Coast region. Some program highlights include:

- Partnership with **GEAR UP** (Gaining Early Awareness & Readiness for Undergraduate Programs) initiative of Lafayette Parish
- **Going Beyond the Bayou**, a Gulf of Mexico Alliance funded project, served students of hurricane ravaged Cameron Parish
- Bay Watershed Education and Training (**BWET**), in cooperation with LSU's Coastal Roots program, provided training, equipment and technical support to teachers
- LUMCON Estuarine Awareness and Discovery (**LEAD**) summer camp
- Participation in Terrebonne Aquatic Clinic, LA Sea Grant Ocean Commotion, Earth Day and many other community outreach events
- A full schedule of field trips to the DeFelice Marine Center and continued growth of the Bayouside Classroom web application

A LUMCON signature program is Bayouside Classroom, in which students learn the scientific method, demonstrate it with water quality testing at the Marine Center in Cocodrie or the bayou near their school, enter their data into a program-wide data base, and continue to participate as a Bayouside Classroom after their training. The program was awarded an education activity citation from the National Science Foundation and is incorporated in the Terrebonne Parish middle school advanced biology curriculum. The program and its variants have expanded across Louisiana and form the basis for needed environmental education in numerous underrepresented and underserved student classrooms



Not included are 7,517 via Ocean Commotion, and more from activities such as Earth Day, Lady Bug Ball, and festivals.

7,734
Number of students on field trips during FY10 & FY11

665
Teachers in K-12 Workshops during FY10 & FY11

GRANTS AND AWARDS, CONTINUED

GRANTING ENTITY	FACULTY OR STAFF		ADDITIONAL AWARD	EXTENSION	TITLE OF AWARD
TEXAS A&M RESEARCH FDN - NOAA, IOOS	DR. NANCY RABALAIS	$	21,457	TO 12/31/2010	STANDARDIZATION OF LOCAL DATA NETWORK NODES IN THE GCOOS-RA
U. S. ARMY CORPS OF ENGINEERS	DR. JENNEKE VISSER	$	21,450	TO 3/31/2011	ACADEMIC ADVISORY GROUP TO THE CRMS REVIEW - PPL#20
NOAA	DR. NANCY RABALAIS	$	348,021	TO 8/31/2014	NGOMEX09: INTEGRATED ECOSYSTEM MODELING OF THE CAUSES OF HYPOXIA - YEAR 2
ULL / USGS	DR. NANCY RABALAIS	$	(16,205)	NO CHANGE	A CENTURY-OF-CHANGE GIS DATABASE FOR AGRICULTURE AND WATER QUALITY INFORMATION
MINERALS MANAGEMENT SERVICE	DR. NANCY RABALAIS	$	131,557	TO 9/30/2013	DEPLOYMENT AND OPERATION OF RADAR PROFILER
NSF	JOE MALBROUGH	$	3,733	TO 4/30/2011	ELECTRONIC TECH SUPPORT SERVICES - 2010
NOAA/CSCOR	DR. MIKE DAGG	$	187,678	TO 8/31/2014	NGOMEX09 - MECHANISMS CONTROLLING HYPOXIA: INTEGRATED CAUSAL MODELING - YEAR 2
EPA	KERRY ST. PÉ	$	25,000	NO CHANGE	BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM - FY10 ADDITIONAL FUNDING
NSF	JOE MALBROUGH	$	52,850	NO CHANGE	SHIP OPERATIONS
LSU SEA GRANT / NOAA	DR. ED CHESNEY	$	72,666	TO 1/31/2012	EXPANDING PRODUCTION OF COMMERCIAL MARINE FINFISH IN THE NORTHERN GULF OF MEXICO: DEVELOPMENT OF NOVEL SPAWNING TECHNIQUES FOR DIFFICULT TO SPAWN MARINE FISHES
NSF	JOE MALBROUGH	$	201,050	NO CHANGE	SHIP TIME - R/V *PELICAN*
NOAA/CSCOR	DR. MIKE DAGG	$	46,706	NO CHANGE	NGOMEX09 - MECHANISMS CONTROLLING HYPOXIA: INTEGRATED CAUSAL MODELING - YEAR 3 FUNDS ADDED
NOAA/CSCOR	DR. NANCY RABALAIS	$	246,308	NO CHANGE	NGOMEX09: INTEGRATED ECOSYSTEM MODELING OF THE CAUSES OF HYPOXIAAMENDMENT - YEAR 3 FUNDS ADDED
TULANE / USGS	DR. ALEX KOLKER	$	8,506	TO 9/22/2011	LOWER MISSISSIPPI DELTAIC PLAIN ENVIRONMENTAL OBSERVATORY -USGS LONG-TERM ESTUARY ASSESSMENT GROUP (LEAG)
NSF	JOE MALBROUGH	$	34,000	NO CHANGE	SHIP TIME - R/V *PELICAN*
NSF	JOE MALBROUGH	$	32,747	TO 4/30/2012	ET SUPPORT SERVICES - 2011
NOAA/CSCOR	DR. MIKE DAGG	$	149,453	NO CHANGE	NGOMEX09 - MECHANISMS CONTROLLING HYPOXIA: INTEGRATED CAUSAL MECHANISMS
NSF	JOE MALBROUGH	$	98,490	TO 9/30/2012	SHIPBOARD SCIENTIFIC SUPPORT EQUIPMENT - 2010
	TOTAL	**$**	**1,665,467**		
	GRAND TOTAL	**$**	**6,810,636**		

RESEARCH PUBLICATIONS

Books

McKinnell, S.M. and **M.J. Dagg** [Eds]. 2010. *Marine Ecosystems of the North Pacific Ocean, 2003-2008*. PICES Special Publication 4, 393 p.

Book Chapters

McKinnell, S.M., S. Batten, S.J. Bograd, J.L. Boldt, N. Bond, S. Chiba, **M.J. Dagg,** M.G.G. Foreman, G.L. Hunt Jr., J.R. Irvine, O.N. Katugin, V. Lobanov, D.L. Mackas, P. Mundy, V. Radchenko, Y.J. Ro, H. Sugisaki, F.A. Whitney, A. Yatsu, and S. Yoo. 2010. Status and trends of the North Pacific Ocean, 2003-2008, Pp. 1-55. In S.M. McKinnell and M. J. Dagg. [Eds.] *Marine Ecosystems of the North Pacific Ocean, 2003-2008*. PICES Special Publication 4, 393 p.

Rabalais, N.N. 2010. Eutrophication of estuarine and coastal ecosystems. Pp. 115-135. In Mitchell, R. and J.-D. Gu [Eds], *Environmental Microbiology*, John Wiley & Sons, Inc., Hoboken, New Jersey.

Articles

Dagg, M.J., H. Liu and S. Strom. 2009. High feeding rates on large particles by *Neocalanus flemingeri* and *N. plumchrus*, and consequences for phytoplankton community structure in the HNLC subarctic Pacific Ocean. *Deep-Sea Research I* 56: 716-726.

Dagg, M.J., T. Bianchi, B. McKee, and R. Powell. 2008. Fates of dissolved and particulate materials from the Mississippi River immediately after discharge into the northern Gulf of Mexico, USA, during a period of low wind stress. *Continental Shelf Research* 28: 1443-1450.

Fanta, S.E., W.R. Hill, T.B. Smith, and **B.J. Roberts**. 2010. Testing the light:nutrient hypothesis on stream periphyton. *Freshwater Biology* 55: 931-940.

Fischer A.J., **E.J. Chesney** and J.H. Cowan, Jr. 2010. Validation of first annulus formation in red snapper otoliths with the use of an alizarin complexone fluorescent marker. *Environmental Biology of Fishes* 89: 313-317.

GRANTS AND AWARDS, NEW

LA DEPT WILDLIFE & FISHERIES/NOAA/GSMF	DR. EDWARD CHESNEY	$	35,736	01/01/2010 TO 09/30/2011	DEVELOPING CRITERIA FOR SUSTAINABLE RECREATIONAL FISHING PRACTICES
COALITION TO RESTORE COASTAL LOUISIANA - USGS	DR. ALEX KOLKER	$	18,843	07/01/2010 TO 06/30/2011	SEDIMENTOLOGY OF A RESTORED MANGROVE WETLAND: FIFI ISLAND
NSF - RAPID RESPONSE RESEARCH PROGRAM	DR. NANCY RABALAIS		FACILITY FEES	08/15/2010 TO 07/31/2011	IMPROVING COMMUNICATION OF OIL SPILL RESEARCH
FL DEPT ENVIRONMENTAL PROTECTION / EPA	MURT CONOVER	$	24,995	08/13/2010 TO 09/30/2011	GULF ALLIANCE PARTNERSHIP - EXPERIENTIAL ENVIRONMENTAL EDUCATION AND TEACHER PROFESSIONAL DEVELOPMENT
NATIONAL SCIENCE FOUNDATION	JOE MALBROUGH	$	200,750	10/01/2010 TO 09/30/2012	SHIPBOARD SCIENTIFIC SUPPORT EQUIPMENT - 2010
NATIONAL SCIENCE FOUNDATION	DR. NANCY RABALAIS	$	100,744	10/01/2010 TO 09/30/2013	NORTHERN GULF OF MEXICO HYPOXIA AND LAND USE IN THE WATERSHED: FEEDBACK AND SCALE INTERACTIONS
ENVIRONMENTAL PROTECTION AGENCY	KERRY ST. PÉ	$	800,000	10/01/2010 TO 09/30/2014	BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM - FY11
NOAA—UNIVERSITY OF SOUTHERN MISSISSIPPI	DR. EDWARD CHESNEY	$	50,000	10/01/2010 TO 09/30/2012	DEVELOPMENT AND OPERATION OF THE THAD COCHRAN CENTER FOR MARINE AQUACULTURE
DAUPHIN ISLAND SEA LAB - NOAA	MURT CONOVER	$	20,264	09/01/2010 TO 09/30/2011	GULF LAGNIAPPE - ADULT ENVIRONMENTAL EDUCATION WORKSHOPS
LEQSF-BOR SUPPORT FUND	DR. NANCY RABALAIS	$	1,140	10/25/2010 TO 11/30/2010	LEQSF - COLLABORATIVE SCIENTIFIC RESEARCH IN RELATION TO THE GULF OIL SPILL
U. S. ARMY CORPS OF ENGINEERS	KERRY ST. PÉ	$	10,000	08/25/2010 TO 09/30/2011	VIDEO AND PHOTO ACQUISITION-DFS02381769
GREATER NEW ORLEANS FOUNDATION	DR. ALEX KOLKER	$	35,721	01/22/2011 TO 10/22/2011	RESILIENCE OF SALT MARSH ECOSYSTEMS FOLLOWING AN ENVIRONMENTAL CATASTROPHE
U. S. ARMY CORPS OF ENGINEERS	DR. JENNEKE VISSER	$	140,250	01/01/2011 TO 03/31/2012	COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION PRIORITY PROJECT LIST NUMBER 21
LSU / BP EXPLORATION & PRODUCTION INC.	DR. ED CHESNEY	$	119,110	07/01/2010 TO 06/30/2011	BIOLOGICAL IMPACTS OF OIL DISPERSANT ON FISH OF DEEP WATERS: ASSESSING IMPACTS OF THE BP DWH EVENTS
LSU / MISSISSIPPI STATE UNIVERSITY - NGI	DR. NANCY RABALAIS	$	29,995	07/02/2010 TO 03/31/2011	DEEP WATERS: IMPACT OF DH OIL SPILL ON THE LOUISIANA COASTAL ENVIRONMENTS
NATIONAL SCIENCE FOUNDATION	DR. BRIAN ROBERTS	$	73,728	04/01/2011 TO 03/31/2012	REU SITE: INTERDISCIPLINARY RESEARCH EXPERIENCES IN CHANGING COASTAL ENVIRONMENTS
LSU/NOAA	MURT CONOVER	$	10,000	10/01/2010 TO 07/30/2011	NOAA BAY WATERSHED EDUCATION AND TRAINING GRANT
DAUPHIN ISLAND SEA LAB / NOAA	NICOLE COTTEN	$	15,941	03/01/2011 TO 09/30/2011	WETLAND WARRIORS
LA DPS - BP EXPLORATION & PRODUCTION	DR. NANCY RABALAIS	$	133,828	01/01/11 TO 12/31/9999	BP REIMBURSEMENT - OIL SPILL CHARGES, 1ST CLAIM
LSU / MISSISSIPPI STATE UNIVERSITY - NGI	DR. NANCY RABALAIS	$	29,996	01/01/2011 TO 02/29/2012	POST MACONDO WELL OIL SPILL WATER QUALITY SAMPLING - BARATARIA, LK PONTCHATRAIN, AND COASTAL WATERS, pt 2
LSU/NOAA SEA GRANT	DR. ALEX KOLKER	$	10,000	05/15/2011 TO 05/14/2012	SEDIMENT & WATER DYNAMICS IN RIVER-DOMINATED COASTAL WETLANDS DURING THE MISSISSIPPI RIVER FLODD OF 2011
NATIONAL AUDUBON SOCIETY, INC.	DR. ALEX KOLKER	$	19,999	6/20/2011 TO 10/02/2011	HYDRODYNAMICS IN THE WEST BAY MISSISSIPPI RIVER DIVERSION
	TOTAL	**$**	**5,145,170**		

Barataria-Terrebonne National Estuary Program (BTNEP)

The BTNEP is one of several such programs of the U.S. Environmental Protection Agency. It is a partnership of government, business, scientists, conservation organizations, agricultural interests, and individuals for the *preservation*, *protection*, and *restoration* of the Barataria-Terrebonne National Estuary in southeast Louisiana. Its state co-funding partner was the Louisiana Department of Environmental Quality until 2002 when it was moved under the LUMCON umbrella, along with the state co-matching funds required for an NEP. Mr. Kerry St. Pé is the director.

The Barataria-Terrebonne estuarine complex encompasses the 4.2 million acres of wetlands, ridges, forests, farmlands, and communities between the Mississippi and Atchafalaya River Basins in southeast Louisiana. A diverse group of stakeholders form a Management Conference that ensures a place for the voice of all that live, work, and play in the Barataria-Terrebonne estuarine complex. The BTNEP has a strong education and public outreach program and is active in coastal restoration programs and projects.

Special programs include:

- The annual La Fête d'Ecologie and Paddle Bayou Lafourche
- Tree plantings on chenier ridges of Elmer's Island
- Invasive species removals
- Floating marsh plant island preparations and deployment

Wetlands can be created from pumped dredged material through pipelines

"If you live, work, or play in the Barataria-Terrebonne National Estuary or are one of the millions that use its resources across the nation, you have a vested interest in its restoration."

1,000+

Volunteers engaged with coastal restoration projects in the Barataria-Terrebonne estuary

Vessels

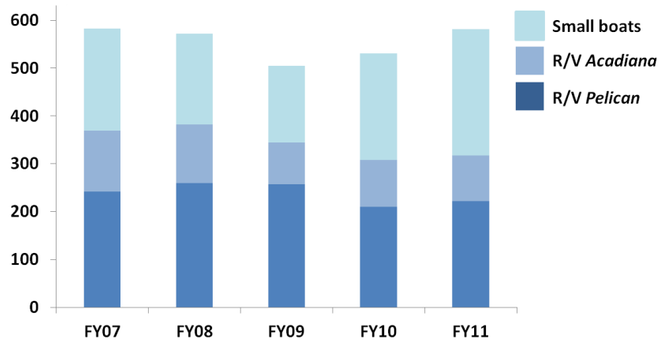
A shipyard visit in FY11 (funded by Vessel Operations as part of the general maintenance fund kept for UNOLS) and National Science Foundation (NSF) equipment awards improved substantially the functionality of the R/V *Pelican*. Among the improvements and upgrades were:

- New aft control station
- New Markey Com 7 CTD winch
- New anchor handling system
- Hydraulic system upgrade
- Three additional transducer pods for underway through the water column currents (ADCP)
- New radar arch
- Appleton crane overhaul and new Crane Smart system
- Improved electrical and computing networks

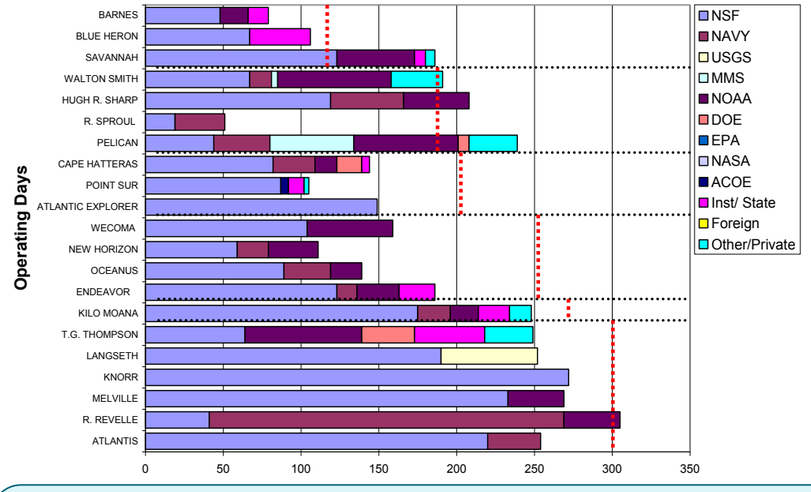
The R/V *Pelican* continues to be the busiest vessel in the University-National Oceanographic Laboratory System (UNOLS) fleet with over 100% utilization. The R/V *Pelican* completed the 2010 year with 237 days at sea and is on schedule to completed 206 chartered days during 33 cruises for 2011. The vessel has averaged 243 chartered days over the past four years and will continue to operate as the workhorse of the UNOLS fleet. The R/V *Pelican* is the only UNOLS vessel stationed and operating full time in the Gulf of Mexico.

The R/V *Pelican* was the first academic research vessel on site at the Macondo well blowout and subsequent oil spill. There were eventually as many as 7,000 ships in the vicinity of the oil spill during response, recovery and research. The *Pelican* continued its oil spill work with an additional 40 days in the 2010 calendar year and continuing into 2011. The R/V *Acadiana* and LUMCON fleet of small boats were captured into the spill response and subsequent research programs in Louisiana and Mississippi's estuarine and coastal systems and offshore dynamics.

Days at Sea for LUMCON Vessels



2011 Scheduled UNOLS Ship Days (as of Sept 2010)



Vessels operations are a critical component of LUMCON-managed assets. The success of the R/V *Pelican* as a highly respected member of the UNOLS fleet (University National-Oceanographic Laboratory System) has carried over into the operations of the smaller coastal research vessel, R/V *Acadiana*, and the small boat fleet. As the state support of LUMCON has decreased over the years, the vessel operations budget has increasingly covered its own costs and given back to LUMCON, primarily through support of vessel use for marine education.

GRANTS & AWARDS, NEW

GRANTING ENTITY	FACULTY OR STAFF	AMOUNT OF AWARD	CONTRACT PERIOD	TITLE OF AWARD
LEQSF-BOR SUPPORT FUND	DR. GEOFF SINCLAIR	$ 126,000	06/01/2009 TO 06/30/2010	ENHANCEMENT OF PHYTOPLANKTON SURVEYS IN LOUISIANA WATERS
DAUPHIN ISLAND SEA LAB GULF OF MEXICO ALLIANCE	MURT CONOVER & DR. NANCY RABALAIS	$ 15,109	08/01/2009 TO 05/31/2010	GOING BEYOND THE BAYOU: ENVIRONMENTAL STEWARDSHIP ACTIVITIES
U.S. ARMY CORPS OF ENGINEERS	DR. JENNEKE VISSER	$ 33,000	07/01/2009 TO 12/31/2019	CWPPRA WEST BAY PROJECT
ULL US GEOLOGICAL SURVEY	DR. NANCY RABALAIS	$ 48,202	07/01/2009 TO 06/30/2011	A CENTURY-OF-CHANGE ONLINE GIS DATABASE FOR AGRICULTURE AND WATER QUALITY INFORMATION
NSF-ARRA	J. MALBROUGH	$ 51,525	09/15/2009 TO 08/31/2010	OCEANOGRAPHIC INSTRUMENTATION - 2009
NOAA/ CSCOR	DR. NANCY RABALAIS	$ 392,298	09/01/2009 TO 08/31/2014	NGOMEX09: INTEGRATED ECOSYSTEM MODELING OF THE CAUSES OF HYPOXIA
NSF-ARRA	JOE MALBROUGH	$ 300,000	09/15/2009 TO 08/31/2011	2009 SHIPBOARD SCIENTIFIC EQUIPMENT
NATIONAL SCIENCE FOUNDATION	DR. MICHAEL DAGG	$ 141,636	10/01/2009 TO 09/30/2012	COLLABORATIVE RESEARCH: ZOOPLANKTON FEEDING AT THE BASE OF THE PARTICLE MAXIMUM
NOAA/CSCOR	DR. MICHAEL DAGG	$ 181,017	09/01/2009 TO 08/31/2014	NGOMEX09 - MECHANISMS CONTROLLING HYPOXIA: CAUSAL MODELING
LIVEFUELS, INC.	DR. ED CHESNEY	$ 142,707	09/25/2009 TO 12/31/2010	SPAWNING, GROWTH, AND FEEDING STUDIES WITH GULF MENHADEN
EPA	KERRY ST. PÉ	$ 600,000	10/01/2009 TO 09/30/2010	BARATARIA-TERREBONNE NATIONAL ESTUARY PROGRAM - FY10
TULANE - LEAG / US GEOLOGICAL SURVEY	DR. ALEX KOLKER	$ 15,479	09/23/2009 TO 09/22/2010	LOWER MISSISSIPPI DELTAIC PLAIN ENVIRONMENTAL OBSERVATORY - USGS - LEAG
U.S. ARMY CORPS OF ENGINEERS	DR. JENNEKE VISSER	$ 112,200	01/01/2010 TO 03/31/2011	COASTAL WETLANDS PLANNING, PROTECTION, AND RESTORATION ACT (CWPPRA) PRIORITY PROJECT LIST NUMBER 20
NSF - RAPID RESPONSE RESEARCH PROGRAM	JOE MALBROUGH	$ 17,350	06/01/2010 TO 05/31/2011	OCEANOGRAPHIC INSTRUMENTATION - 2010
UNIVERSITY OF NEW ORLEANS - USGS	DR. ALEX KOLKER	$ 19,900	02/01/2010 TO 08/31/2010	US GEOLOGICAL SURVEY RESEARCH AND DATA COLLECTION
LSU SEA GRANT/NOAA	DR. EDWARD CHESNEY	$ 72,666	02/01/2010 TO 01/31/2011	EXPANDING PRODUCTION OF COMMERCIAL FINFISH IN THE NGOM: DEVELOPMENT OF NOVEL SPAWNING PROTOCOLS
LEQSF-BOR SUPPORT FUND	DR. GEOFF SINCLAIR	$ 78,697	06/01/2010 TO 06/30/2011	ENHANCEMENT OF CAPABILITIES TO ANALYZE IMPACTS OF ENVIRONMENTAL CHANGE ON ECOSYSTEM PROCESSES IN COASTAL LA
LEQSF-BOR SUPPORT FUND	DR. ALEX KOLKER	$ 67,047	06/01/2010 TO 06/30/2011	ENHANCEMENT OF CAPABILITIES TO ANALYZE IMPACTS OF ENVIRONMENTAL CHANGE ON ECOSYSTEM PROCESSES IN COASTAL LA
MINERALS MANAGEMENT SERVICE	DR. PAUL SAMMARCO	$ 339,549	06/20/2010 TO 04/30/2011	NEW INVASIVE MARINE SPECIES COLONIZING OIL/GAS PLATFORMS NORTHERN GoMX: VERIFICATION AND EXAMINATION OF SPREAD OF INVASIVE SPECIES
NSF - RAPID RESPONSE RESEARCH PROGRAM	DR. GEOFF SINCLAIR	$ 140,229	08/15/2010 TO 07/31/2011	MRI: ACQUISITION OF AN INTEGRATED DETECTION AND OIL SAMPLING ARRAY IN LOUISIANA ESTUARIES
NSF - RAPID RESPONSE RESEARCH PROGRAM	DR. BRIAN ROBERTS	$ 163,395	09/01/2010 TO 08/31/2011	EFFECTS OF OILING AND HYDROLOGIC REMEDIATION ON BALD CYPRESS SWAMP ELEVATION AND ECOSYSTEM PROCESSES IN THE CONTEXT OF THE BP DEEPWATER HORIZON OIL SPILL
NATIONAL SCIENCE FOUNDATION	DR. ALEX KOLKER	$ 131,076	09/01/2010 TO 08/31/2011	FSML: ACQUISITION OF ENVIRONMENTAL CHAMBERS - CLIMATE CHANGE & ANTHROPOGENIC DISTURBANCE
NATIONAL SCIENCE FOUNDATION	JOE MALBROUGH	$ 15,500	07/01/2010 TO 06/30/2011	OCEANOGRAPHIC INSTRUMENTATION - 2010
US DEPT OF ENERGY—LA DNR	DR. NANCY RABALAIS	$ 59,548	07/01/2010 TO 02/28/2012	LEAD BY EXAMPLE PROGRAM—LIGHTING