

ANNUAL REPORT
Special Two-Year Edition
Fiscal Years 2005/2006 thru 2006/2007 (FINAL:7-26-07 revision)

TURTLE COVE ENVIRONMENTAL RESEARCH STATION
SOUTHEASTERN LOUISIANA UNIVERSITY

Dr. Robert Moreau, Manager

The Turtle Cove Environmental Research Station, which reports to the Dean of the College of Science and Technology, maintains a staff of two full-time persons (Dr. Robert Moreau, Manager and Hayden Reno, Caretaker/Facilities Technician) and one part-time person (Michael Green, Biologist-on-Staff and Education/Outreach Coordinator at 60% time). Other affiliated persons include: Fred “Mars” Stouder, Marsh Restoration Coordinator on soft money who manages restoration grants (part time); Thais Perkins (Assistant Director of PBRP), who works on various technology transfer projects on grants that the station is a part of; and Tiffany McFalls (Instructor in Biology) who also works on various technology transfer and field research grant projects with the station. Turtle Cove also funds two graduate student positions that assist in various aspects of the day-to-day operations of the station. However, the strength of the station as a research and education outpost is the fact that it is utilized by over 40 faculty, staff and students not only from the Biology Department at Southeastern (the primary users), but also from other surrounding universities (such as UNO, LSU, Loyola, and Tulane) and their various departments, thereby creating a more interdisciplinary program in recent years. Combined with an award winning and highly recognized outreach program, and an exceptional boating safety record, Turtle Cove is truly a regional hub for interdisciplinary environmental studies in our area with a focus on wetland restoration issues.



Figure 1: Photo of Turtle Cove four days after Hurricane Katrina.

I. Impacts from Hurricanes of 2005 and Current Status of Facilities and Programs

Summary of Impacts from Hurricanes’ Katrina and Rita

On August 29, 2005, Hurricane Katrina came ashore and destroyed many areas of the Gulf Coast between Southeast Louisiana and Mississippi. Turtle Cove did not escape its wrath. The picture above in Figure 1 was taken several days after the storm, after

which the station flooded about four feet deep. One month later on September 24th Hurricane Rita flooded the station a foot deeper. Though Turtle Cove, which was built in 1908 on mud sills (and not on pilings) somehow remained intact through both of these events, it did incur significant damage. The front porch was blown away, the roof was damaged, and most importantly the superstructure itself shifted and sank, especially on its west wing. In addition, 95% of the boardwalks and wharves and most areas of the bulkheads at the main house and the Caretaker's residence were either completely destroyed or severely damaged.



Figure 2: Day of Hurricane Rita

At noon on September 24, 2005, Rob Moreau took this picture from a pirogue that was initially launched at the rail road tracks at Galva Canal in Manchac. Water was over three feet deep and with white caps in the Galva Canal parking lot. The brown Turtle Cove storage shed pictured here floated 100 ft across the parking lot and came to rest at the base of the stairs of the new Classroom facility.



Figures 3 and 4: Comparative photographs show the Manchac Swamp from the Hwy 51 bridge near Middendorff's on a normal day (top) and on the day of Hurricane Rita (bottom). Note that the entire marsh has become in essence an extension of Lake Pontchartrain.

Since this time period, the facility has been declared unusable by Southeastern's Facility Planning Department until repairs are made. FEMA funds were garnered soon after the storm, but those monies and the repair plan are now being managed in total (as a comprehensive package) by the State Facility Planning group in Baton Rouge which addresses repairs of all state buildings through a prioritized list that started with the repair of the Superdome in New Orleans. It is my understanding that Turtle Cove is somewhere down in the middle section of that list. Although we have received word (through our own Facility Planning Department at Southeastern) that engineers and architects have been assigned to the comprehensive project (repair and restoration of the buildings, bulkheads, boardwalks and wharfs), no tangible information has been made available regarding the actual cost and scope of repairs that will be made with the FEMA funds currently available (approximately \$1.5 million), nor has an estimated start date for construction and repair been made available.

Repairs Made to Date

Several other repair and restoration projects have been completed at both Turtle Cove and the Galva Canal Boat Shed facility during the past two years with originally designated FEMA funds. These include:

- (1) Initial Repair and restoration of the roofs on all of the buildings immediately after the storms (approx. \$50K)
- (2) Debris removal around station and in waterways (approx. \$45K)
- (3) Re-location of temporary storage shed that floated away at Galva (approx. \$3K)
- (4) Replacement of original Turtle Cove Pontoon Boat that was destroyed at Galva (approx. \$53K)
- (5) Replacement of various equipment, appliances and other items that were damaged or destroyed (approx. \$10K)
- (6) Repair of EPA experiment cages and structures (catwalks) and debris clean up in that area behind Turtle Cove used for research experiments (approx. \$45K)
- (7) Dredging of the Turtle Cove Boat Shed Canal that was silted in during the storms (approx. \$22K)

Total of 7 projects for approximately \$228K

Current Status of Turtle Cove Facilities

Through all of this there is some very encouraging news. The new Turtle Cove Research Boat Shed and Education/Office Complex at Galva Canal, which was 80% completed just prior to the storms, came through virtually undamaged and is now fully completed and functioning. This facility is in fact serving as the "de facto Turtle Cove" until Turtle Cove itself is repaired. The new facility, which sits 20 ft above sea level on Galva Canal is accessible by car on a now-expanded parking lot (twice its previous size), and contains an office for Caretaker/Facilities Technician Hayden Reno, a classroom that can house approximately 20 persons, a bathroom w/field shower, and three double-wide slips that can house six boats with the capacity for six more above if hoists are later installed. This facility was constructed via funding from the Southeastern Administration, and is very much appreciated by the Turtle Cove staff and all of its users.

To date, the new classroom has been the starting point for all of our groups. The classroom has a small computer lab (currently three computers), a PowerPoint projector and screen, maps and whiteboards, tables and chairs from Turtle Cove, and as recent as June 27, 2007, wireless satellite internet service. The entire structure is state-of-the-art and has been used extensively for the past several months. A recent photo of the new facility is below.



Figure 5: New Turtle Cove Research Boat Shed and Education/Office Complex at Galva Canal. The facility includes: boat slips (6 on bottom with room for another 6 above as hoists are added); a working slip for loading Christmas trees and marsh plants; an expanded parking lot with bus turnaround capability; two small offices upstairs (one for Turtle Cove Caretaker/Facilities Technician Hayden Reno and one for LDWF as part of the agreement to construct the facility); a large classroom on top; observation deck in front of classroom; room for a wet lab area underneath; satellite internet service and a small computer lab in the classroom; and perhaps most importantly a long awaited bathroom and field shower on the bottom.



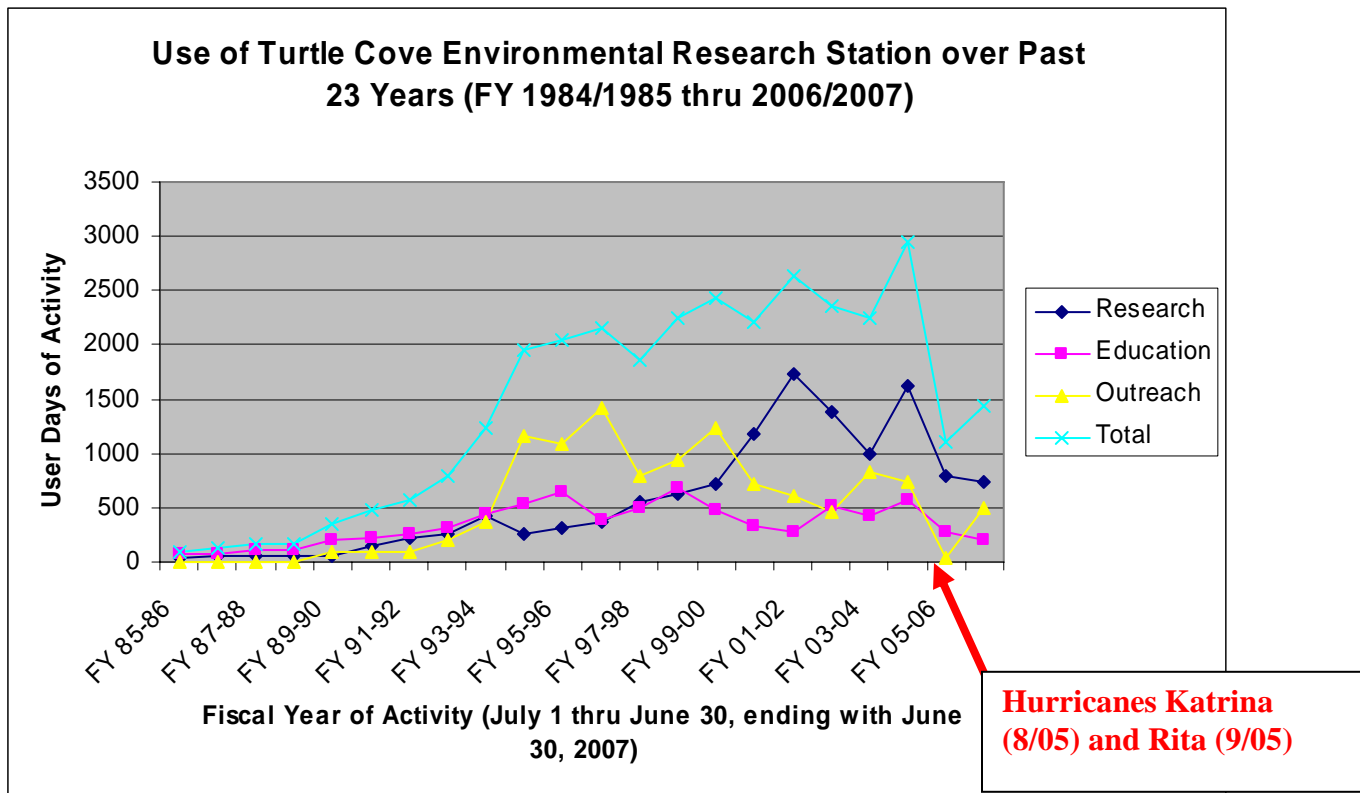
Figure 6: The new Pontoon Boat, 40' long x 12' wide and complete with school colors, was launched in December of 2006 and was immediately signed up for over 30 group trips over the next six months. This essentially allowed us to restart our Outreach and Education (university field trip component only) programs. The boat is 4 ft longer and 2 ft wider than our previous vessel, is US Coast Guard Certified and can carry 40 people. It was purchased with FEMA funds to replace the old boat that was destroyed during Hurricane Katrina. The twin Yamaha 115 hp 4-stroke engines on the old boat were salvaged and now run the new vessel (total value of vessel, motors and trailer estimated at \$83,000).

History and Status of Turtle Cove Programs and Use (Research, Education and Outreach)

Use of Turtle Cove has always been measured in terms of “user days of activity.” For example, three people using a Turtle Cove boat for research is considered three user days of research activity. Another example would be 15 teachers at a teacher workshop for 2 nights and three days at Turtle Cove would be considered as 45 user days of Education activity. A one-day school group of 30 K-12 students would be considered as 30 user days of outreach activity, and so on.

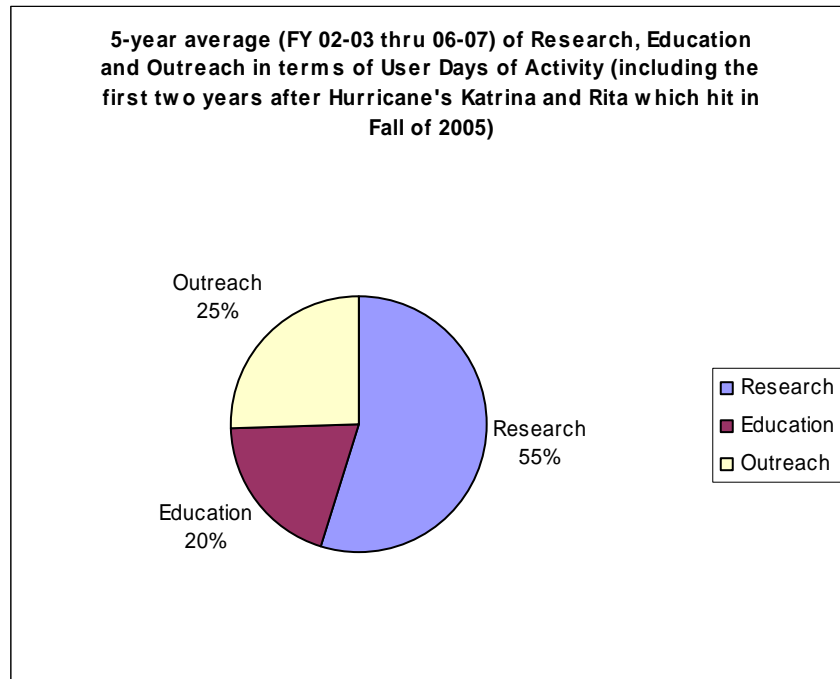
Turtle Cove’s history of use was built predominantly on its widely known and highly acclaimed education and outreach programs which were developed from its working inception in 1985 throughout the 1990’s where record levels of school groups were taken on group tours to the station via its original Pontoon Boat. The program won an EPA award for excellence in 1999. Research activity, which had been relatively low compared to education and outreach, really picked up in Fiscal Year 2001/2002 with the start of the EPA-sponsored Lake Pontchartrain Basin Research Program (PBRP) housed at Southeastern. Combined usage of the station peaked in FY 2004/2005 with nearly 3,000 user days of combined research, education and outreach activity (see [Figure 7](#) below for a summary of use data).

Figure 7:



For added information, [Figure 8](#) below provides the previous 5-year average of use separated into research, education and outreach activities.

Figure 8:



It is important to recognize that hurricanes Katrina (8/05) and Rita (9/05) eliminated 100% of the education and outreach programs in FY 2005/2006 (after they hit), due to the loss of use of the facilities and the Pontoon Boat. Research use was also diminished the first several months after the storms because of restrictions on waterways and hurricane-related boat storage issues (and subsequent re-establishment) in their proper places once the storm season passed. It was not until December of 2006 (during FY 2006/2007) that the new pontoon boat was received and ready for use and that the Outreach Program was resumed. In addition, some educational field trips (i.e., university class field trips) resumed as well, providing us with some growth in both of those areas. Despite this major interruption in operation, and the necessity of completely redesigning all Outreach and Education programs to fit their new location, the Outreach Program nearly met pre-storm records. During the Spring of 2007 a large number of groups resumed, and the newly completed classroom facility at the boat shed provided an excellent resource by which to host the groups prior to Pontoon Boat departures. Outreach program use is expected to be fully back to pre-Katrina levels starting in FY 2007/2008.

Due to lack of overnight accommodations that were historically provided by Turtle Cove, Teacher Education Workshops and other *overnight* education programs (e.g., university classes taught at the station, overnight field trips, etc.) remain unscheduled and have resulted in very low education use numbers. This is not expected to change until the remainder of the Turtle Cove facilities and infrastructure is repaired and overnight accommodations are again available.

Detailed information regarding all of the various user groups for research, education and outreach programs at Turtle Cove, including user day information and listings of outside user groups and funding, is provided in Appendix A (FY 2005/2006) and Appendix B (Fy 2006/2007) at the end of this report (as Excel spreadsheet files). In summary, the user-day activity numbers for the past two fiscal years are as follows in Figure 9 below:

Figure 9: User Day Activity at Turtle Cove ERS for FY's 05/06 and 06/07:

	<u>FY 05/06</u>	<u>FY 06/07</u>
Research	785	732
Education	285	208
Outreach	<u>34</u>	<u>501</u>
TOTALS	1104	1441

Other On-Going Programs

Turtle Cove staff and affiliated staff are also involved in other on-going programs on an annual basis. Some of these are as follows, and are activities that occurred during the time period of this report:

(1) *Teacher Education Workshops and New Complimentary On-Line Program*

In addition to coordinating the standard education and outreach programs (group tours on the Pontoon Boat, wetland field activities, etc.), Education/Outreach Coordinator and Biologist on Staff person Michael Greene also continues Turtle Cove's longstanding tradition of Teacher Education Workshops. These 3-day weekend workshops, now single-day weekend events, have been funded externally for the past several years by the Lake Pontchartrain Basin Restoration Act program. The workshops train teachers how to relate their classroom curricula to the real-world environmental problems faced locally. Teachers then bring their own classes back to take advantage of on-site wetland education programs and use the Pontoon Boat to experience our wetlands as part of the station's outreach program. Since the storms, these workshops have been dramatically altered these past two years due to the main facility not being available for overnight use. However, new lodging accommodations were found in some instances at other places (such as Tickfaw State Park), and some activities have been redesigned to make use of day-use services only at Turtle Cove. We look forward to the day the workshops return to normal schedules and familiar facilities. Since the workshops began in 1991, there have been nearly 60 workshops (with over 600 participants), impacting over 200,000 students in the region.

An exciting project developed in conjunction with the teacher education workshops is the online and on-DVD version of the teacher curriculum text *Lessons on the Lake*, slated to be printed and live in September of this year. Thais Perkins, Assistant Director of PBRP, and Co-PI on this project, has designed and implemented this free guide for k-12 teachers and students that will assist not only teachers of this region but globally as well, and will increase visibility of the Turtle Cove. Michael Greene is PI on

the project that was funded by the Lake Pontchartrain Restoration Act Program (\$126,654).

Figure 10: Snap-shots of the new *Lessons on the Lake* website, a project by Michael Greene and Thais Perkins.



(2) *Marsh Restoration Activities*

Fred “Mars” Stouder, Turtle Cove Marsh Restoration Coordinator, has worked at the station since 1994 on soft money from the Louisiana Department of Natural Resources on two projects: one through Tangipahoa Parish and the other through St. John the Baptist Parish. Both projects involve the deployment of Christmas Trees in vulnerable marsh areas (West Jones Island in Tangipahoa Parish and “the Prairie” in St. John). In addition, various marsh grasses, and in some cases Cypress Trees, are planted to further stabilize and reestablish land. The St. John Project has shown vast improvement in acreage of land built, as measured by annual photographs of the same areas (as required by LDNR). The Tangipahoa Parish project has also been successful in establishing Christmas tree levees on the shores of West Jones Island, but perpetual wave action hinders the project’s overall success. Figures 11 and 12 below are photographs of the activities on W. Jones Island. Figure 13 summarizes data for these activities for the past two years and cumulatively over the lives of each project.

Figures 11 and 12 (below): Photos showing deployment of Christmas Trees and marsh grass plantings on West Jones Island as part of Turtle Cove’s Marsh Restoration Activities there (left—Fred Stouder tossing a Christmas Tree off of the new Pontoon Boat to Hayden Reno) and a group of University of Wisconsin student volunteers who also helped with the effort this past spring (right). Note the “Christmas Tree Levees” in the background of each photo.



Figure 13: Summary of Marsh Restoration Planting History at Turtle Cove

	Tangipahoa Parish Coastal Wetland Restoration Program Project Life: 2000-2007 <u>-Funding: \$18,000/year</u>	St. John Parish Coastal Wetland Restoration Prgm Project Life: 1994-2007 <u>-Funding:\$18,000/year</u>
<u>FY 2005-2006 Plantings:</u>		
Christmas Trees	2,512 (W. Jones Island)	500 (Prairie area)
Cypress Trees	638	0
Roseaucane	0	200
Bulrush	0	1,274
Cutgrass	479	0
Smooth Cord Grass	0	0
<u>FY 2006-2007 Plantings:</u>		
Christmas Trees	3,000 (W. Jones Island)	200 (Prairie area)
Cypress Trees	50	0
Roseaucane	0	200
Bulrush	0	1,200
Cutgrass	450	0
Smooth Cord Grass	250	0
CUMULATIVE PLANTINGS		
(through June 30, 2007)		
Christmas Trees	23,612(W. Jones Island)	5,857 (Prairie area)
Cypress Trees	3,006	0
Roseaucane	986	1,460
Bulrush	200	9,519
Cutgrass	1,379	1,415
Smooth Cord Grass	1,462	312

(3) *Monitoring Partnerships*

Turtle Cove maintains a series of partnerships for various monitoring programs in the wetland environment surrounding the facility. Monitoring of environmental data is, of course, one of the key requirements of a field station. These stations monitor various weather and water quality data parameters for both researchers and the general public, along with providing data requirements for various agencies who fund the projects. In three of these cases, Turtle Cove provides free use of boats to the researchers who maintain the sites, ensure that all the equipment works properly, and who provide full-service web construction and maintenance of the data base that is available to everyone through the internet. These services are estimated at approximately \$100,000/year. The three partnership stations that Turtle Cove is involved with and their websites are:

- (1) LUMCON/Tulane/SLU-Turtle Cove Partnership for On-Line Monitoring of Water Quality and Weather Data in the Lake Pontchartrain Basin – this site can be found at www.lumcon.edu (then go to the NW Lake Pontchartrain map site)
- (2) USGS/Turtle Cove On-Line Water Quality Monitoring System – this site can be found at http://waterdata.usgs.gov/la/nwis/uv/?site_no=301748090200900&PARAMeter
- (3) The LSU Agri-Climate Center/Turtle Cove Monitoring site – this site can be found at <http://www.lsuagcenter.com/weather/weatherjump.asp?StationId=21>

In addition, the CRMS (Coast-wide Reference Monitoring System) utilizes Turtle Cove properties to establish and maintain crucial monitoring equipment. This program is overseen and funded by the Louisiana Department of Natural Resources and the CWPPRA program.

II. Turtle Cove Staff Accomplishments and Activities during Past Fiscal Year

A. Grant Writing/External Funding Activities

Turtle Cove staff wrote or worked on the following grant proposals during FYs 05/06 and 06/07:

- ◆ Co-PI Robert Moreau (with Budget Head Paul Keddy and Co-PI Tiffany McFalls of Southeastern Louisiana University-Department of Biological Sciences) on *Restoring Our Vanishing Wetlands in Lake Pontchartrain: Scientific Research and Public Education at the Turtle Cove Environmental Research Station*. Awarded \$10,000. January 2007. Funding Agency: Freeport-McMoRan Foundation.
- ◆ P.I. Robert Moreau (with Co-P.I.'s Thais Perkins and Tiffany McFalls of Southeastern Louisiana University-Department of Biological Sciences and Denise Rousseau Ford-LSU) for *Technology Transfer and Outreach for Pontchartrain Basin Research Program (PBRP) Phase V* (Awarded \$36,000), Funded by Southeastern's PBRP (funds originate from USEPA) (Awarded 08/06)
- ◆ Co-PI Robert Moreau (with P.I. Kyle Piller, Ph.D., Southeastern Louisiana University, Department of Biological Sciences) on *Education and Outreach Through Production of a "Fishes of the Lake Pontchartrain Basin" Poster*, beginning 08/06 (Awarded \$25,055), Funded by: Southeastern's Pontchartrain Basin Research Program (PBRP-Phase V) (Funds originate from USEPA);
- ◆ P.I. Robert Moreau (with Co-P.I.'s Richard Campanella-Tulane/Xavier's Center for BioEnvironmental Research, Michael Greene-Turtle Cove, Thais Perkins-PBRP, and Randy Myers-LDWF) on *Development of White Paper, How-To-Manual, Outreach Workshops and Website for Mitigation Banking in the Manchac/Maurepas Swamps*, for

Southeastern's Western Lake Pontchartrain Basin Research Program (PBRP, Phase IV), beginning 01/06 (Awarded \$78,000) (funds originate with USEPA).

◆ P.I. Michael Greene and Co-PI Thais Perkins on *Teacher Education Workshops and Web Basted Internet Tools* beginning 11/05 (Awarded \$126,654), funded by Lake Pontchartrain Basin Restoration Act program (LPBRA, Year 4);

◆ P.I. Fred Stouder (with Co-PI and Budget Head Robert Moreau) on *St. John the Baptist Wetlands Restoration Program* (Total Project Period is 01/01/05 – 12/30/07) (Awarded 3-yr total of \$46,500), Funded by: Louisiana Department of Natural Resources. Started and continuous since 1994.

◆ P.I. Fred Stouder (with Co-PI and Budget Head Robert Moreau) on *Tangipahoa Parish Wetlands Restoration Program* (Total Project Period 01/01/05-12/30/07) (Awarded 3-yr total \$54,000), Funded by: Louisiana Department of Natural Resources. Started and continuous since 2000.

◆ P.I. Michael Greene (with Co-P.I. Robert Moreau) on *Teacher Training Workshops and Equipment Upgrades at Turtle Cove* beginning 11/04 (\$42,000). Funded by LPBRA (Year 3) (funds originate from NOAA). Work completed during FY 06/07.

◆ P.I. Robert Moreau (with Co-P.I.'s Al Dranguet and Dr. Roman Heleniak of Southeastern Louisiana University's Department of History) on *Outreach Program for Southeastern's Western Lake Pontchartrain Basin Research Program*, beginning 9/03 (\$51,000), funded by PBRP (Phase II/III) (funds originate from USEPA); Work completed during FY 05/06.

◆ P.I. Michael Greene (with Co-P.I. Robert Moreau) on *Wet Lab Development and Teacher Workshops at Turtle Cove* beginning 11/03 (\$70,000), funded by LPRA (Year 2) (funds originate with NOAA); Work completed during FY 06/07.

◆ (DENIED FUDNING) P.I. Robert Moreau (sub-contract from Tulane/Xavier's Center for BioEnvironmental Research, with their P.I. Dr. Liz Davey) on *Developing University Student Wetlands Correspondents* (\$21,044), 6/22/06, Lake Pontchartrain Basin Restoration Act Program (Year 5), originating as NOAA funds.

◆ (DENIED FUNDING) P.I. Robert Moreau (with Co-PI Michael Greene) on *Infrastructure Improvements at Turtle Cove Environmental Research Station* (\$155,858), 2/23/06. Funding Agency: NSF

B. Publications

Keddy, P.A., D. Campbell, T. McFalls, G. Shaffer, R. Moreau, C. Dranguet, and R. Heleniak, *The wetlands of Lakes Pontchartrain and Maurepas: Past, Present and Future*, (Environmental Reviews, Vol. 15, pp. 43-77)

Shaffer, G.P, W.B. Wood, S.S. Hoepfner, T.E. Perkins, J.A. Zoller, and D. Kandalepas. In Review. *Degradation of Baldcypress – Water Tupelo Swamp to Marsh and Open Water in Southeastern Louisiana, USA: An Irreversible Trajectory?* Journal of Coastal Research.

C. Memberships and Offices Held in Professional Associations:

Robert Moreau

Board Member: Environmental Research Consortium of Louisiana (ERCLA) (term: 2004-present)

D. Courses Taught (under Turtle Cove Umbrella)

Robert Moreau

(1) GBIO 690/MGMT 695: Environmental Management-The Greening of Business (Fall 06)

(2) Turtle Cove Boating Safety Class (2/23/07)

E. Speaking Invitations and Meetings of Professional Association Attended:

Robert Moreau

10/06/06 Invited for Speaker Presentation at Twenty-Fifth Annual Gulf South History and Humanities Conference, Hilton Garden Inn Pensacola Beach (Florida), Program V, Session A. Title of session w/ Rob Moreau, Al Dranguet and Roman Heleniak, "Fragile Lands: The Ecology of the Manchac Swamp, Louisiana." Title of paper "Return of Hunting and Gathering in the Manchac Swamp."

10/26/06 Speaker Presentation at Basics of the Basin Conference (New Orleans) on "Viability of Mitigation Banking in the Manchac/Maurepas Swamps"

1/26/07 Attended NSF Workshop on NSF Grant Writing at Tulane University

3/10/07 Attended Tulane Environmental Conference at the Tulane Law School, New Orleans

3/30/07 Attended EPA-sponsored "Workshop on QAPP" protocol (as related to PBRP)

Michael Greene

12/06 3rd National Conference on Coastal and Estuarine Habitat Restoration – invited speaker with R. Moreau (hosted field trips). New Orleans, Louisiana.

03/07 Gulf South Summit on Service-Learning. Louisiana Campus Compact..
New Orleans, Louisiana.

10/06 Louisiana Science Teachers Association. Shreveport, Louisiana.

Thais Perkins and Tiffany McFalls

6/19-6/22/07 EPA Community Involvement Conference in Jacksonville, FL. Presented
poster on PBRP activities.

D. SERVICE

1. Departmental, School and University Committees:

Robert Moreau

Spearheading new Campus Recycling Program initiated under College of Science and
Technology

Michael Greene

Service-Learning Advisory Committee (University-wide, through the Center for Faculty
Excellence)

STAR Advisory Committee, Chair *ex officio*

Thais Perkins

Volunteer Training as part of Al Gore's Climate Project; delivered 15 climate change
lectures to private and civic groups and schools in the first half of 2007.

2. Professional, Public and Community Service:

Robert Moreau

9/06/06: Guest Lecture at Loyola's Institute for Environmental Communications
seminar (for Dr. Bob Thomas) on "The Economics of Environmentalism";

9/27/06: Guest lecture at Tulane University for Dr. Charles Reith's graduate level
class on "Environmental Management: The Greening of Business";

10/04/06 Guest Speaker for GBIO 341 (Career Perspectives In Biology) on "Career
Opportunities in Environmental Studies";

11/28/06 Hammond Kiwanis Club meeting on "State of the State's Wetlands and
Southeastern's Impact on Wetland Restoration" (at Trey Yen);

- 11/28/06 Guest Speaker in Linda Munchausen's Class on "Research, Education and Outreach Activities at Turtle Cove Environmental Research Station";
- 3/28/07 Guest Speaker in Anna Kleiner's Environmental Sociology class on "Coastal Wetland Loss Issues in Louisiana: Natural, Socio-Economic and Cultural";
- 4/18/07 Guest Speaker at Pontchatoula Kiwanis Club meeting on "State of the State's Wetlands and Southeastern's Impact on Wetland Restoration" (Kiwanis Club cabin in Pontchatoula);
- 5/23/07 Co-Hosted (along with Dr. Gary Shaffer) field trip for LSU Soils Science Group at Galva Canal and on Pass Manchac (to Turtle Cove site);
- 6/26/07 Represented Southeastern at Lake Pontchartrain Restoration Act Program meeting for new funding cycle;
- 6/27/07 Assisted Southeastern colleagues at Upward and Outward Bound Programs for their external review process (meetings at Galva Canal and Pontoon Boat ride on Pass Manchac with auditor):

Also led multiple field trips on Turtle Cove's Pontoon Boat as part of the station's education and outreach mission (see Appendices for details of group trips, numbers, etc.).

Michael Greene

Led most of the field trips on Turtle Cove's Pontoon Boat as part of the station's education and outreach mission (see Appendices for details of group trips, numbers, etc.).

Managed and conducted numerous Math/Science partnership grants and outreach activities for St. Tammany Parish Schools and the Louisiana Department of Education.

Invited speaker for numerous community organizations and elementary/secondary education programs regarding wetlands loss and other environmental issues.

E. Other Notable Achievements

The National Center for Appropriate Technology (NCAT) is a national non-profit group that works on a variety of environmental issues ranging from promotion of organic and local food production to alternative energy production to pollution prevention measures for non-point source pollution problems in waterways. NCAT contacted Turtle Cove last year in an effort to locate office space for their new Southeastern United States office. Southeastern's administration agreed to lease NCAT one office on our campus—and now we have a new non-profit partner who will be collaborating with us on future projects.



Figure 14: Nana Mejia represents the National Center for Appropriate Technology (NCAT) in their newly found “Gulf States Office” located at Southeastern Louisiana University in Wilson Hall room 108 (as of April 15, 2007).

Part III. Appendices (Details of Turtle Cove User Activity Information for Past Two Fiscal Years)

Appendix A: Turtle Cove Use Information for FY 05/06 (attached as an Excel Spreadsheet File)

Appendix B: Turtle Cove Use Information for FY 06/07 (attached as an Excel Spreadsheet File)

(end of report)

Appendix A to Annual Report:

Summary of Use of Turtle Cove Facility and Vessels: Fiscal Year 2005-2006

FY 2005-2006

Date(s) of Trip	Code and Type of Group	Type of Trip	Trip Leader	School or Group	# Different Persons	User Days
Code 1a: SLU Research-Turtle Cove (ASB Planting Program)						
Code 1a Totals: SLU Research-Turtle Cove (ASB Plantings)					-	-
Code 1b: SLU Research-Turtle Cove (Marsh Restoration Program)						
03/18/06	1b: SLU Research-Turtle C	1 day	Moreau/Stouder	SLU Env. Awareness	16	16
03/26/06	1b: SLU Research-Turtle C	1 day	Moreau/Stouder	Tulane Green Club/ASB	18	18
05/12/06	1b: SLU Research-Turtle C	1 day	Moreau/Stouder	Tulane Green Club/ASB	15	15
05/19/06	1b: SLU Research-Turtle C	1 day	Moreau/Stouder	Tulane Green Club/ASB	8	8
05/30/06	1b: SLU Research-Turtle C	1 day	Moreau/Stouder	Ducks Unlimited (site visit)	3	3
06/30/06	1b: SLU Research-Turtle C	misc	Stouder	Misc Days Worked	125	125
Code 1b Totals: SLU Research-Turtle Cove (Marsh Restoration Program)					60	185
Code 1c: SLU Research-Biology Faculty/Staff/Students						
Code 1c Totals: SLU Research-Biology Faculty/Staff/Students					40	555
<i>(noted via Boat Reservation Forms)</i>						
Code 1d: SLU Research-Other Interdisciplinary						
06/21/06	1d: SLU Research-Other In	1 day	Moreau	Roman Heleniak	2	2
06/30/06	1d: SLU Research-Other In	1 day	Moreau	John Mcglauchlin/Liz Davey	3	3
06/30/06	1d: SLU Research-Other In	1 day	Dranguet/Helenial	Multiple Trips	2	10
Code 1d Totals: SLU Research-Other Interdisciplinary					4	15
Code 1e: Outside Research						
06/30/06	1d: SLU Research-Other Interdisciplinary Re	USGS Folks		Multiple Trips	4	12
06/30/06	1d: SLU Research-Other Interdisciplinary Re	LUMCON Folks		Multiple Trips	6	18
Code 1e Totals: Outside Research					10	30
Code 2a: Education-Courses Taught at Turtle Cove						
04/13/06	2a: Education-Courses taug	1 day	Rob Moreau	Boating Safety (Spring 04)	10	10
Code 2a Totals: Education-Courses Taught at Turtle Cove					10	10
Code 2b: Education-SLU Related Field Trips						
Code 2b Totals: Education-SLU Related Field Trips					-	-
Code 2c: Education-Other Universities Field Trips						

Appendix A to Annual Report:

Summary of Use of Turtle Cove Facility and Vessels: Fiscal Year 2005-2006

07/11-07/12/05	2c: Education (Outsid	2 day/1 night	Rob Moreau	UNO	20	40
07/13-07/14/05	2c: Education (Outside Univ	2 day/1 night	Michael Greene	Southern Univ. Upward Bound	20	40
05/26/06	2c: Education (Outside Univ	1 day	Rob Moreau	Tulane	15	15
Code 2c Totals: Education-Other Universities Field Trips					55	95
Code 2d: Education-Workshops						
07/18-07/22/05	2d: Education-Workshops	5 days/4 nigh	Dardis/Stouder	Manchac Proj-Teacher Workshops	15	75
07/23-07/29/05	2d: Education-Workshops	7days/6 nigh	Dardis/Stouder	Manchac Proj-Teacher Workshops	15	105
Code 2d Totals: Education-Workshops					30	180
Code 3a: Outreach-General Groups						
Code 3a Totals: Outreach-General Groups					-	-
Code 3b: Outreach-K-12 Groups						
01/10/06	3b: Outreach-K-12 School C	1 day	Moreau/Greene	Pre-Meeting for St. Andrew's Episcopal	4	4
Code 3b Totals: Outreach-K-12 Groups					4	4
Code 3c: Outreach-Professional Meetings/Retreats/Open Houses						
08/18/05	3c: Outreach-Professional M	1 day	Rob Moreau	LA Assoc. Conservation Districts-Marsh Committee	30	30
Code 3c Totals: Outreach-Professional Meetings/Retreats/Open Houses					30	30
Grand Totals of Use:						
Research:					114	785
Education:					95	285
Outreach:					34	34
					<hr/>	<hr/>
Grand Total of All Use:					243	1,104

Appendix A to Annual Report:
Summary of Use of Turtle Cove Facility and Vessels: Fiscal Year 2005-2006

Contact	Contact Ph #	Amt. Gas Fees or Donations
0 groups		\$ -
Fred Stouder	x5355	\$ -
Fred Stouder	x5355	\$ -
Fred Stouder	x5355	
Fred Stouder	x5355	
Fred Stouder	x5355	
<u>Fred Stouder</u>	<u>x5355</u>	
10 groups		\$ -
20 groups		\$ 4,370.00
	SLU Researcher	
	Gas Paid	
	(not including 1202 budget)	
Rob Moreau	x5008	\$ -
Rob Moreau	x5008	
<u>Dranquet/Moreau</u>	<u>x5008</u>	<u>\$ -</u>
4 groups		\$ -
Dennis (USGS)	x5008	\$ -
<u>Various</u>	<u>x5008</u>	
3 groups		(Gas Fees total)
Rob Moreau	x5008	\$ -
1 group (classes)		\$ -
0 groups		\$ -

Appendix A to Annual Report:

Summary of Use of Turtle Cove Facility and Vessels: Fiscal Year 2005-2006

Dinah Maygarde (504)280-671	\$	320.00
Michael Greene x3600	\$	-
Liz Davey 504-865-5145		
3 groups	\$	320.00

Debbie Dardis x5298	\$	-
Debbie Dardis x5298	\$	-
2 groups	\$	-

0 groups	\$	-
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Gary Manena ?	\$	-
1 group (pre-meeting)	\$	-

Tony Beaubouf 985-839-5688	\$	-
1 group(s)	\$	-

39 groups	Gas Fees	4,370
6 groups	Donations	320
2 groups	T-Shirts Sale	\$ 200.00

47 groups	Ext. Funds	\$ 4,890.00
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Appendix B to Annual Report:

Summary of Use of Turtle Cove Facility and Vessels: Fiscal Year 2006-2007

FY 2006-3007

Date(s) of Trip	Code and Type of Group	Type of Trip	Trip Leader	School or Group	# Different Persons	User Days	Contact	Contact Ph #	Amt. Gas Fees and/or Donations
Code 1a: SLU Research-Turtle Cove (ASB Planting Program)									
	Code 1a Totals: SLU	1 day	Michael Greene	Standford University	28	28	Greene	x3600	\$ -
	Code 1a Totals: SLU Research-Turtle Cove (ASB Plantings)				28	28	1 group		-
Code 1b: SLU Research-Turtle Cove (Marsh Restoration Program)									
04/22/07	1b: SLU Research-Turtle C	1 day	Moreau/Stouder	Tulane Green Club/AS	5	5	Fred Stouder	x5355	\$ -
05/03/07	1b: SLU Research-Turtle C	1 day	Moreau/Stouder	Tulane Env. Mgt. Class	8	8	Rob Moreau	x5355	\$ -
05/25/07	1b: SLU Research-Turtle C	1 day	Moreau/Stouder	Misc. Volunteers	10	10	Fred Stouder	x5355	\$ -
06/14/07	1b: SLU Research-Turtle C	1 day	Moreau/Stouder/F	Misc. Volunteers	3	3	Fred Stouder	x5355	\$ -
06/30/07	1b: SLU Research-Turtle C	various	Stouder	Misc Days/Volunters	75	75	<u>Fred Stouder</u>	<u>x5355</u>	\$ -
	Code 1b Totals: SLU Research-Turtle Cove (Marsh Restoration Program)				101	101	5 groups		\$ -
Code 1c: SLU Research-Biology Faculty/Staff/Students									
FY 05/06	Code 1c Totals: SLU Research-Biology Faculty/Staff/Students <i>(noted via Boat Reservation Forms)</i>				40	516	20 groups	SLU Researcher Gas Paid	\$ 2,695.00
									(not including 1202 budget)
Code 1d: SLU Research-Other Interdisciplinary									
06/30/07	1d: SLU Research-Other Interdisciplinary Re		USGS Folks	Multiple Trips	4	12	Dennis (USGS)	x5008	\$ -
06/30/06	1d: SLU Research-Other Interdisciplinary Re		LUMCON Folks	Multiple Trips	6	18	Variious		
06/30/07	1d: SLU Research-Other In	1 day	Dranguet/Helenial	Multiple Trips	2	10	Dranguet/Morea	x5008	\$ -
06/30/07	1d: SLU Research-Other In	1 day	Phillip Voegel	Multiple Trips	4	24	<u>Voegel/Reno</u>	<u>x5008</u>	\$ -
	Code 1d Totals: SLU Research-Other Interdisciplinary				16	64	3 groups		\$ -
Code 1e: Outside Research									
7/19/2006	1e: Outside Research	1 day	Hayden Reno	Loyola Biology (Jim We	4	4	Moreau/Reno	x5008	\$ 60.00
9/1/2006	1e: Outside Research	1 day	Reno/Moreau	Rensselear Polytech Ir	4	4	Mike Bonanno	(917)209-328	\$ -
9/5/2006	1e: Outside Research	1 day	Reno/Moreau	Rensselear Polytech Ir	4	4	Mike Bonanno	(917)209-328	\$ -
10/12/06	1e: Outside Research	1 day	Moreau/Greene	Loyola Biology (Jim We	4	4	Moreau/Reno	x5008	\$ 60.00
10/17/06	1e: Outside Research	1 day	Moreau	Jim Wee and Seminar	3	3	Jim Wee/Morea	x5008	\$ -
11/06/06	1e: Outside Research	1 day	Moreau	NCAT folks	4	4	<u>Moreau</u>	<u>x5008</u>	\$ -
	Code 1e Totals: Outside Research				23	23	5 groups	(Gas Fees to	\$ 120.00
Code 2a: Education-Courses Taught at Turtle Cove									
02/23/07	2a: Education-Courses taug	1 day	Rob Moreau	Boating Safety (Spring	14	14	Rob Moreau	x5008	\$ -
	Code 2a Totals: Education-Courses Taught at Turtle Cove				14	14	1 groups (class)		\$ -

Appendix B to Annual Report:

Summary of Use of Turtle Cove Facility and Vessels: Fiscal Year 2006-2007

05/11/07	3b: Outreach-K-12 School C 1 day	Michael Greene	McGhee School	20	20	Carla Robertson x3600	\$	-
05/14/07	3b: Outreach-K-12 School C 1 day	Michael Greene	Ponchatoula HS Agrisc	21	21	Michael Greene x3600	\$	-
05/15/07	3b: Outreach-K-12 School C 1 day	Michael Greene	Ponchatoula High	20	20	Robin Smith x3600	\$	-
05/16/07	3b: Outreach-K-12 School C 1 day	Michael Greene	Trafton Academy	25	25	Sheila Holden x3600	\$	-
05/18/07	3b: Outreach-K-12 School C 1 day	Michael Greene	St. Luke's Episcopal	25	25	Alice Barnette x3600	\$	150.00
05/21/07	3b: Outreach-K-12 School C 1 day	Michael Greene	St. Luke's Episcopal	25	25	Alice Barnette x3600	\$	160.00
05/29/07	3b: Outreach-K-12 School C 1 day	Michael Greene	Ponchatoula High	24	24	Michael Greene x3600	\$	240.00
06/29/07	3b: Outreach-K-12 School C 1 day	Michael Greene	Wetlands Summer Car	31	31	Jan Mistich/Mike x3600	\$	310.00

Code 3b Totals: Outreach-K- 17 Groups **409 409 17 groups - 2,050**

Code 3c: Outreach-Professional Meetings/Retreats/Open Houses

12/10/2006	3c: Outreach-Professional M 1 day	Rob Moreau	Restore America's Est	37	37	Elsa Carlisle 206-624-9100	\$	-
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Code 3c Totals: Outreach-Professional Meetings/Retreats/Open Houses **37 37 1 group \$ -**

OTHER MISC. CASH DONATIONS \$ 340.00

Grand Totals of Use:

Research:	208	732	33 groups	Gas Fees	2,815
Education:	208	208	14 groups	Donations	2,805
Outreach:	501	501	20 groups	T-Shirts Sale	\$ 650.00

Grand Total of All Use: **917 1,441 57 groups Ext. Funds \$ 6,610.00**