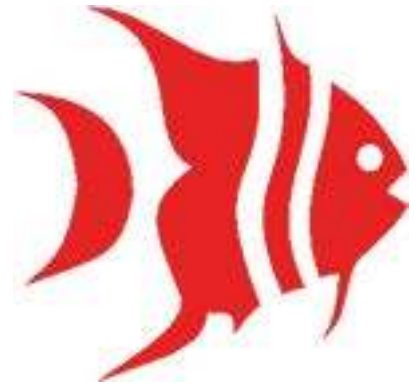


Dauphin Island Sea Lab

2013 Annual Report



Alabama's Marine Science
Education and Research Institution

The Twenty-Two Member Schools of the Dauphin Island Sea Lab/ Marine Environmental Sciences Consortium



- Alabama A&M University, Huntsville, AL*
- Alabama State University, Montgomery, AL*
- Athens State University, Athens, AL
- Auburn University, Auburn, AL*
- Auburn University at Montgomery, Montgomery, AL
- Birmingham Southern College, Birmingham, AL
- Huntingdon College, Montgomery, AL
- Jacksonville State University, Jacksonville, AL*
- Judson College, Marion, AL
- Samford University, Birmingham, AL*
- Spring Hill College, Mobile, AL
- Talladega College, Talladega, AL
- Troy University, Troy, AL
- Tuskegee University, Tuskegee, AL*
- University of Alabama, Tuscaloosa, AL*
- University of Alabama at Birmingham, Birmingham, AL*
- University of Alabama in Huntsville, Huntsville, AL*
- University of Mobile, Mobile, AL
- University of Montevallo, Montevallo, AL
- University of North Alabama, Florence, AL
- University of South Alabama, Mobile, AL*
- University of West Alabama, Livingston, AL

* Schools with Graduate Degree Programs

Statement of Purpose



The Dauphin Island Sea Lab (DISL) is Alabama’s marine research and educational institution. Founded in 1971 by the Alabama Legislature to maximize the marine sciences capabilities of several Alabama institutions and minimize duplication, DISL serves twenty-two Alabama colleges and universities, both public and private. DISL and its faculty work toward the combined purposes of conducting pure and applied research, and sponsoring structured educational programs for individuals and organizations interested in and dependent upon the marine environment.

Table of Contents

Member Schools.....	2
Statement of Purpose/Table of Contents.....	3
Letter from the Executive Director.....	4-5
Administration and Facilities.....	6-13
• Administration	
• Business/Finance	
• Information Technology	
• Library	
• Public Relations	
• Institutional Advancement	
• Facilities and Vessel Operations	
• Technical Support	
• Data Monitoring/Data Management/Metadata	
Discovery Hall Programs.....	14-17
• Academic Year Programs	
• BayMobile	
• Summer Programs	
• Professional Development for K-12 Teachers and Informal Educators	
• Public Outreach	
• Professional Activities	
The Estuarium.....	18-19
• Docent Program	
University Programs.....	20-22
Dauphin Island Sea Lab Foundation.....	23-24
Mobile Bay National Estuary Program/ Coastal Policy Program.....	25-31
• Respect the Connect: Five-Year Plan	
• Measuring Status and Trends	
• Ecosystem Restoration and Protection	
• Education, Outreach and Capacity Building	
Resident Research Faculty.....	32-33
Faculty Activity.....	34-46
• Faculty News and Awards	
• Book Chapters and Projects	
• Peer-Reviewed Publications	
• Other Publications - Technical Reports, Miscellaneous	
• Abstracts and Presentations for Scientific Meetings	
• Other Presentations	
• Workshops, Meetings Attended or Organized	
• Public Outreach and Other Service	
• Offices, Boards, Panels, Consulting	
• Grants in Force	
• Research Projects Abroad	
Board of Directors/Executive Committee/ Program Committee.....	47-48
Federal Awards/Grants.....	49-50
Balance Sheet.....	51
DISL Educational Impact in Alabama, by County.....	52

Dauphin Island Sea Lab/ MESC provides equal educational opportunity to, and is open and accessible to, all qualified students, without regard to race, color, creed, national origin, sex or qualified handicap/disability with respect to all of its programs and activities.

Disabled students will be provided “reasonable accommodations” when they have identified themselves and validated their special need(s). Complete confidentiality is maintained unless authorization for release or information has been given in regards to disability.

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Dauphin Island, AL 36528
Ph: (251) 861-2141
Fax: (251) 861-4646
www.disl.org

For questions about this Annual Report, please e-mail Lisa Young, Public Relations Consultant, at lyoung@disl.org.

Photos on cover: (Top) New signage indicates the DISL campus. Credit: J. Dindo. (Bottom) Classes at the DISL are rarely confined to the classroom - here, an overview of Mobile Bay yields a red drum.



2013 Letter from the Executive Director

It seems like only yesterday that I was crafting my letter for the 2012 Annual Report and now it is time to write a new one. As I indicated in my previous two efforts, I think you will see that the faculty, educators, staff and students in residence at the Dauphin Island Sea Lab (DISL) have had another highly productive year and that their efforts have not gone unnoticed by the citizens of Alabama!

This past year I have talked about the value of our programs to just about everyone who would agree to meet with me. Locally, our creativity and productivity have been described to the Mayors of Mobile, Bayou La Batre, Dauphin Island, Orange Beach, Gulf Shores, Fairhope, Enterprise and Dothan. Most of the County Commissioners of Mobile and Baldwin Counties have similarly heard of our successes, along with the Governor's Chief of Staff and Commissioner of Conservation. In addition, virtually all of the members of our local, state and national legislatures have heard about what good stewards of the taxpayers' money Sea Lab employees are. I have also begun to meet with the Presidents of our member institutions and their faculties, and will continue to do so throughout the summer, as I seek to strengthen academic and research relationships throughout the Marine Environmental Science Consortium (MESCC).

Without exception, everyone has expressed a very positive view of the Dauphin Island Sea Lab. As more evidence of the encouraging perceptions of the lab, there were over 400 attendees at the Dauphin Island Sea Lab Foundation's (DISLF) annual Cocktails with the Critters event last year. This event was supported by over 60 individual and corporate sponsors. In only its second year, the DISLF annual Marine Environmental Awards Luncheon had over 200 attendees. The attendance and the large number of sponsorships at these events say a lot about how Sea Lab programs are viewed in lower Alabama. I would add that the lab was packed with visitors during last year's Discovery Day. It is clear that our brand has never been stronger in the State of Alabama than it is today! Having said that, I feel there remain many new unexplored opportunities to pursue as we grow our research and education programs. In the coming year, it is my intention to build new partnerships with our local, state and federal counterparts in hopes that we will reach our full potential. Clearly, I firmly believe the Lab's future is bright and limitless.

In one way or another, Sea Lab programs reached the citizens of all of Alabama's 67 counties. Last year we had almost 80,000 people visit our exhibits in the Estuarium. Nearly 1,500 credit hours of college instruction were taken by students from 15 of our members institutions located around the state. Our small 14-member university faculty

generated some \$2.5 million dollars in extramural research, 35 peer-reviewed publications and book chapters and they gave some 100 scientific presentations at meetings held around the world this past year. As a further statement on the recognition that our researchers have achieved, almost half of our faculty now serve as editors for some of the leading journals in the marine sciences, and Dr. Kenneth L. Heck is the President of the internationally prestigious Coastal Estuarine Research Federation. All of this is but a small glimmer of the fantastic year that DISL's University Programs had in 2013.

Discovery Hall Programs (DHP) faculty had a similarly impressive year. This year, ten unique experiential, hands-on, courses were taught to 235 groups of K-12 students who came to Dauphin Island to embrace many of our most basic science principles and to learn about our state's coastal resources. Among the curricula provided by DHP were the new and exciting Remotely Operated Vehicle (ROV) class, an associated teacher workshop and a ROV competition for high school students. I would add the DHP faculty took the show on the road and reached another 13,000 students in 44 schools through Bay Mobile, our traveling marine science classroom. There was also another new, equally exciting development and that was the involvement of our educators in Alabama's ACCESS Distance Learning Program. Last year our educators participated in six virtual field trip exercises. More than 3,000 of Alabama's school-age children took part in these classes. That's an astounding new cutting edge teaching tool we are adding to our repertoire. As you will see when you read further in the included materials, DHP has also had another great year!

Our mission is to provide leadership in the fields of marine research, education and community service. As such, I would be remiss in not calling your attention to the contributions of our Mobile Bay National Estuary Program's (MBNEP) impacts in lower Alabama. This past year, the MBNEP was lead on 36 projects aimed at improving our coastal area's water quality and expanding community stewardship of our state's marine resources. In total, this program managed over \$2,000,000 in funds to improve our coastal environment. Most recently, they were awarded two grants under the National Fish and Wildlife Foundation Gulf Environmental Benefit fund to undertake large-scale restoration within the Mobile Bay ecosystem. In every way I can imagine, the MBNEP is doing an excellent job of translating the findings of our research activities into projects that benefit our society.

It should be noted that DISL also administers the NOAA-Northern Gulf Institute Diversity Internship Program. This program provides summer research experiences to



Dr. John Valentine, DISL Executive Director

undergraduate and early stage graduate students from underrepresented populations at federal agencies and organizations across the Gulf Coast.

None of these successes would have been possible without the efforts of our staff who have worked tirelessly to ensure our vessels are ready on-time, meals are healthy, and our dorms are clean. Our faculty, staff and students spent nearly 4,000 hours on the water. Our researchers used some 670 dives to spend 300 hours doing research under water. Mike Dardeau, our Dive Safety Officer, is the current treasurer of the national American Academy of Underwater Scientists. This is just another example of how MESC scientists lead the way in the marine sciences.

This past year, our cafeteria served over 36,000 meals. I want to call your attention to the fact that fresh veggies of all kinds are available for students in residence on our campus. Our very capable facilities crew completed the construction of the new state-of-the-art classroom in Endeavor Hall. Our wizards of the wire have completed the installation of campus-wide Wi-Fi and the addition of new distance learning hardware into the new DHP classroom. And as I write, they are pushing forward with the completion of a new DISL website which should go 'live' this summer. I would also add that Mr. David England, Head of our Administration Department is now President Elect for Alabama Chapter of Society of Research Administrators International. Not bad-not bad at all.

I think you can see that despite our continuing to be mired in some of the toughest economic times our country has seen in some time, we are zealously continuing to perform our teaching, research, and education mission at a very high level!

As we look to the future, we are planning for new additions to our research and educational capabilities as well as much needed renovations to our existing facilities. Already in progress is the top-to-bottom renovation of Discovery Hall. Completion of this task, when coupled with the new capabilities in Endeavor Hall, and the addition of a new vehicle for Bay Mobile, both of which were made possible through the excellent efforts of the DISLF, will set the stage to unleash the potential of our educators to do great new things in K-12 education. Soon you will also see the replacement of the roof on Challenger Dormitory. You will also notice that signs have gone up on the campus announcing the soon-to-begin construction of the new Marine Mammal Research Building and the addition of some 2,500 square feet to the Estuarium, which will house a number of new exhibits. Both of these projects should be completed before I put pen to paper for next year's annual report. Lastly, we continue to move forward with our sponsorship of a Signature Academy in Coastal Studies at Alma Bryant High School in Bayou La Batre.

We are also moving quickly to complete the development of a Request for Quotes designed to finance the much-needed renovations of our visiting scientists housing, cafeteria, and administration building. We will also be adding a handicapped-accessible bathroom to Beagle Hall. Lastly, we will re-roof and renovate Galathea Hall from top-to-bottom. Importantly, all of these tasks, if approved, will be completed in three years' time. It should be clear to all that read this letter; we are not sitting around waiting for better days ahead. We are taking control of our future now!

With all of this said, I feel strongly that it is time to shift our conversation from the events of the past to the events we want to take place in a new brighter future. To that end, I have begun brainstorming with scientists, and administrators throughout our Consortium about what the future of our facilities, and programs should look like. I am also spending time talking with local K-12 administrators about how future teachers will deliver curriculum to our students. It seems clear to me a strategic plan will be needed.

While some might argue that Alabama's coastline is small and limited, I counter by saying that if one were to draw a line that traced our shorelines beginning at the Alabama-Mississippi border to its northern most extent, and then back down to the coast at the Alabama-Florida border, you would see that Alabama's coast line extends all of the way into Tennessee and Georgia. As such, I feel it is important that we strengthen our relationships throughout the Marine Environmental Sciences Consortium to establish a stronger state-wide research group that can serve as a model for what is possible when collaborations replace confrontations in the world of competitive science. In this way we will become a beacon for marine science education and research throughout the nation. I think that when you read this year's Annual Report, you will see why I am so excited about the Dauphin Island Sea Lab's future.

A handwritten signature in black ink that reads "John F. Valentine".

Dr. John F. Valentine
Executive Director, Dauphin Island Sea Lab



Administration and Facilities



An aerial view of the Dauphin Island Sea Lab campus.

DISL is located on 36 acres on the eastern end of Dauphin Island, a barrier island approximately three miles from the mainland and 40 miles south of Mobile, Alabama. The Sea Lab spans the island and thus has direct access to the Gulf of Mexico, Mississippi Sound and Mobile Bay. A causeway and bridge connects the island to the mainland.

There are 38 buildings on campus, including eight instructional buildings; three dormitories; nine family-style houses; and two research buildings. The DISL also houses the Auburn Shellfish Laboratory. The Richard C. Shelby Ecosystem-Based Fisheries Management Center is a LEEDS Gold certified building. The Shelby Center and the instructional buildings on the south campus are solar-powered, making the Sea Lab the second largest solar-producing entity in the state of Alabama.

The DISL library is highly specialized in the marine sciences, particularly those areas relating to the ecology and geology of the Gulf Coast region. Its holdings include more than 7,400 bound volumes and approximately 500 periodical titles.

Wet Lab facilities house modular sea-water systems, kreisels,

and other instruments for experimental work on living marine organisms. Research laboratories are equipped with state-of-the-art instrumentation for biogeochemical research. Field collection equipment for marine ecological and oceanographic research is available.

DISL maintains two large research vessels, including the 65-ft. R/V *Alabama Discovery* and the 46-ft. *E.O. Wilson*, in addition to a fleet of small boats and skiffs.

Office of the Executive Director
Dr. John Valentine - Executive Director
David England - Director, Finance and Administration
Dr. Tina Miller-Way - Director, Outreach and Education

Dr. Kenneth Heck - Director, University Programs
 Dr. John Dindo - Director, Operations and Institutional Advancement
 Michael Dardeau - Coastal Policy Programs
 Lisa Young - Consultant, Public Relations
 Lori Angelo - Administrative Assistant to the Executive Director

Dennis Patronas-Librarian/Clerk
 Angela Rattler-Human Resources
 Daphne Wood-Grants and Contracts Manager

Auxiliaries
 Auxiliaries of the DISL include the Cafeteria, Estuarium Gift Shop, Laundromat and vending machines.

Business/Finance

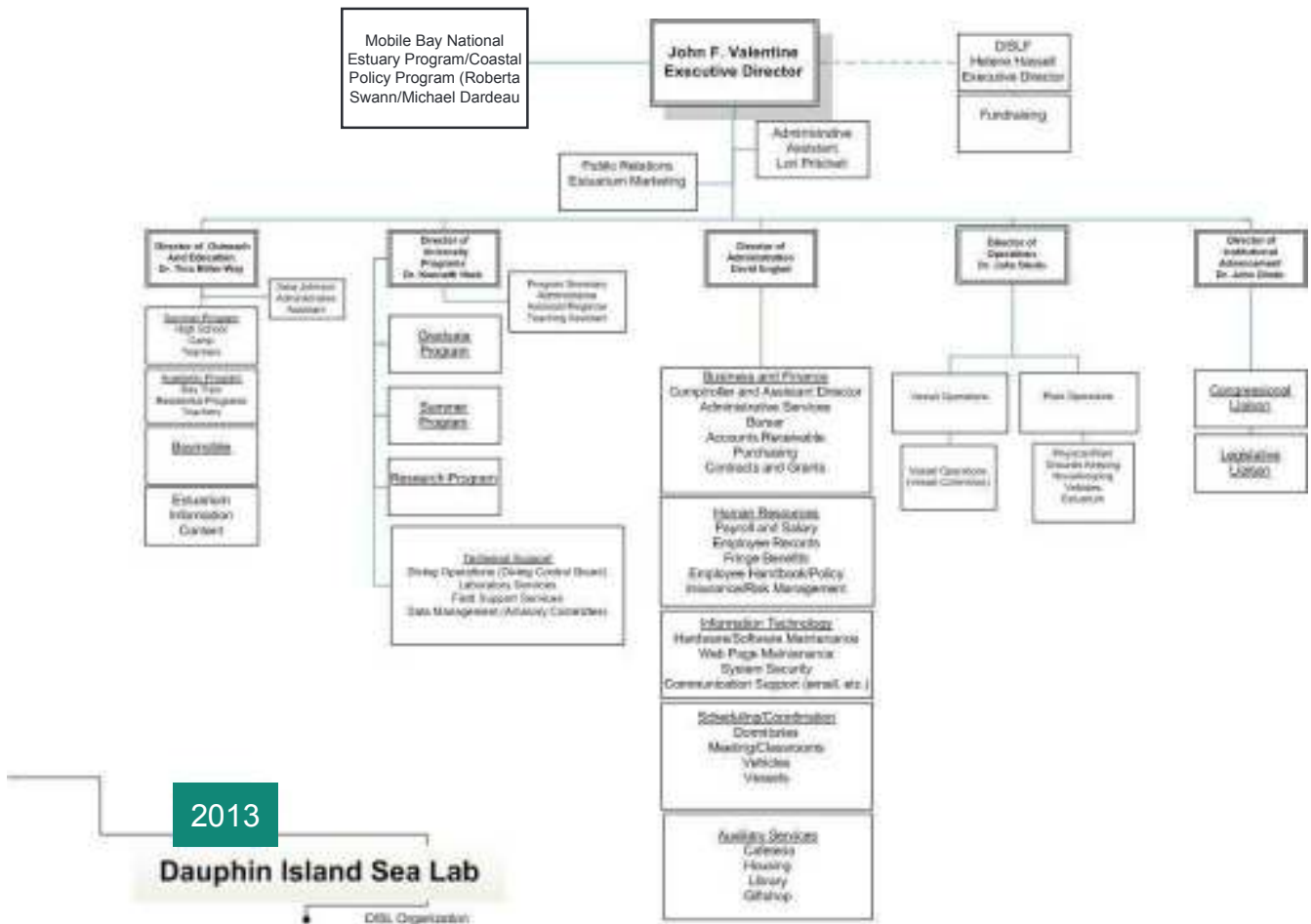
The Business Office of the DISL operates under the principles of Fund Accounting set forth by the National Association of College and University Business Officers. The State Examiners of Public Accountants audit annually the procedures, accounting records and policies of the DISL.

Cafeteria Personnel
 Classie Berittech-Manager
 Faye Bentley
 Renee Cain
 Linda Gazzier
 Michael Morris
 Taylor Rhodes
 Karen Saunders
 Althea Spittell
 Gail Zirlott

Business/Finance Personnel

David A. England – Director of Finance & David A. England-Director of Finance & Administration
 Katy Blankenhorn-Scheduling Coordinator
 Mary Darby-Accounts Payable
 Ashley Foster-Bursar/Purchasing Agent
 Cindy Grimes-Receptionist
 Gerard Kwilecki-Accountant

Estuarium Gift Shop Personnel
 Jeana Layne – Manager/Buyer/Event Coordinator
 Amy Hannah – Clerk/Stocking
 Mary Catherine (Cathy) Miller - Clerk



2013
Dauphin Island Sea Lab
 DISL Organization

Jamelle Roy – Clerk & Reorders/Docent Coordinator
 Janice Watanabe – Clerk
 Sally Jo Williams - Clerk

the entire state, while not even leaving Dauphin Island.

Information Technology (IT)

During the 2013 year IT has been wrapping up large projects that began in 2012. Campus-wide wireless is fully deployed and operational. We are implementing a Bring Your Own Device (BYOD) policy for students, staff and faculty. BYOD allows for our trusted users to bring their own devices and use them on our network while still maintaining a level of security. BYOD differs from guest wireless access as it is meant to help our faculty, staff and students with trusted accounts use the device of their choosing while still implementing security measures.

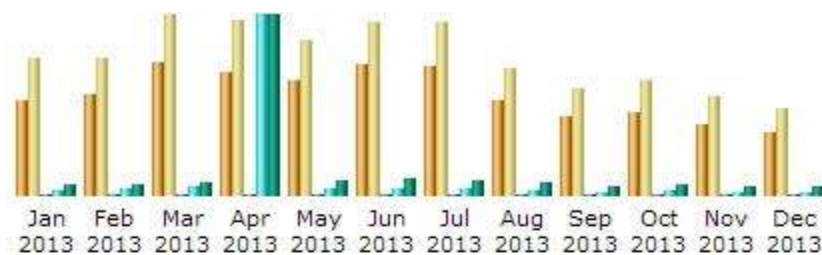
A small project that was also completed was an interactive kiosk in the Estuarium that replaced a viewing microscope that was beginning to show its age. The Soup of the Sea exhibit allowed for students to see plankton via a large viewing scope. While it had wonderful merit in showing student plankton, it was hard to focus and use. It has now been replaced with a touchscreen interactive kiosk that allows for viewing of more plankton samples with both stills and video.

This Soup of the Sea project has also allowed us to reuse this technology for a project that will

IT has also designed and implemented a Video Conferencing room at the University of South Alabama (USA) that has allowed our students greater participation in classes that are held at USA's campus.

This technology has already been successfully used for one class taught by Dr. Sean Powers and has allowed for greater attendance and flexibility for both instructors and students while maintaining a productive classroom experience for both.

After this successful installation, we duplicated this model for our Discovery Hall Programs (DHP) and installed a Video Conferencing system for them as well. It is complete with dual cameras, interactive LCD whiteboard monitor and dual microphones. One of the cameras is ceiling mounted and doubles as a document & dissection camera. This system has allowed DHP to have greater visibility in the statewide ACCESS program without the scheduling restriction of sharing a unit that was installed in another department. The ACCESS program has allowed for DHP to teach a shark dissection to 300 students at one time across



Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2013	5,565	7,916	11,677	226,912	2.89 GB
Feb 2013	5,825	7,925	12,184	240,445	2.98 GB
Mar 2013	7,774	10,454	18,010	319,829	3.54 GB
Apr 2013	7,134	10,108	18,039	6,965,800	46.07 GB
May 2013	6,666	9,033	16,307	244,470	3.67 GB
Jun 2013	7,601	10,099	18,249	295,085	4.34 GB
Jul 2013	7,525	10,025	17,815	281,912	3.95 GB
Aug 2013	5,547	7,431	13,592	197,167	3.13 GB
Sep 2013	4,566	6,164	9,858	152,826	2.45 GB
Oct 2013	4,823	6,658	10,527	158,761	2.86 GB
Nov 2013	4,110	5,710	8,980	130,231	2.07 GB
Dec 2013	3,625	4,999	9,106	114,068	2.11 GB
Total	70,761	96,522	164,344	9,327,506	80.06 GB

Analysis for DSL's website www.disl.org

be completed next year. This project will be an interactive video wall that will display content designed by the Gulf of Mexico Alliance (GOMA). This display will help illustrate the wonderful features of the Gulf of Mexico. The video wall will consist of a 2 x 2 matrix of 46" lcd screens that will be driven by a separate 40" touchscreen.



The winning name for this manatee? Brodie, voted on by Facebook fans of DISL's Manatee Sighting Network. This contest, and many other Sea Lab programs, was promoted by the Public Relations department during 2013.

Information Technology Personnel

Melissa Mills - IT Manager
 Shane Johnson - Systems Administrator
 Sam Hardwick - PC / Network Support Specialist

Library

The DISL library is highly specialized in the marine sciences, particularly those areas relating to the ecology and geology of the Gulf Coast region. Its holdings include more than 7400 bound volumes and approximately 500 periodical titles; hundreds of open access titles are also available. Besides free Alabama Virtual Library, subscriptions to online databases Aquatic Sciences and Fisheries Abstracts, Oceanic Abstracts and Current Contents on Diskette continue to give students and faculty current bibliographic resources.

Library Personnel

Dennis Patronas - Librarian

(Note: The DISL is saddened to note that Dennis Patronas, a much-loved employee who worked for the DISL for thirty years, passed away in December 2013. His gentle manner and good cheer will be missed by all who knew him.)

Public Relations

The reporting year of 2013 was a productive one for the Public Relations Department, a reflection of the busy year that the Sea Lab had in every aspect of its educational, research and outreach programs.

Public relations campaigns were created and implemented for the opening of Rays of the Bay, the Estuarium's first outdoor touch tank; Discovery Day, DISL's annual open house; Summer Excursions, field trips for families to Dauphin Island's marsh, beach and forest; Mobile Manatee Sighting Network's Name a Manatee contest; the Estuarium's docent training workshop; and many more programs.

One of the bigger advertising campaigns was launched for the December 2013 Estuarium "free-child-admission-with-paid-adult-admission" program, a way of thanking Mobile and Baldwin residents for their ongoing support of the Estuarium, which marked its 15-year anniversary in 2013.

The Sea Lab scientists received local, regional and national attention for their published research in prestigious journals, such as PLoS One.

We were pleased to work with the Dauphin Island Sea Lab Foundation in promoting their events Cocktails with the Critters and the Marine Environmental Awards Luncheon. Both events boasted high attendance.

We would like to thank ExxonMobil for their continuing support of a public relations internship every summer. This year's recipient was Andy Cuff, a communications major from Spring Hill College, who did an excellent job promoting the Sea Lab's summer programs. His enthusiasm, drive and hard work resulted in many media hits throughout the state for the lab.

Public Relations continues to produce a monthly e-newsletter, the *Sea Lab Skimmer*, and the DISL's Annual Report. If you'd like to receive a free subscription to the Skimmer, please email lyoung@disl.org.

Public Relations Personnel
Lisa Young – Public Relations Consultant
Lori Pritchett - Administrative Assistant to the Executive Director
Robert Dixon - Estuarium Manager

Institutional Advancement

Dr. John Dindo heads the DISL's Institutional Advancement program, committed to improving the Lab's partnership with national, state and local legislative bodies, seeking new opportunities for revenue streams, serving as liaison with the DISL's Foundation, and overseeing all capital improvements for the campus.

During the last legislative session, the Dauphin Island Sea Lab was successful in increasing its budget by approximately four percent. This is a very positive sign and helps to offset some of the budget challenges from pro-rated years.

Drs. Valentine and Dindo have made strong inroads with members of the local delegations in Mobile and Baldwin counties, as well as with other statewide legislative members. The growth of the DISL through educational and research programs across the state has resulted in the Dauphin Island Sea Lab becoming better known throughout all 67 districts. The Dauphin Island Sea Lab is a small percentage of the educational budget of higher education but has a significant impact on the twenty-two colleges and universities that are members of the Marine Environmental Sciences Consortium. The efforts this year have been to highlight the 43 year success of DISL and the savings to the tax payers that have

been generated over all these years by having a single site for the teaching of marine science.

Both Drs. Valentine and Dindo have interacted with Senator Sessions, Senator Shelby and former congressman Jo Bonner on topics varying from fisheries to the BP oil spill and the future of the RESTORE Act. They will continue to inform legislative staffers of the research efforts being conducted at the DISL and to make recommendations for future research in this area.

Institutional Support Personnel
Dr. John Dindo - Director

Facilities and Vessel Operations

As the Sea Lab continues to grow its educational and research programs, so must the physical plant respond to those changing needs. With an aging campus and limited budget, credit goes to the skilled and hardworking team of Facilities, Housekeeping and Vessels, who daily go about the task of improving and maintaining the campus with dedication and efficiency.

Carpentry, electrical, HVAC, painting – these are but a few disciplines employed daily by this skilled crew. Among the projects undertaken in 2013:

- Gutting and remodeling laboratories, faculty housing, and classrooms.
- Building several new kiosks for the Estuarium
- Installing hot water boilers for the Challenger and Beagle dormitories
- Building the deck and installing fencing for the new Ray Tank at the Estuarium
- Painting the student dormitories and new offices
- Installing light and power for new displays, signage and laboratories
- Building a new classroom at the Endeavor building
- Installing new pool pump and piping
- Building a wave tank for pompano research and a shark sling for shark research

These are but a few of the vast accomplishments of our team during the reporting year.

Facilities also addressed needs for the Sea Lab's fleet of vessels, including building davits for the new vessel Pelican and the R/V Alabama Discovery; building a new trailer for the Pelican; and building a ladder for the Discovery.

It should be noted that all our vessels operations crew have their 100-ton Coast Guard license.



The facilities crew built a new classroom on the Endeavor building for the Discovery Hall Program.

Vessels
operations
Rodney Collier
Tom Guoba
Willie Johnston
Russell Wilson

Technical
Support
Technical
Support
encompasses
four services
in support of
the faculty
and students,
including: diving
operations;
laboratory
services; field
support services;
and data
management.

Kyle Weis
left DISL and
Alabama in

May to pursue a life on the West Coast where he
is currently employed as a technician working with

We never want to take for granted the enormous
hard work put in by the talented, resourceful and
industrious members of our Facilities, Housekeeping
and Vessel crew. It is because of their constant
support that we can continue to provide far-
reaching educational and research programs to our
constituency, the State of Alabama.

Facilities and Vessel Operations Personnel
Dr. John Dindo - Director
Troy McBride - Manager, Facilities and Vessel
Operations

Facilities
Rickie Gibbs - Assistant Supervisor
Tommie Blocker
Wilfred Gazzier
Joey Johnson
Tom Pritchett
Jody Schultz

Housekeeping
Tammy McClantoc - Supervisor
Shirley Emerson
Cindy Johnson
Tammy Ladnier
Sue Ramsey

Vessel Days At Sea

Vessel Name	Hours Used
<i>Boston Whaler</i>	362
<i>Breakwater</i>	199
<i>Coquina</i>	239.5
<i>Fish Hawk</i>	198
<i>Great Blue</i>	130
<i>Nancy M.</i>	54
<i>Oyster</i>	320
<i>Pelagia</i>	371.75
<i>Pontoon</i>	76
<i>R/V Mullet</i>	232
<i>R/V Thalassia</i>	480
<i>R/V Vallisneria</i>	71
<i>R/V Alabama</i>	853.75
<i>R/V E. O. Wilson</i>	177
<i>Spinner</i>	32
Large Vessels	1030.75
Small Vessels	2765.25
Total Vessels	3796



Tech Support bid farewell to Kyle Weis (l) and welcomed Grant Lockridge (r) in 2013.

CenCOOS, Central and Northern California Ocean Observation System, working out of Humboldt State University. Kyle began his career with DISL as an aquarist in the Estuarium and transitioned to the Technical Support Department where he quickly became our “Mr. Wizard” coming up with novel solutions for many of the technical requests handled by our department.

Grant Lockridge joined Tech Support in May 2013. He has a B.S. in Marine Science and an M.S. in Coastal Marine and Wetland Studies, both at Coastal Carolina University in South Carolina. Grant has extensive dive experience and both technical and electronic expertise. He is working with Mike Dardeau, our Dive Safety Officer, to create a curriculum for a scientific diver course to be taught at DISL. In the half- year with DISL, Grant has made 43 dives. These dives included many efforts in support of DISL property, including finding lost equipment and vessel maintenance in addition to supporting the weather station system and other scientific dives.

In May 2013, Technical Support had a meeting with a private company, Algae Systems, to discuss installation of an observation station to aid in their development of their sewage treatment of a biofuel operation in Daphne, Alabama. Discussions focused on what parameters were needed to be determined and what role DISL might have with the installation and maintenance of the station. If DISL participates with this private company, the station would be included with the real time weather station system which already has 8 stations monitoring

environmental conditions in and around Mobile Bay, <http://www.mymobilebay.com/>.

Additionally, the Tech Support department is responsible for the monitoring and maintenance of the many sensors located at the various stations. In 2013, over 140 trips were made in support of the weather station system, including swap out of much of the instrumentation and installation of a new tower on the Bon Secour station to reduce tampering and increase security of the sensors. The Tech Support team also met with local representatives of the National Weather System to discuss the current needs for environmental monitoring and what role the MyMobileBay system adds to local weather monitoring.

Yantzee Hintz rejoined Tech Support in October 2013 after an active stint with the Alabama Army National Guard, where he is a helicopter pilot. Upon his return, the department began a project to re-plumb and re-work the systems in the Mesocosm facility and the Wet Lab. Yantzee was part of the original set up of both of these facilities and was able to address issues with the original systems and improve the design and layout.

The surface buoy at FOCAL mooring was damaged by an unknown vessel and was lost in late June. Luckily, the instrument string and subsurface buoy were not damaged. A new surface buoy was purchased and the attachment system was overhauled by late July and no data was lost due to the incident.

Al Gunter and Grant Lockridge attended the Dive Equipment and Marketing Association (DEMA) show in the fall and were certified and re-certified for SCUBA tank inspection.

The Analytical Laboratory billed out approximately \$2000 to in house grants, \$3000 in support of Graduate Student research and \$23,000 to outside entities, of which \$15,000 was to member institutions.

Technical Support Personnel
 Laura Linn - Coordinator, Technical Support Services, Analytical Technician
 Al Gunter - Field Technician

Renee Collini – Field Technician
Kyle Weis - Field Technician
Grant Lockridge - Field Technician
Yantzee Hintz - Field Technician

Data Monitoring

Www.mymobilebay.com continued to share real-time meteorological and water conditions throughout coastal Alabama. Renee Collini, Kyle Weis, Al Gunter, Yantzee Hintz and Grant Lockridge all helped maintain the equipment at seven sites in coastal Alabama and Lei Hu ensured that the data was promptly displayed on the website.

Other partners in the environmental monitoring program for 2013 were the Mobile Bay National Estuary Program, Mobile County, Baldwin County, the Gulf of Mexico Alliance, Alabama Dept. of Conservation and Natural Resources, the University of South Alabama and the Alabama Lighthouse Association.

Data Management

Data Management at DISL, a division under University Programs, facilitates the data-processing needs of scientific research and administration functions. Working closely with scientists and researchers, data management designs and develops customized information systems that allow data analysis, reporting, and archival storage and retrieval.

In 2013 Data Management accomplished the following tasks:

1. Continued the development of a Fisheries Online Database. This customized and secured database allows data entry, analysis, and reporting for bottom long-line, vertical long-line, hook-and-line, and trawl data.

2. Managed monitoring data for Mobile Bay Environmental Monitoring website (<http://www.mymobilebay.com>), allowing real-time meteorological and hydrographic data to be available 24/7. Data are transmitted to National Data Buoy Center and Gulf of Mexico Ocean Observation System near real-time. Data quality control is performed every thirty minutes. Datasets are archived and downloadable from the website.

3. Supported the online Manatee Sighting Network web page, and the data processing activities related to this web page.

4. Supported administrative functions such as School Trip Reservations, DISL Graduate Student Fellowship Application, Graduate Student Research Support Application, and Fuel Usage records.

Metadata

The Data Management oversees the creation and publication of federally compliant metadata to make local data sets broadly accessible and perdurable. The DISL's Data Management collaborates closely with NOAA's National Coastal Data Development Center (NCDDC) to train personnel, publish metadata on national clearinghouses, and archive datasets at federal data centers.

In 2013, twelve metadata records were created for datasets generated at DISL, including five legacy datasets. A metadata training class was offered to faculty and graduate students.

Data Management personnel participated in several EarthCube end-user workshops organized by the National Science Foundation. These workshops were designed to articulate and document the geoscience communities' cyberinfrastructure needs and future plans with regards to accessing data and information within and outside their disciplines.

Data Monitoring/Management/Metadata Personnel

Mike Dardeau - Marine Scientist, Diving Safety Officer

Lei Hu - Data Manager

Mimi Tzeng - Data Management Specialist



Data Management is supported by Lei Hu (l) and Mimi Tzeng (r).



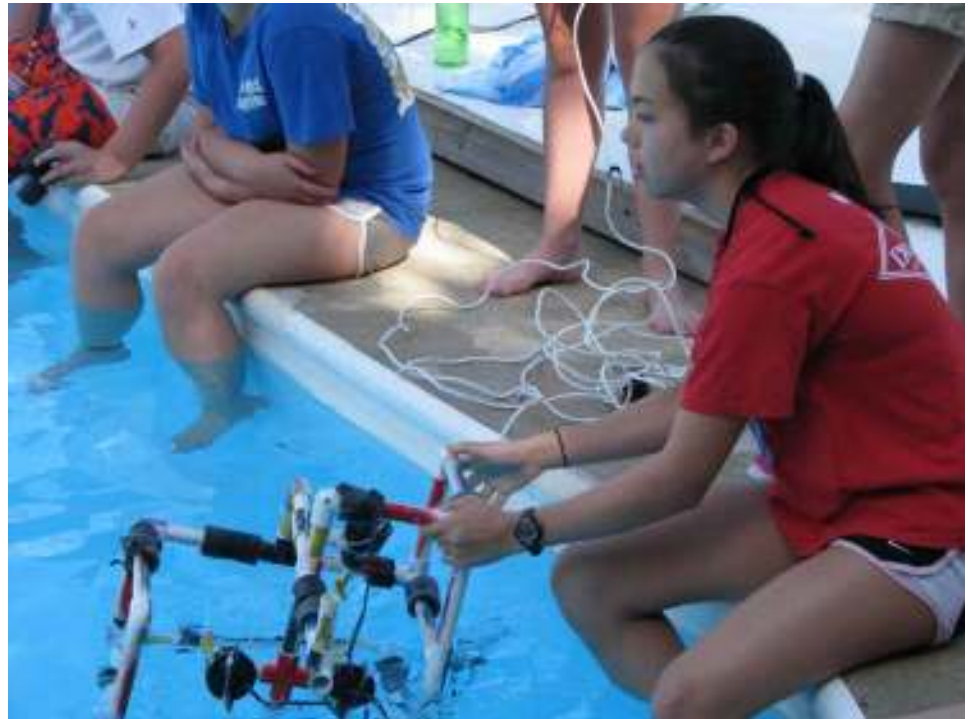
Discovery Hall Programs

The mission of Discovery Hall Programs (DHP) is education and outreach for K-12 students, K-12 teachers, other educators and the public. Our focus is on marine and environmental science issues as seen through a lens of national and state science standards as well as ocean and climate science literacy principles. We believe strongly in the value of a hands-on or experiential approach to education. To achieve our goals, we offer a variety of programs and activities throughout the year. In addition to the programs highlighted below, DHP educators routinely work to assist DISL research faculty in their education and outreach programs and are, in turn, assisted by faculty participation in DHP programs.

Academic Year programs

During the school year, DHP offers field-based hands-on classes to school groups visiting DISL facilities. We currently offer 10 different classes: each class includes presentation of content as well as an outdoor or hands-on activity. School groups may come just for the day or elect to stay overnight. Through our scheduler, teachers of visiting school groups select those classes that most closely fit their learning objectives. All DHP classes are tied to the Alabama Course of Study Standards and Ocean Literacy Principles.

In 2013, 235 groups, representing 9769 K-12 students came to the Sea Lab to take one or more of these classes. DHP Staff taught 727 classes to these groups. These students came from 7 different states and 32 counties in Alabama. As in 2012,



DHP held their first Remotely Operated Vehicle (TOV) competition, a popular event sure to be repeated.

our classes on salt marsh ecology and Alabama's marine flora and fauna are our most popular classes. Additional individuals including chaperones, parents, other subject matter teachers and classroom aides typically accompany visiting school groups and participate in classroom and field activities. Thus, in 2013, an additional 1089 individuals learned about various aspects of marine and coastal science through DHP classes. About 40% of visiting groups and 33% of students stay overnight. Most groups came from Alabama's public school system: 63% came from public schools and 87% were from Alabama. Students from homeschool groups, private schools, scout troops and informal adult groups also visit and take our classes.

While each group participating in our program has the opportunity to evaluate and comment on their visit, we also objectively assess changes in content knowledge by the students using pre and post-testing procedures: asking the question - have they learned? In 2013, we tested 2384 students,

approximately 24% of the total number of students participating in DHP programs. Data from the 10 question pre- and post quizzes showed a statistically significant increase in students' knowledge for each of the 7 classes in which we use this testing procedure.

In 2013, DHP held their first annual Remotely-operated vehicle (ROV) competition for high school students. Over a long spring weekend, 6 teams of high school students brought their uniquely designed and student-built ROV to DISL to compete in a series of ROV-based scientific missions. In this program, supported by the Gulf of Mexico Research Initiative's Deep-C Consortium, high school teachers received training during the preceding summer in how to build a ROV, the uses of ROVs in marine exploration, research and industry and the use of ROVs in documenting and assessing the impacts of the Deepwater Horizon event on the Gulf. They also received financial support to implement the program at their school. Successful implementation of the program and a fantastic competition has resulted in a continuation of the training (teachers) and competition (students) in 2014. Additionally, DHP-DISL has now been designated an official regional competition site for the well-known international Marine Advanced Technology Education (MATE) ROV competition.

Lastly, we continue to develop and pilot curricula addressing marine science for K-12 students. Collaboration with the Northern Gulf Coastal Hazard Collaboratory (funded by the National Science Foundation) permitted the development and testing of a series of lesson plans on hurricane-associated

storm surge, which causes a great deal of damage in coastal Gulf communities. In 2013, we added an interactive learning game in which students can control the strength and location of hurricane landfall and then explore surge and inundation levels in their neighborhood (or other geographic area of interest) using a Google Earth interface.

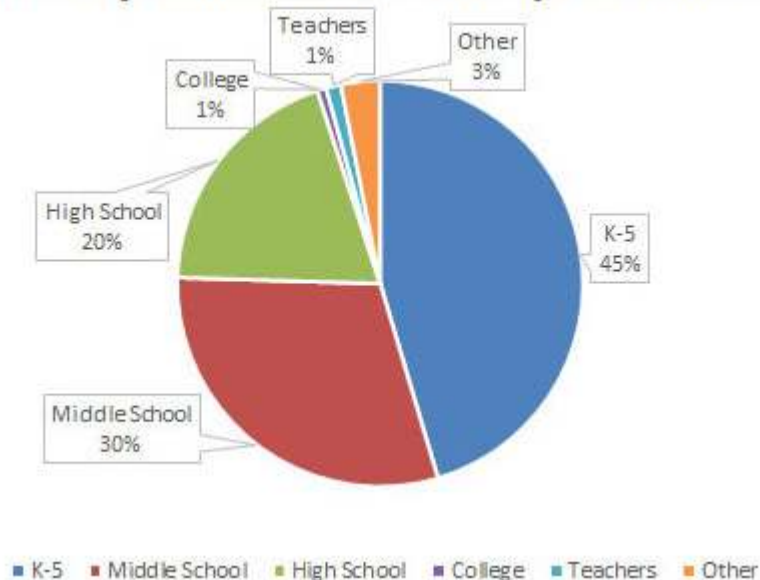
BayMobile

During the school year, our traveling marine science classroom known as the BayMobile, visits schools throughout the state. In 2013, DHP staff visited 44 schools and taught approximately 13,250 students. Most of these schools are Title I schools in which a significant portion of the student body receives free or reduced price lunches. While not all of our classes are amenable to off-site teaching, DHP educators taught classes about Alabama's marine flora and fauna, oil and oil spills, watersheds and water quality, sea turtles, and GPS systems and remote sensing on their visits.

Summer programs

During the summer, DHP offers activities for every age group. We offered multiple sessions of 2 overnight camps, Barrier Island Explorer and Gulf Island Journey; both camps were filled to capacity at 152 children. We also offer several day camps for young and older school-age students, Oceans Alive!, Survivor: Dauphin Island, and Art-Sea Discovery. More than 110 children participated in these camps in 2013. These summer camps drew students from 14 states and 13 Alabama counties. Lastly, we also offer one of the few high school immersion marine science programs available in the US. Students live at the lab for a month taking classes (and exams),

Discovery Hall Student Participation in 2013



conducting laboratory and field exercises, exploring research methods and exploring different marine habitats through field trips and earning high school science credit. In 2013, as in 2012, this program filled to capacity at 30 students coming from 11 states and 9 counties in Alabama. We could not offer these programs without the able assistance of our counselors and our undergraduate interns.

Professional development for K-12 teachers and informal educators

Throughout the year, DHP offers professional development for K-12 classroom and informal educators. These workshops allow teachers to increase their content knowledge, learn new age/grade level-appropriate laboratory or classroom activities to share with their students, participate in field trips and activities, interact with research scientists, network with other teachers and in many cases renew their enthusiasm. In 2013, we were successful at finding grant support to be able to offer 6 onsite workshops to educators free of charge (Fins, Fishes and Fisheries; Reefs, Rhizomes and Restoration; Climate Change in the Gulf of Mexico; Technology in Marine Science; Bay Watershed Education & Training – Watershed Education using Bivalves; How Do We Explore?; and Why Do We Explore?). Our thanks to Mississippi-Alabama



Marine Educator Jenny Cook (center) takes a class out to a salt marsh on Dauphin Island.

Sea Grant, NOAA's B-WET program, the Deep-C Consortium, and NOAA's Office of Exploration for supporting these efforts. A total of 114 teachers from 11 states participated in these workshops that ranged in duration from 1 day to 5 days. Nine teachers took these workshops for graduate credit; all participants receive continuing education units.

Public outreach

As part of our mission, DHP educators participate in and conduct a variety of programs for the general

public. In addition to Discovery Day, DISL's annual open house, we take our message 'on the road' and attend a variety of environmental themed festivals and community outreach events throughout the year. These include Earth Day, Celebrate the Gulf, Delta Woods and Waters, Working Waterfront festival, BayFest, BirdFest, ShrimpFest, Kids Days in Bienville, Ocean Commotion, events at the Exploreum, My Two Boots, Mobile County, Mobile regional and Alabama State Science Fairs as well as numerous science nights and career days. In 2013, we participated in 28 single and multiday events. Through these events, DHP reached more than 15,000 individuals.

Programs are also offered through the Estuarium, including Boardwalk Talks, a series of informal talks between visitors and Sea Lab scientists, aquarists, technicians or other experts and Summer

Excursions, a series of field trips for the public. In 2013, there were a total of 24 Boardwalk Talks with a total audience of approximately 600 individuals and 14 Summer Excursions with 343 participants.

Through a partnership with the state of Alabama's ACCESS (Alabama Connecting Classrooms, Educators and Students Statewide) program, Discovery Hall Programs is now offering a series of distance-learning classes. In 2013, segments were presented on Alabama's Amazing Animal Adaptations, Alabama's Sharks and Rays and Alabama's Invasive Species. Additionally, we

participated in ACCESS's distance learning month by offering specific timed programs. More than 3000 school-age students from across the state participated in these classes.

In 2013, DHP has continued to work with the Mobile Bay National Estuary Program on a service-learning program for middle school students known as Estuary Corps. In the 2013-2014 school year, the monthly program has been expanded to include 2 schools and Boys and Girls Club in Mobile, AL.

Dauphin Island Sea Lab's Discovery Hall Program Totals

Year	K-5	Middle School	High School	College	Teachers	Other	Total
1990	7,382	1,364	905	473	185	397	10,706
1991	2,296	745	329	127	254	620	4,371
1992	6,103	2,005	1,187	671	254	351	10,571
1993	7,128	1,784	2,123	765	238	529	12,567
1994	7,634	2,083	1,533	603	356	478	12,687
1995	5,981	1,763	1,137	634	213	336	10,064
1996	6,915	2,318	1,411	456	300	126	11,526
1997	6,312	1,630	1,170	648	269	284	10,313
1998	6,233	2,079	1,484	364	230	352	10,742
1999	4,232	2,055	1,397	479	225	301	8,689
2000	6,567	2,141	1,746	476	199	368	11,497
2001	6,239	1,918	2,485	540	177	277	11,636
2002	4,196	2,924	1,865	460	175	430	10,050
2003	4,605	2,845	2,215	278	230	293	10,466
2004	4,737	1,385	1,435	262	150	188	8,157
2005	3,897	1,102	1,592	316	167	98	7,172
2006	6,576	2,326	2,877	566	117	374	12,836
2007	3,064	1,440	1,591	432	86	111	6,724
2008	3,268	2,621	1,551	46	138	173	7,797
2009	4,349	2,839	1,532	50	69	166	9,005
2010	6,296	2,662	1,130	101	66	95	10,350
2011	5,133	3,077	1,827	127	70	92	10,326
2012	5,218	2,765	1,991	109	85	290	10,458
2013	4,489	2,973	1,928	71	117	308	9,886
Total	128,850	50,844	38,441	9,054	4,370	7,037	238,596

disciplines, the Environmental Education Association of Alabama's (EEAA) annual meeting, and Alliance of Natural Resource Outreach and Service Programs (ANSROP) annual meeting. Additionally, several DHP educators participated in multiple training sessions of the Mobile Area's Education Foundation's STEM initiative. Individuals have also served as reviewers for education proposals and manuscripts.

Personnel

Due to life changes such as babies and family needs, two members of

Discovery Hall Programs staff resigned in 2013. In their places we have hired Jennifer Latour, an experienced educator from the Tennessee Aquarium and have moved JoAnn Moody from curriculum development into our regular teaching rotation. Our staff now includes:

- Jenny Cook - Marine Educator III, MS (1991, University of South Alabama)
- Greg Graeber - Marine Educator III, ME (2008, University of South Alabama)
- Mendel Graeber - Marine Educator II (part-time), BS (2001, University of Alabama)
- Sara Johnson - Administrative Assistant; BS (2004, Pennsylvania State University)
- Jennifer Latour - Marine Educator I, BS (2004, Thomas University)
- Tina Miller-Way - Chair; MS, Ph.D. (1995, Louisiana State University)
- JoAnn Moody - Marine Educator I, MAT (2005, University of West Alabama)
- Joan Turner - Marine Educator III, BA (1999, University of Alabama - Huntsville)
- Hazel Wilson - Marine Educator III, BS (1981, Memphis State University).

Professional Activity

In 2013, the Southern Association of Marine Educators (marine science educators in the northern Gulf coast area) with DHP educators playing a key role hosted the annual meeting of the National Marine Educators Association (NMEA) in Mobile, AL. Approximately 300 teachers, informal educators and agency personnel convened at Springhill College in July and participated in professional development activities. DHP educators also gave 2 presentations during the meeting. Each DHP educator played key roles in committee assignments, handling meeting organization, logistics, field trips, public relations, registration and the myriad of other details that go into hosting a successful meeting. We are indebted to DISL's Information Technology department for their assistance and to the DISL administration for their support.

In addition to this significant undertaking, DHP educators attended and/or presented sessions at the annual National Science Teachers Association (NSTA) meeting, iSTEM - Alabama Science Teacher's Association's meeting focused on STEM (science, technology, engineering and mathematics)



The Estuarium

251.861.7500

Toll Free: 866.403.4409

www.sealabestuarium.org



The new Ray Tank, heated by geothermal energy, proves a hit with visitors of all ages.

The Estuarium continues to be a much-visited local attraction, with an increase in visitation of three percent over the 2012 attendance. The Estuarium posted an attendance of 76,314 during the 2013 calendar year. This is the best attendance since 2003.

Construction of the new exhibit, Rays of the Bay, opened in 2013. The ray tank features an unusual geothermal heating and cooling system that uses the ground's temperature to maintain a comfortable 74 degrees in both the winter and summer.

The addition of an Attractions LCD Monitor to the Estuarium highlights other tourist favorites in the south Mobile County area. These include the Audubon Bird Sanctuary, Bayou La Batre, Bellingrath Gardens, Mobile Bay Ferry, Estuarium and Fort Gaines.

The Estuarium is again hosting the Coastal America Ocean Art Contest in 2013-2014 as part of the Coastal Ecosystem Learning Center network. Over a hundred students submitted artwork and

photographs, and the winners of the five categories will be sent to Washington, DC for the national contest at Coastal America.

The Estuarium also displayed the winning artwork of the Alabama Department of Conservation and Natural Resources yearly calendar contest.

The Estuarium hosted celebrity chef and Food Network star Martie Duncan on November 2, 2013, for the "Seafood, Science & Celebrity" event sponsored by the

South Mobile County Tourism Authority. The event was designed to help South Mobile County and the State of Alabama grow in tourism awareness about sustainable resources. In tribute to the red, white and brown shrimp found in Alabama Gulf waters, the



Advertising for the Red, White and Brown Ball at the Estuarium.

evening was a celebration of Gulf shrimp and all the natural beauty Dauphin Island has to offer. Guests sampled and compared the three varieties of Gulf shrimp and enjoyed a tasting menu of award-winning shrimp recipes prepared by award-winning chefs who taught guests how to make these recipes at home. The lineup of chefs included: Martie Duncan, James Beard Award Semi-Finalist Chef Rob McDaniel, and Great American Seafood Cook-Off Winner Chef Jim Smith.

Docent Program

Like all museums and aquariums around the nation, the Estuarium could not function at the level that it does today without the dedicated involvement of our docent volunteer force. Currently, we have over 50 docents who volunteer their time in the Estuarium or around the campus in other capacities helping to explain the Mobile Bay ecosystem to visitors to greening up our campus. Our stalwart crew of docents provided over 4,000 hours of service in 2013. There is no question that they are a tremendous resource for us.

During the reporting year, five of our dedicated landscape docents retired – Blanche Emerson (19 years of service); Rina Schuett (19 years); Stella Anderson (16 years); Kay Breitenfeld (15 years); and Pierce and Bonnie Staples (3 years).

2013 DISL DOCENT/VOLUNTEER PROGRAM ANNUAL REPORT

	Adult Hours	Student Hours
January	133.25	9.85
February	384.45	28.00
March	653.43	60.75
April	456.65	40.00
May	268.85	48.25
June	244.10	87.00
July	212.95	195.58
August	227.45	126.35
September	162.30	74.55
October	248.00	64.35
November	140.50	89.43
December	118.00	32.50
	3249.93	856.61

We also had 13 student volunteers during 2013, who were especially excited about working at our Ray Touch Tank. The student docent volunteer hours alone accounted for over 850 hours!

Docents lent their special expertise at a series of DISL-related events, including Discovery Day; Open House at the Environmental Studies Center; The Roy Martin Young Anglers Tournament; The Dauphin Island Deep Sea Fishing Rodeo; and BayFest.

If you are interested in volunteering at the Estuarium, please contact Ms. Jamelle Roy at jroy@disl.org.

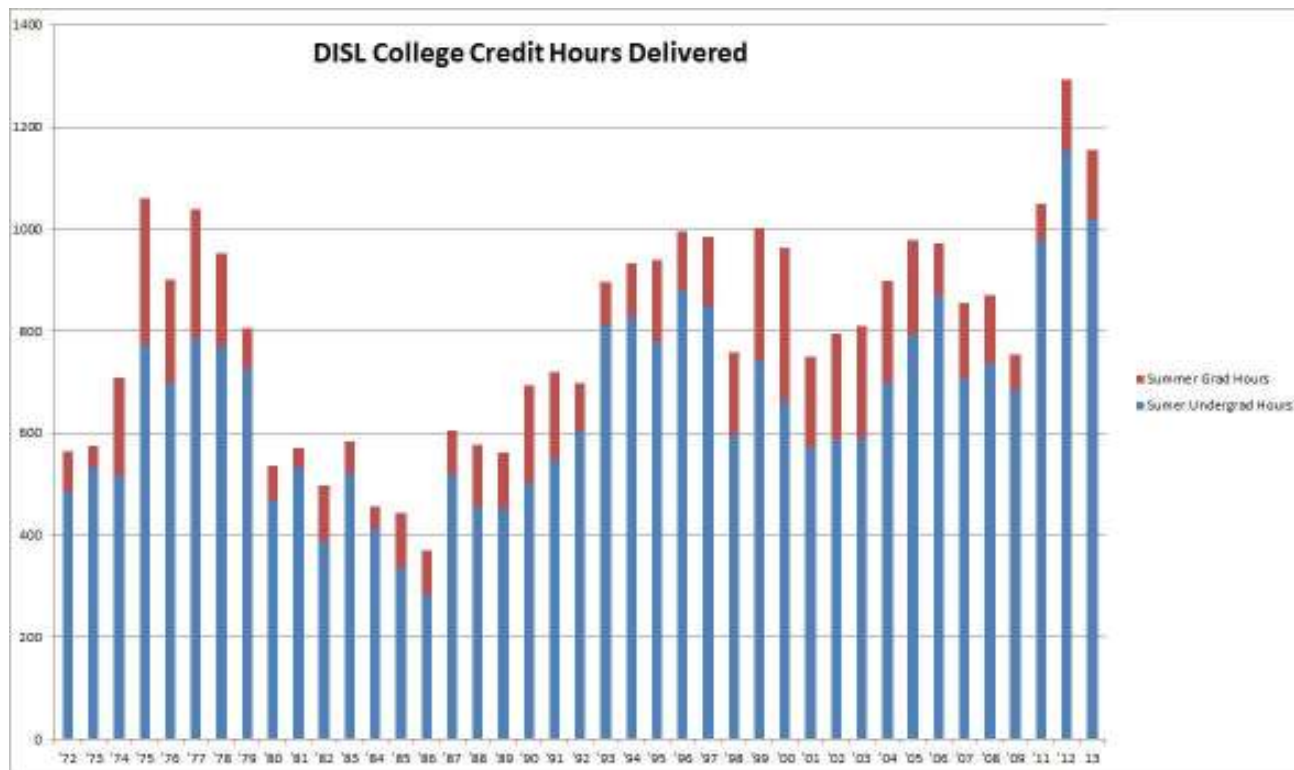
The Estuarium at the Dauphin Island Sea Lab Visitor Totals

Year	Students	Adults	Seniors	Members Passes Employees, Comps	Total
1998	26,661	16,468	7,774	2,343	53,246
1999	34,557	18,842	10,427	2,455	66,281
2000	38,223	20,283	11,887	2,662	73,055
2001	36,213	21,305	12,112	2,718	72,348
2002	35,327	21,966	12,638	3,056	72,987
2003	38,622	23,200	12,435	3,218	77,475
2004	34,458	21,300	12,742	3,356	71,856
2005	26,501	13,050	6,728	2,533	48,812
2006	31,059	15,745	8,030	2,940	57,774
2007	34,152	18,689	10,586	3,220	66,647
2008	37,027	19,075	10,138	4,116	70,356
2009	37,931	18,677	10,532	2,798	71,947
2010	29,209	11,399	8,069	2,926	53,613
2011	37,094	18,756	10,799	2,994	69,643
2012	40,263	19,375	10,946	3,326	73,910
2013	39,287	21,344	12,050	3,633	76,314
Total	410,731	228,600	126,029	35,415	660,481

- Estuarium Personnel
 Robert Dixon - Estuarium Manger
 Brian Jones - Senior Aquarist
 Joe Ingraham - Aquarist
 Melissa Torres - Aquarist, Partial Year
 Lauren Beasley - Part Time Aquarist, now Full Time Aquarist
 Tiffany Christiansen - Part Time Aquarist
 Alison Zenle - ExxonMobil Summer Intern Aquarist
- Gift Shop Personnel
 Jeana Layne - Gift Shop Manager
 Jamelle Roy - Estuarium Docent Coordinator
 Amy Hannah
 Mary Catherine (Cathy) Miller
 Janice Watanabe
 Sallie Joe Williams



University Programs



University Programs (UP) oversees summer undergraduate and year round graduate (M.S. and Ph.D.) education, as well as faculty research.

A full accounting of faculty activity, including peer-reviewed papers, grants and invited talks, can be found on pages 33-44.

Fifteen (15) of the 22 member institutions sent students to the DISL for the 2013 Summer Program. UP delivered 950 undergraduate hours and 80 non-DISL graduate hours during the summer and 468 DISL graduate hours during the academic year for a total of 1,498 hours.

Six graduate students who conducted their research at the DISL received their degrees from their home institutions during the reporting period of October 1, 2012 to September 30, 2013 (Table 1). Two of these were Ph.D. graduates.

The UP Faculty contributed \$2,537,405.39 in extramural funding. Of this total, \$911,721.63 was faculty extramural funding through the University of Alabama and University of South Alabama.

During the reporting period, the faculty produced 34 refereed publications; 13 technical reports; 1 book chapter; and 108 scientific abstracts/presentations.

University Programs Personnel
 Dr. Kenneth L. Heck, Jr. - Director
 Sally Brennan - University Programs Registrar
 Carolyn Wood - Department Secretary

Table 1. 2012-2013 Graduates:

Students Graduated

D. Joe Dalrymple, M. S., Effects ontogeny on nitrogen sequestration and removal capacity of oysters (USA)

Crystal Louallen-Hightower, M.S., Evaluating the current status of red drum (*Sciaenops ocellatus*) in offshore waters of the north central Gulf of Mexico: Age and growth, abundance, and mercury concentration (USA)

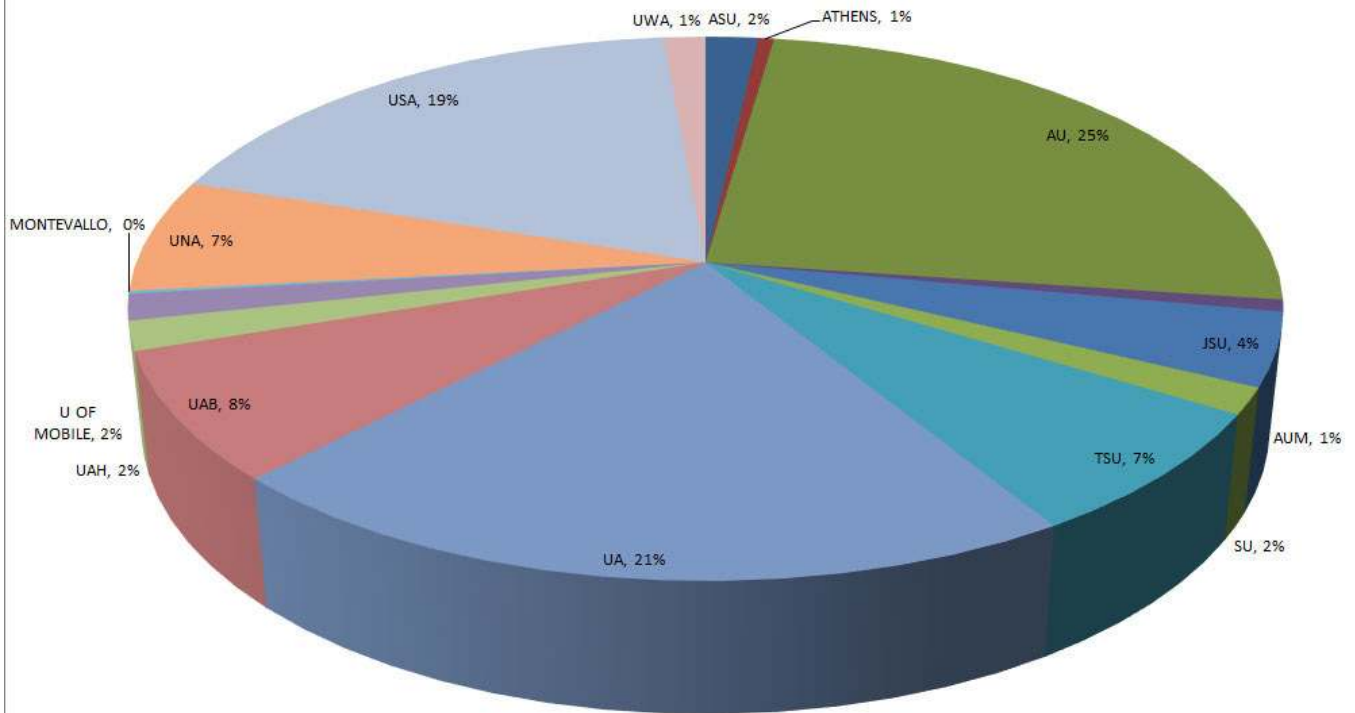
Lanora Lang, M.S., The effects of hypoxia and other environmental factors on the vertical distribution of larval fishes in the northern Gulf of Mexico (USA)

Kelly L. Robinson, Ph.D., Climate drives local to global variations of coastal gelatinous zooplankton (USA)

Charles A. Stapleton, III. Ph.D., Assessing the impact of natural and human disturbances on diatom assemblages in the lower delta, Mobile Bay, Alabama, USA: A forensic paleoecological study (USA)

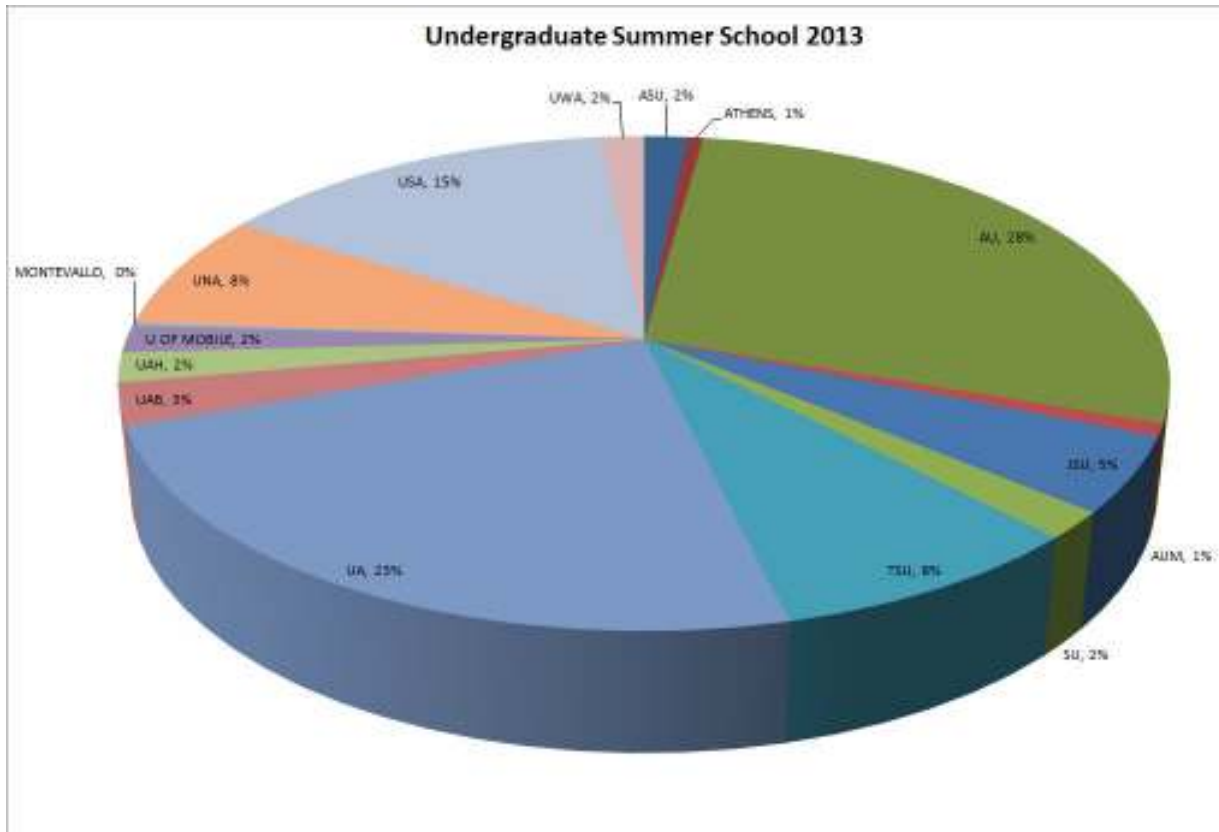
Ben Wilson, M. S., Spatial and temporal variability in methane and carbon dioxide exchange at three coastal marshes along a salinity gradient in a northern Gulf of Mexico estuary (UA)

Summer - 2013 Total Credit Hour Breakdown by Institution





In 2013, Ph.D student Ali Rellinger (l) received a Student Presentation Award at the Association for the Sciences of Limnoogy and Oceanography conference in New Orleans. Pictured right are Masters students Andrea Kroetz (l) and Whitney Scheffel (r) who received Best Talk and Best Poster awards, respectively, at the annual Graduate Student Symposium in Ocean Springs, MS.





Dauphin Island Sea Lab Foundation

PO Box 82151, Mobile, AL 36689

251-605-6624

www.sealabfoundation.org

The Dauphin Island Sea Lab Foundation supports the Dauphin Island Sea Lab in its mission "to provide wise stewardship of the marine environment through education and research." The Foundation provides funds to sustain the activities of the Sea Lab and promotes awareness of the Sea Lab and its environmental issues. The Foundation is also building the George C. Crozier Endowment for the Dauphin Island Sea Lab.

The Foundation, established in 2002, is overseen by a governing board, which currently has 27 members. An advisory board to the governing board was established in 2011 and consists of 18 non-voting members. Executive Director, Helene Hassell, a former board member, has served as the director since 2010.

The Foundation raises funds and promotes the Sea Lab through various means. The primary event is Cocktails with the Critters, held the first Thursday in May. It is an exciting band party with a wildly successful silent auction. Income for CWC is realized through sponsorships, ticket sales and the silent auction. The event has grown in popularity over the years. There were 450 people in attendance at the 2013 event.

In 2013, The Dauphin Island Sea Lab Foundation hosted its second annual Marine Environmental Awards luncheon on October 29. The awards were originally devised by Dr. George Crozier to recognize individuals in the community who were having positive impacts on the sustainability of the marine environment. There were two awards given; one to an individual, Skipper Tonsmeire and to an organization, The Dog River Clearwater Revival. A luncheon was held to showcase the awards and the recipients. The Keynote speaker was National geographic photographer, Brain Skerry. It is an honor for members of the Gulf Coast Community to be selected for these awards by the Sea Lab. There were 200 people in attendance at this luncheon. Windcreek Casino was our underwriter. They donated \$10,000.



Top photo (l-r) 2013 Marine Environmental Award recipient Skipper Tonsmiere, DISL Executive Director Dr. John Valentine, and DISL Foundation Director Helene Hassell. Bottom photo (l-r) Dr. John Valentine, Helene Hassell, and Dog River Clearwater Revival President Kim Sweet.

The Friends of the Sea Lab (FOSL) formerly the Friends of the Estuarium was established in 2010 and is administered by the Foundation. Letters are sent out each year and the members of the Friends receive certain benefits based upon their level of sponsorship. Currently there are 150 Friends.



This older BayMobile vehicle will soon be updated, thanks to a donation from PNC. Pictured (l-r) – Helene Hassell, Executive Director, DISL Foundation; Cedric Hatcher, PNC Regional President, Gulf Coast; and Dr. John Valentine, DISL Executive Director.

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 Grant Harkness
 Doug Hungerford
 Luella Hunt
 Neil Kennedy
 Russell Ladd, IV
 Angela Payne
 Julie Sirmon
 Chuck Stapleton
 Jay Thompson
 Richard Tremayne
 Bud Urquhart

A Holiday appeal letter is sent to supporters each year. The letter generates donations for memorial and honorarium cards to celebrate the season.

Honorary Trustees
 George Crozier, PhD
 E.O. Wilson, PhD

The Foundation also seeks grants to fund special projects at the Sea Lab.

DISL Representative
 John Valentine, PhD

Grants 2013

- *PNC Bank Funded* a grant request to underwrite a new Baymobile for the Discovery Hall program. Awarded \$40,000.
- □ DISLF participated in the Wonders of the Gulf campaign with Windcreek Casino and was awarded \$15,000

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 Goldie Burkholder
 Suzanne Damrich
 Karlos Finley
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 Robert Harlin
 Austill Lott
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DISL Foundation Personnel
 Helene Hassell, Executive Director

DISL Foundation Board
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 Scott Browning - Treasurer
 Margaret VanLoock - Secretary



Mobile Bay National Estuary Program

118 North Royal Street, #601, Mobile, AL 36602

251-431-6409

www.mobilebaynep.com

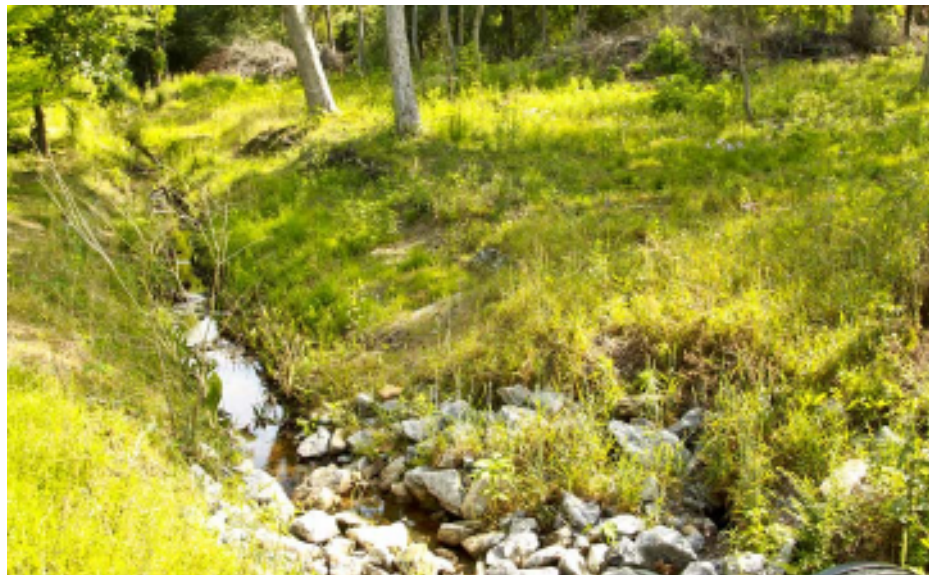
The mission of the Mobile Bay National Estuary Program is to promote wise stewardship of the water quality and living resources of the Alabama's estuarine systems. Funding in part by the US EPA and administratively sponsored by the DISL, MBNEP is a non-regulatory program, bringing together citizens; local, state, and federal government agencies; businesses and industries; conservation and environmental organizations; and academic institutions to meet the environmental challenges that face the unique and imperiled resources that characterize our coastal estuaries. The MBNEP is part of the Sea Lab's Coastal Policy Program.

DURING THE 2012-2013 PROGRAM YEAR, MBNEP demonstrated its ability to collaborate with numerous partners. Thirteen grants from eight different organizations were active including two grants from the U. S. EPA Gulf of Mexico Program, six grants from Alabama Department of Conservation and Natural Resources, one grant from Alabama Department of Transportation, and two grants from U.S. Fish and Wildlife Service. Match funding for the MBNEP annual U.S. EPA award was received from the State of Alabama, the Alabama Department of Conservation and Natural Resources and several Mobile and Baldwin County municipalities, totaling \$205,396. In total, the MBNEP managed over \$2,200,000 to conduct 36 projects affecting the water quality and living resources of Mobile Bay. In addition, MBNEP was awarded two grants under the National Fish and Wildlife Foundation Gulf Environmental Benefit Fund: \$6.7 million to undertake restoration in the D'Olive Watershed and \$2.05 million to create marsh, stabilize the shoreline of the tip of Mon Louis Island, and prepare a watershed management plan for the Fowl River Watershed.

Respect the Connect: A Five Year Plan for Protecting Coastal Values

After two years of compiling input from over 1,000 citizens and 30 different scientists, MBNEP published a Draft Five-year plan that addresses community values and captures consensus among stakeholders about the estuary's most critical management needs. The plan is based on protecting the six things that citizens value most about coastal quality of life: Access (to water and open spaces), Beaches and Shorelines, Fish, Heritage/Culture, Resiliency, and Water Quality. This draft plan will be accompanied by five year strategies for measuring status and trends, undertaking ecosystem restoration, building community capacity, and increasing citizen stewardship to improve the status of freshwater wetlands, streams and rivers, and intertidal marshes and flats of coastal watersheds (the habitats identified by the Science Advisory Committee as most stressed).

To determine which actions should be included in the CCMP, MBNEP hosted a workshop in November, 2012. Six teams – one for each of the identified



The restored first order creek at Prichard's Jackson Reading Park, with wetlands, riparian, and floodplain native plants thriving, post-restoration. (Photograph by Christian Miller)

common coastal Values – each captained by local experts with ten to twenty community leaders, resource managers, and experts, convened to 1) identify desired outcomes and barriers to their realization, 2) identify at least five actions that are specific, measurable, realistic and time-bound that relate to the stressors and drivers identified in the first step, and 3) discuss and recommend implementation strategies. A list of over 140 actions was compiled from this effort. MBNEP posted the draft of the CCMP for public comment and asked citizens to prioritize the actions identified at the workshop for further development of five year strategies. The comment period closed on March 1, 2013.

Determining which a process for prioritizing coastal watersheds in need of restoration or conservation fell to MBNEP's Project Implementation Committee. Initially, the wide range of environmental projects proposed in reaction to the Deepwater Horizon incident and subsequent passage of the RESTORE Act were compiled/consolidated into a single list. A Working Group was appointed with the goal of determining a framework for watershed prioritization. This group collected data sets relevant to prioritization of watersheds on the 12-digit Hydrologic Unit Codes (HUCs)-scale. Of the forty-eight 12-digit HUCs in the two county area, the "first cut" included only those watersheds containing at least two of the three habitat types determined by the SAC to be the most stressed. Data were presented and 24 watersheds reviewed at a public meeting, where attendees voted to determine where attention and resources should be focused.

Measuring Status and Trends- Ongoing Activities

Mobile Bay Real-Time Monitoring

With continued funding (7th year) from the Gulf of Mexico Program in 2013, water monitoring sites at Meaher Park, Dauphin Island, Weeks Bay, and Mobile (Middle) Bay continue to provide real-time data that can be viewed at www.mymobilebay.com. That website also contains links to the Mobile River, Fort Morgan, and the Farewell Buoy as part of the Physical Oceanographic Real-Time System of the National Ocean Service with data particularly pertinent to shipping interests. Data is also available from Weeks Bay and Grand Bay through the NOAA National Weather Service Hydrometeorological Automated Data System. The My Mobile Bay website will ultimately be connected to a larger network of stations as part of the Gulf Coast Ocean Observing System with research reports, maps, and other information available to the public.

DOG RIVER WATERSHED SEDIMENT STUDY
In December, 2012, the Geological Survey of Alabama completed a characterization of land use, erosion, and sedimentation in the Dog River Watershed to identify sources of sediment and to establish baseline data and sedimentation rating curves that can be used to evaluate future changes in erosion and sediment load transport. This monitoring project assessed suspended and bed sediment transport rates in 10 monitoring sites in selected tributaries of Dog River. Monitoring was based on precipitation and resulting stream discharge and included basic field acquired physical and water quality parameters as well as sediment. These data will be used to determine impacts of land use change, to focus resources in areas of greatest need for remedial action, and to assist municipal and state erosion and sedimentation inspection programs.

Biological Condition Gradient Development for the Mobile Bay Estuary

The MBNEP Science Advisory Committee, with assistance from Barry Vittor and Associates, is undertaking identification of both indicators of biological condition and representative indices of anthropogenic stress to construct a biological condition gradient for the Mobile Bay Estuary. The SAC will focus on indicators related to the provision of ecosystem services by the three most stressed habitat types to calibrate biological condition. NASA and other partners are currently investigating methods of representing both biological condition and stress via remote satellite imagery.

MOBILE BAY HYDROLOGICAL AND WATER QUALITY MODEL

In partnership with the U. S. EPA Region IV and ADEM, MBNEP facilitated an update of the existing Loading Simulation Program (LSPC), Environmental Fluid Dynamics Code (EFDC) and Water Quality Analysis Simulation Program (WASP) that have been applied to the Mobile Bay watershed and water body for the purpose of developing Total Maximum Daily Loads. Models were updated through 2011 to incorporate new datasets. The current model was developed by Tetra Tech and released in December, 2012. These models will ultimately be used to make management decisions for Mobile Bay and are intended to be built upon based on agency needs.

HEALTHY WATERSHEDS INITIATIVE

In partnership with the U. S. EPA Headquarters, MBNEP is undertaking scoping effort that works collaboratively across agency and organizational partners to develop an integrated assessment of watershed health using existing data across the

Mobile Bay watershed. This information will be used to develop a strategic approach to maintaining, protecting and improving the high quality components of the watershed that currently support Bay health and strategically preventing and restoring degraded areas that exist within a systems context. The strategic approach outlined here will provide a valuable framework for planning and stewardship outreach strategies. Understanding the current state of health throughout the greater Mobile Bay watershed will allow for strategic implementation of protection and restoration efforts. By strategically coordinating protection and restoration efforts across agencies and organizations, there is greater potential for successful environmental outcomes.

ECOSYSTEM RESTORATION AND PROTECTION

D'Olive Creek Watershed Restoration

With restoration of the unnamed, head-cut tributary to Joe's Branch and downstream wetlands (funded by a Clean Water Act Section 319 Grant) substantially completed, the project moves into further phases of restoration. With \$6.85M secured through a grant from the National Fish and Wildlife Foundation – AL Gulf Environmental Benefit Fund 2013, continued restoration of substantially degraded tributaries in the D'Olive and Tiawasee Creek and Joe's Branch Watershed will be undertaken to "stop the bleeding" and mitigate impairments resulting from stormwater runoff. Upstream retention measures are currently being implemented by the City of Spanish Fort and planning begun to complete the restoration of the Joe's Branch subwatershed.

Mon Louis Island

The western shore of Mobile Bay, impacted by erosion and degradation of its shallow water and intertidal habitats that provide nursery grounds for fish and shellfish and promote benthic biodiversity, remains a primary target of restoration. This erosion stems not only from the effects of periodic tropical weather events, but also from chronic impacts like prevailing winds and ship wakes, with the northern end of Mon Louis Island particularly vulnerable to catastrophic degradation. MBNEP has secured \$2.05M in funding to restore the vulnerable north end of the island at the mouth of East Fowl River to its 1979 footprint, to fund a Geological Survey of Alabama investigation of sediment loading and dynamics, and to develop a comprehensive watershed management plan for the Fowl River Watershed to identify potential restoration and protection projects to elevate this system to "conservation" status.

A Request for Qualifications for an engineering/planning firm to generate detailed designs and specifications for installation of a habitat-friendly, shoreline stabilization project for the northernmost 1000-foot Mobile Bay shoreline was issued in July, 2013. Thompson Engineering was selected and contracted to develop the design, which is currently in progress. Upon completion of design, a Request for Bids for construction will be issued and a contractor selected.

Prichard's Jackson Reading Park/Eight Mile Creek MBNEP was awarded a National Fish and Wildlife Foundation Five Star Grant to restore a first order tributary that borders Prichard's Jackson Reading Park in the Whistler Community as an initial implementation activity prescribed by the Watershed Management Plan for the Eight Mile Creek (EMC) Watershed,. This creek conveys stormwater from a drainage area north of St. Stephens Road past the Park and downstream to Eight Mile Creek, which was listed on the State's 303(d) list for impairment by pathogens. Partners from Auburn University (Landscape Architecture Department and Alabama Cooperative Extension System [ACES]) co-developed an engineering plan for the stream restoration and oversaw construction by the City of Prichard Public Works Department in early November, 2012. MBNEP and the Coastal Alabama Clean Water Partnership installed water lines and oversaw a community planting to install almost 3,000 native emergent and riparian plants in and around the stream bed. Partners also included the Prichard Environmental Restoration Keepers and Mobile Baykeeper, who coordinated volunteer clean up and planting efforts. The restored stream will provide habitat for a broad diversity of wildlife and aquatic organisms and an educational venue to connect school-aged students to environmental assets where they live. Educational signage provides an overview of the project, the ecosystem and the watershed.

Steele Creek Lodge Shoreline Restoration, Satsuma, AL

The City of Satsuma received technical assistance and \$10,000 from MBNEP to purchase materials necessary to address erosion and undercutting along the western shore of the embayment off of Bayou Sara, where Steele Creek Lodge and municipal boat ramps are located. In August 2010 Dr. Bret Webb of the University of South Alabama investigated the site and provided conceptual recommendations for restoration within that limited budget. The City selected the creation of a perched terrace and in 2012 installed a rock sill composed of class 1-2 riprap with a crest located an average of six feet from and along the 150-



Aerial photograph of the eroded northern end of Mon Louis Island at the mouth of East Fowl River. Note the short distance from the harbor embayment to the Bay shoreline. (Photograph by Sam St. John)

foot impacted shoreline. Clean sand was placed behind the sand fill on geo-fabric to create a terrace at a depth between MLW and MHW with an area of approximately 900 square feet. This area was planted by Satsuma High School ROTC Students with native emergent plants of species and diversity similar to those found at an existing marshy area adjacent to the boat ramps.

Restoration of Three Mile Creek Watershed, Mobile, AL

In response to community concerns and following efforts to 1) Clean Up the Bottom and 2) restore the historic stream bed of Three Mile Creek, MBNEP over \$250,000 for the development of a Watershed Management Plan for Three Mile Creek. Dewberry won the contract for WMP development, and an initial draft, conforming to the EPA's nine key elements and including adaptation planning for climate readiness is in production.

The Creek, which until the mid-twentieth century was the water source for the City, has been degraded or challenged by urban stormwater runoff, invasive species (i.e., island apple snails, Chinese Tallow/ Popcorn Trees, alligator weed, etc.), trash and

litter from city streets and parking lots, limited public access, impaired water quality (nutrients and pathogens), and environmental justice issues. The confluence of stakeholder support and resources (University of South Alabama, Mobile Infirmary, USA Medical Center, USA Children and Women's Hospital, Mobile Gas/Sempra, Scotch Gulf Lumber, and the Alabama State Port Authority), political jurisdiction (watershed includes portions of five Mobile City Council Districts and all three Mobile County Commission Districts), and environmental justice issues (watershed includes five public housing developments) make Three Mile Creek and its watershed an extraordinary opportunity to turn what is now a community liability, due to its degraded condition, into a community amenity similar to "river walks" in other American cities. The vision for this transformation, derived from a series of public meetings hosted by the MBNEP, includes construction of bicycle, running, or walking trails connecting a linear series of parks and green spaces, restoration of hydrology to the Creek and its surrounding wooded wetlands, enhanced paddling and ecotourism opportunities, and improved water quality and fish and wildlife health, resulting in enhanced community health and civic pride and increased property values.

Local Ecosystem Restoration Partnership

In 2011, MBNEP solicited proposals from Baldwin and Mobile counties and coastal municipalities for projects related to stormwater management; wetlands restoration, protection, enhancement, or creation; and sediment management. Six projects received awards ranging from \$15K to \$82.5K, and project completion was expected by September 30, 2013. Project summaries follow:

- The City of Daphne was awarded \$15,000 to support the establishment of Low Impact Development Policies to supplement the newly adopted City Subdivision Regulations and to provide alternatives to traditional stormwater management practices. The Daphne City Council approved the LID ordinance on Monday, June 24, 2013 by a vote of 8-1.
- The City of Chickasaw was awarded \$20,000 to construct 300 feet of boardwalk and 1,000 feet of gravel trails allowing public access and providing public education through interpretive signage in the park. It also involved debris removal and eradication of invasive species to improve wetland function. Construction, wetland improvement, and installation of signage are complete.
- The City of Orange Beach was awarded \$27,500 to address stormwater management and wetland restoration by altering the contour of the east Highway 161 right-of-way to create a serpentine wetland system that will greatly improve the receiving waters of Cotton Bayou. Additionally, interpretive signage will be installed along a pedestrian and biking trail that runs through the project area. With an extension approved, construction is pending.
- The City of Orange Beach was awarded \$30,000 to analyze usage along soon-to-be-improved Canal Road and design a plan to provide for expanded traffic usage in a way that promotes stormwater infiltration, minimizes the use of impervious pavement, and is both pedestrian and bicycle friendly. With an extension approved, plan completion and adoption are pending.
- The City of Fairhope was awarded \$50,000 to develop a management plan for the Volanta Gully subwatershed and to implement at least two projects recommended in that plan. Following a transparent process that included public input, the WMP was completed. (http://www.mobilebaynep.com/images/uploads/library/Volanta_Gully_Watershed_Management_Plan.pdf) The City implemented three projects: Installation of best management practices and drainage improvements at City ball fields, parking areas, and dog park; installation of best management practices and drainage improvements at the City's Jasmine Park,

and drainage improvement as demonstrations near the intersection of Central Boulevard and Westley Streets as match to MBNEP funding.

- The City of Foley was awarded \$82,500 to address/reverse impacts of urban development on Wolf Creek by restoring the stream and floodplain to natural condition. This project will provide more and improved habitat for increased species diversity, implement urban watershed management practices, and serve as an example of holistic watershed restoration. The grant period has been extended to allow establishment of vegetation.

EDUCATION, OUTREACH AND CAPACITY BUILDING

Alabama Current Connection

The Alabama Current Connection is a joint newsletter published by the Alabama Department of Conservation and Natural Resources, State Lands Division – Coastal Section and the MBNEP to highlight current projects, Management Conference activities, and other issues of interest to local residents. Two newsletters were published for distribution as hard copies as well as in electronic (PDF) format.

Educational Kiosks

The same Gulf of Mexico Program grant that funded production of two educational videos also funded the creation of three educational kiosks developed by Hamline University in St. Paul, MN. The three kiosks include presentations in English and Spanish targeted to a middle school audience. Their goal is to impart knowledge about critical issues of the Gulf of Mexico while raising public awareness about basic watershed concepts and motivating behavior change related to activities that impact the environment. The kiosks, currently located at 1) the Weeks Bay National Estuarine Research Reserve in Fairhope, AL, 2) the Barataria-Terrebonne National Estuary Program, and 3) the Museum of Science in Corpus Christi, TX, are available to educational venues in the five Gulf States.

Coastal Alabama Clean Water Partnership

As host to the Coastal Basin Clean Water Partnership Facilitator, one of eight throughout the State, MBNEP supports activities to reduce the amount of non-point source pollution entering our waterways. The CACWP is part of the Alabama Rain Barrel Project, conducting workshops for citizens to “make and take” a 55-gallon rain barrel. Included in the workshop is an educational session teaching citizens how to protect water quality and conserve water resources, including how rain barrels contribute to water quality protection, replenish



From left to right, Shelly Luce of Santa Monica Bay, Lindsay Cross of Tampa Bay, and Chris Bason of Delaware Inland Bays inspecting “the plug” in the historic streamway of Three Mile Creek. (Photograph by MBNEP staff)

groundwater sources, and reduce the use of potable water. During the past program year:

- Seven workshops were held in Mobile and Baldwin Counties in Alabama and Jackson County, MS with a total of approximately 110 barrels constructed.
- An abstract and poster were presented at the 2012 Bays & Bayous Symposium in Biloxi, MS, highlighting the Coastal Alabama Rain Barrel program
- As part of the implementation of the D’Olive Watershed Management Plan, which recommended the establishment of a residential rain barrel program to raise public awareness of area stormwater issues, a concerted effort is being made in Daphne and Spanish Fort, AL.
 - o Two rain barrel workshops were held in Daphne, with assistance from the Cities of Daphne and Spanish Fort.
 - o One Low-Impact Development demonstration site was established in Spanish Fort.
- § A demonstration site was installed at 5 Rivers Delta Center consisting of a 250-gallon cistern, rain barrel, rain garden, and educational signage acknowledging project partners
 - Rain barrels were donated to support several area projects.
 - o One rain barrel was donated to each Phillips

Preparatory School and Spanish Fort Middle School. The barrels are used to teach students about water conservation.

- o Two rain barrels were donated to the Dauphin Island Park and Beach Board for use in a migratory bird station.

Estuary Corps

Estuary Corps was established by MBNEP, who joined forces with the Alabama Coastal Foundation, and DISL’s Discovery Hall to engage youth in activities that explore and improve the Mobile Bay estuary system. The purpose of Estuary Corps is to promote the wise stewardship of the water quality and living resources of Alabama’s estuaries through education, volunteer experience, and career path guidance. In its second year, the program operates at Phillips Preparatory School and Spanish Fort Middle School and the Boys and Girls Club of Cody Road. Students from all three programs engaged in water monitoring activities under the supervision of Alabama Water Watch using AWW kits and protocols, constructed rain barrels, conducted recycling collections on their campuses and participated in the Take Pride in Toulminville cleanup. Tree and native plant plantings have also been undertaken.

Mobile Bay National Estuary Program Personnel

Roberta Swann – Director

Kelley Barfoot – Community Outreach Coordinator

Tiffany England – Business and Grants Manager

Rick Frederick – Community Relations Manager

Debi Foster – Communications Coordinator

Tom Herder – Watershed Protection Coordinator

Christian Miller – Non-point Source Pollution
Outreach

Kristen O'Keefe – Project Coordinator



Resident Research Faculty

Ruth Carmichael, Ph.D. Senior Marine Scientist II, DISL and Assistant Professor of Marine Sciences, University of South Alabama. Employing natural abundance stable isotopes to understand biological and physiological responses to environmental perturbations, assessing nutritional importance of food sources, discerning physiological state of organisms, and determining time scales of ecosystem-level change.

Just Cebrian, Ph.D. Senior Marine Scientist III, DISL and Professor of Marine Sciences, University of South Alabama. Coastal Ecosystem Ecology. Human impacts on Coastal Ecosystem Function. Management and Resiliency of Coastal Ecosystems.

Rob Condon*, Ph.D. Research Senior Marine Scientist, DISL. Plankton and microbial ecologist interested in understanding the climatological, physical and biogeochemical processes controlling zooplankton and bacterial communities, the biological pump and carbon (C) cycling in estuarine, coastal and open-ocean systems.

John Dindo, Ph.D. Senior Marine Scientist III, DISL and Associate Director for Institutional Advancement. Marine vertebrate ecology; avian breeding biology; predator-prey relationships in avian and herpetological fauna, habitat assessments; and age, size class and recruitment rates of fish on hardbottoms.

Marcus Drymon, Ph.D. Research Senior Marine Scientist, DISL and Research Assistant Professor, University of South Alabama.

Marine fisheries ecology, including assessments of species' life history, distributions and trophic ecology in coastal ecosystems.

Kenneth L. Heck, Jr., Ph.D. Chair, University Programs, DISL and Professor of Marine Sciences, University of South Alabama. Ecological studies of interactions between seagrasses and associated macrofauna, especially shrimps, crabs, and fishes; Global assessment of seagrass nursery value, and experimental investigations of herbivory, nutrient enrichment and overfishing as they impact seagrass ecosystems.

Ronald P. Kiene, Ph.D. Senior Marine Scientist III, DISL and Professor of Marine Sciences, University of South Alabama. Biogeochemical cycling of organic matter in coastal and ocean systems with emphasis on compounds containing sulfur and nitrogen; cycling of climatically important trace gases in relation to phytoplankton and food web dynamics; and microbial ecology and biogeochemistry in sediments.

Jeffrey W. Krause, Ph.D. Senior Marine Scientist



Dr. Ron Kiene, pictured here at Eilat, Israel, is collaborating on a project funded by the US-Israel Binational Science Foundation



Dr. Jeffrey Krause

I, DISL and Assistant Professor, Department of Marine Sciences, University of South Alabama. Diatom ecology and physiology, cyanobacteria physiology, and coupling of the global Silicon, Carbon and Nitrogen cycles in coastal and open-ocean regions.

Christine (Tina) Miller-Way, Ph.D. Marine Scientist and Director, Discovery Hall, DISL. Science education - curriculum development, inquiry-based marine science; Research - functional ecology of marine benthos, benthic community structure, macrofaunal effects on benthic processes and coastal hypoxia.

Behzad Mortazavi, Ph.D. Senior Marine Scientist I, DISL and Assistant Professor and Director of the University of Alabama M.S. Degree Program in the Marine Sciences. Focus on the transfer and cycling of bioreactive material in terrestrial and marine ecosystems, with a particular emphasis on how naturally occurring perturbation and anthropogenic activities are impacting biogeochemical cycles.

Alice C. Ortmann, Ph.D. Senior Marine Scientist I, DISL and Assistant Professor of Marine Sciences, University of South Alabama. Diversity and ecological roles of marine microbes including Bacteria, Archaea and their viruses using both culture-based and molecular biology techniques.

Kyeong Park, Ph.D. Senior Marine Scientist II, DISL and Professor of Marine Sciences, University of South Alabama. Physical transport processes and their effects on water quality and living resources in tidal

rivers, estuaries and coastal systems, using field data, theoretical analyses and numerical models. Specific topics include estuarine residual circulation, dispersion of pollutants, sediment transport, eutrophication, hypoxia/anoxia, etc.

Will Patterson, Ph.D. Senior Marine Science I, DISL and Associate Professor, Department of Marine Sciences, University of South Alabama. Research areas include population dynamics, trophic dynamics, and population structure of marine fishes.

Sean Powers, Ph.D. Senior Marine Scientist III, DISL and Assistant Professor of Marine Sciences, University of South Alabama. Fisheries, experimental ecology, conservation and restoration of coastal shellfish and finfish populations.

John F. Valentine, Ph.D. Executive Director DISL and Professor of Marine Sciences, University of South Alabama. Current interests focus on the role of biotic processes in controlling the flow of energy among trophic levels in marine habitats, particularly herbivory on seagrasses. The application of conservation techniques for the protection of nearshore marine ecosystems. The use of marine protected areas to test the impacts of higher order consumers on the strength of trophic linkages between seagrass and coral reef habitat.

Post-Doctoral Fellows

Leslie Baggett
LaTina Gambles
Jennifer Hill
Jungwoo Lee*
Justin Liefer
Glenn Miller*
Bidyut Mohapatra*
Ryan Moody*

(*indicates faculty/staff no longer at the DISL)



Faculty Activity

Faculty News and Awards

Ron Kiene. USA 50th Anniversary – Recognition for one of the top 50 Research Accomplishments in USA History (May 3, 2013)

Book Chapters and Projects

Valentine, J. F., K. L. Heck, Jr., M. R. Dardeau and H. Burch. 2013. Ecosystem-based management of Mobile Bay, Alabama. Pp.71-92, In: Ecosystem-Based Management (J.W. Day and A. Yanex-Arancibia (Eds.), TAMU Press.

Peer Reviewed Publications

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Baines, S. B., B. S. Twining, M. A. Brzezinski, J. W. Krause, S. Vogt, D. Assael and H. McDaniel. 2012. Significant silicon accumulation by marine picocyanobacteria. *Nature Geoscience* 5, 886-891. doi: 10.1038/ngeo1641.

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Darnell, K. M. and K. L. Heck, Jr. 2013. Species-specific effects of prior grazing on the palatability of turtlegrass. *Journal of Experimental Marine Biology and Ecology*. 440:225-232.

Drymon, J. M., L. Carassou, S. P. Powers, M. A. Grace, T. A. Henwood, J. Dindo and B. Dzwonkowski. 2013. Multiscale analysis of factors affecting the distribution of sharks throughout the Gulf of Mexico. *Fishery Bulletin* 111:370–380.

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- Hoffmayer, E.R., A. Pollack, J. M. Hendon, J. M. Drymon and M. Grace. 2013. Standardized catch rates of Atlantic sharpnose sharks (*Rhizoprionodon terraenovae*) collected during bottom longline surveys in Mississippi, Louisiana, Alabama, and Texas coastal waters, 2004-2011. SEDAR technical document SEDAR34-WP-11.
- Hollander, D., I. Romero, W. F. Patterson, III, A. Kane and M. James. 2013. Effect of the Deepwater Horizon Oil Spill on fish communities associated with artificial reefs off northwest Florida. Final Report submitted to the Florida Fish and Wildlife Research Institute. 131 p.
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- Park, K. 2012. Importance of stratification on salt transport in a northern Gulf of Mexico estuary. Pp. 134-141, In: Proceedings of the 4th International Conference on Estuaries and Coasts, Vol. 2 (N. Q. Kim, Ed.). Water Resources University, Vietnam: Water Resources University, Hanoi, Vietnam, October 8-11, 2012.
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- Allen, L., D. Johnson, C. Jagoe, W. F. Patterson III and J. H. Tarnecki. 2013. PAH metabolites in bile and enzymatic biomarkers in livers of reef fish from the northern Gulf of Mexico after the Deepwater Horizon Oil Spill. 143rd Annual Meeting of the American Fisheries Society. 8-12 September, Little Rock, Arkansas.
- Amrani, A., W. S. Ahamed, Y. Shaked and R. P. Kiene. 2013. The sulfur isotope composition of DMS and DMSP in marine water. ASLO Aquatic Sciences Meeting, February 17-22, New Orleans, LA.
- Baggett, L. P., S. P. Powers, R. Brumbaugh, L. Coen, B. DeAngelis, B. Hancock and S. Morlock. 2012. Developing monitoring guidelines and criteria for measuring performance of oyster restoration projects. Restore America's Estuaries Conference, Tampa, FL, October 22-25.
- Baggett, L. P., S. P. Powers, R. Brumbaugh, L. Coen, B. DeAngelis, B. Hancock and S. Morlock. 2012. Definition and measurements of reef area and vertical relief of restored oyster reefs. Restore America's Estuaries Conference, Tampa, FL, October 22-25.
- Baggett, L. P., S. P. Powers, R. Brumbaugh, L. Coen, B. DeAngelis, B. Hancock and S. Morlock. 2012. Developing monitoring guidelines and criteria for judging the success of oyster restoration projects. Mississippi - Alabama Bays and Bayous Symposium, Biloxi, MS. November 14-15.
- Bernard, R. and B. Mortazavi. 2012. Benthic nitrogen cycling in Weeks Bay, Alabama. Gulf Estuarine Research Federation, Dauphin Island, AL, November 8-9.
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- Bernard, R. J. and B. Mortazavi. 2013. Sediment nitrogen cycling across a salinity gradient in Mobile bay, Alabama. ASLO 2013 Aquatic Sciences Meeting. New Orleans, LA, February 17-22.
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- Carmichael, R., R. Crim, H. Patterson, B. Dzwonowski, K. Park and N. Taylor. 2013. The trophic importance of land-derived organic matter in a freshwater dominated northern Gulf of Mexico estuary. Association for the Sciences of Limnology & Oceanography (ASLO), New Orleans, LA.
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- Christiaen, B., R. Bernard, B. Mortazavi and A. C. Ortmann. 2012. How useful are $\delta^{15}\text{N}$ isotopic signatures as tracers for nutrient pollution in seagrass beds? Gulf Estuarine Research Society, Dauphin Island, AL, November 8-9.
- Christiaen, B., J. Stutes, A. C. Ortmann and J. Cebrian. 2013. The relative contribution of the benthos and water column to total primary production in shallow lagoons with different degrees of human disturbance. Ocean Sciences Meeting, ASLO, New Orleans, LA
- Coen, L., L. P. Baggett, S. P. Powers, R. Brumbaugh, B. DeAngelis, B. Hancock and S. Morlock. 2012. Evaluating Oyster Reef Restoration: Critical ecosystem-services based metrics. Restore America's Estuaries Conference, Tampa, FL, October 22-25
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- Darrow, E. R. H. Carmichael, K. Calci and W. Burkhardt III. 2013. Sedimentary organic matter source shifts due to land use change in a Northern Gulf of Mexico estuarine system. Gulf Estuarine Research Society (GERS) Biennial Meeting, Dauphin Island Sea Lab, Dauphin Island, AL.
- Dalrymple, D. J., R.H. Carmichael and W. Walton. 2013. Increased nitrogen removal by native triploid eastern oysters. Gulf Estuarine Research Society (GERS) Biennial Meeting, Dauphin Island Sea Lab, Dauphin Island, AL.
- Dimens, P., J. M. Drymon and S. P. Powers. 2013. Using a landing cradle to fill the data gap left by really big fish. Annual Meeting of the Gulf and Caribbean Fisheries Institute.
- Drymon, J. M., L. Carassou and S. P. Powers. 2013. Multi-scale investigation of the factors affecting the distribution of sharks in the Gulf of Mexico. Annual Meeting of the American Elasmobranch Society (AES).
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- Dzwonkowski, B., K. Park, J. Lee, B. M. Webb and A. Valle-Levinson. 2013. Spring season velocity structure on a river-

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- Fitzgerald, L., W. M. Graham and W. F. Patterson III. 2012. Characterization of *Aurelia* spp. associated fishes in the northern Gulf of Mexico. Gulf Estuarine Research Society Biannual Meeting. 8-9 November, Dauphin Island, Alabama.
- Fodrie, F. J., M. D. Kenworthy, S. P. Powers, J. M. Fear, J. H. Grabowski, C. A. Layman and C. H. Peterson. 2013. Landscape-scale movement of red drum in a diverse estuarine habitat mosaic: can we really identify 'essential' fish habitat? American Fisheries Society Annual Meeting, Little Rock, AK, August.
- Free C., J. M. Drymon and S. P. Powers. 2012. The impact of the Deepwater Horizon oil spill on the composition of marine megafauna in the northern Gulf of Mexico. Mississippi-Alabama SeaGrant Consortium (MASGC), Bays and Bayous Conference, November 14-15.
- Garner, S. B, W. F. Patterson III, C. E. Porch Jr. and J.H. Tarnecki. 2013. Direct estimates of circle hook selectivity in the northern Gulf Of Mexico recreational reef fishery. Alabama Fisheries Association Annual Meeting. 6-9 March, Guntersville, Alabama.
- Garner, S. B, W. F. Patterson III, C. E. Porch Jr. and J.H. Tarnecki. 2013. Effect of circle hook size on reef fish catch rates, composition, and selectivity in the northern Gulf of Mexico. 143rd Annual Meeting of the American Fisheries Society. 8-12 September, Little Rock, Arkansas. (Invited)
- Gregalis, K., L. Schlenker, J. M. Drymon, J. Markeska and S. P. Powers. 2012. Evaluating the performance of vertical longlines to survey reef fish populations in the northern Gulf of Mexico. Mississippi-Alabama SeaGrant Consortium (MASGC), Bays and Bayous Conference, November 14-15.
- Heck, K. L. Jr. 2013. Shifting species interactions and the tropicalization of the northern Gulf of Mexico. Benthic Ecology Meeting, Savannah, GA, March.
- Hightower, C. L., S. P. Powers and D. W. Evans. 2012. Examining current mercury concentrations in northern Gulf of Mexico red drum. Mississippi - Alabama Bays and Bayous Symposium, Biloxi, MS, November 14-15.
- Hill, J. M. and K. L. Heck, Jr. 2013. When birds attack: non-consumptive effects of avian predators in seagrass communities. Ecological Society of America Annual Meeting, Estes Park, CO, August.
- Jackson, J., S. Garner, J. M. Drymon and S. P. Powers. 2012. Estimating release mortality in the Gulf of Mexico greater amberjack (*Seriola dumerili*) stock with acoustic telemetry. Mississippi - Alabama Bays and Bayous Symposium, Biloxi, MS, November 14-15.
- James, M. O., W. F. Patterson III, A. S. Kane, L. R. Faux and G. Zhong. 2013. Activities of biomarker enzymes in livers of Gulf of Mexico fishes. PRIMO17: Pollutant Responses in Marine Organisms. 5-8 May, Faro, University Programs Portugal.
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- Kiene, R. P., J. Motard-Côté, L. Oswald and D. J. Kieber. 2013. Dissolved DMSP in seawater – a dynamic pool with a refractory component. ASLO Aquatic Sciences Meeting, February 17-22, New Orleans, LA.
- Kinsey, J. D., I.M. Tyssebotn, D. J. Kieber and R. P. Kiene. 2013. Effects of irradiance on *Phaeocystis antarctica* organosulfur and acrylate production. ASLO Aquatic Sciences Meeting, February 17-22, New Orleans, LA.
- Kleinhuizen, A., M. Logsdon and B. Mortazavi. 2012. Evolution of the nitrogen cycle over saltmarsh ecosystem formation. Gulf Estuarine Research Federation, Dauphin Island, AL, November 8-9.
- Kleinhuizen, A., M. Logsdon and B. Mortazavi. 2012. Evolution of the nitrogen cycle over saltmarsh ecosystem formation. Mississippi-Alabama Sea Grant Bays and Bayou Meeting, Biloxi, MS, November 14-15.
- Krause, J. W., M. A. Brzezinski, M. R. Stukel, M. R. Landry and M. D. Ohman. 2013. Biogenic silica cycling across frontal gradients in the California Current Ecosystem. Association for the Sciences of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting, New Orleans, LA.
- Kroetz, A. M., S. P. Powers, J. M. Drymon and M. Ajemian. 2012. Anthropogenic impacts on the movement of a small coastal shark. Mississippi - Alabama Bays and Bayous Symposium, Biloxi, MS, November 14-15.
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- Leary A., J. Gelsleichter, J. M. Drymon and R. D. Grubbs. 2013. Biomarkers of polycyclic aromatic hydrocarbons exhibited in coastal species from the Gulf of Mexico after the Deepwater Horizon Oil Spill. Gulf of Mexico Oil Spill & Ecosystem Science Conference.
- Logsdon, M. G., A. Kleinhuizen and B. Mortazavi. 2013. Evolution of the nitrogen cycle over the formation of a saltwater marsh ecosystem. ASLO Aquatic Sciences Meeting, New Orleans, LA, February 17-22.
- Marquez, I. A., J. W. Krause, M. A. Brzezinski, M. R. Medrano, S. B. Baines. 2013. Synechococcus: a major player in the ocean silicon cycle? Association for the Sciences of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting. New Orleans, LA.
- Marshak, A. M. and K. L. Heck, Jr. 2013. The effects of seasonality and regional warming on the juvenile reef fish community of the northern Gulf of Mexico. Benthic Ecology Meeting, Savannah, GA, March.
- Martin, C. W., J. F. Valentine, J. J. Dindo, S. Scyphers, T. C. Kauffman. 2013. Investigation of polycyclic aromatic hydrocarbon accumulation in coastal Alabama waterfowl after the Deepwater Horizon oil spill. 2013 Gulf of Mexico Oil Spill & Ecosystem Science Conference. New Orleans, LA.
- Mortazavi, B., R. Bernard, A. Riggs, A. Kleinhuizen, M. Logsdon and S. Phipps. 2013. The transformation of the nitrogen cycle in a coastal landscape: the present and the future. ASLO Aquatic Sciences Meeting, New Orleans, LA, February 17-22.
- Motard-Côté, J., D. J. Kieber and R. P. Kiene. 2013. Microbial cycling of dimethylsulfoniopropionate and dimethylsulfide production along a salinity gradient in the northern Gulf of Mexico. ASLO Aquatic Sciences Meeting, February 17-22, New Orleans, LA.
- Nash, J., A. C. Ortmann and J. L. Jones. 2012. *Vibrio cholera*, a common member of the summer microbial community in Mobile Bay, AL. Gulf Estuarine Research Society, Dauphin Island, AL.
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Norberg, M. J., W. F. Patterson III and J. H. Tarnecki. 2012. Tomtate, *Haemulon aurolineatum*, population demographics and diet in the northern Gulf of Mexico. Gulf Estuarine Research Society Biannual Meeting. 8-9 November, Dauphin Island, Alabama.

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Ortell, N., K. Gundersen and A. C. Ortmann. 2012. Thaumarchaeota contribute significantly to the total prokaryote community in bottom waters from two distinct seasonally hypoxic zones in the Northern Gulf of Mexico. Mississippi-Alabama Bays and Bayous Symposium, Biloxi, MS.

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Ortmann, A. C., B. Christian and R. H. Condon. 2013. Interactions between members of the microbial loop in an estuary dominated by microzooplankton grazing. Ocean Sciences Meeting, ASLO, New Orleans, LA.

Ortmann, A. C., C. Linder, N. Shelton and R. H. Condon. 2012. Addition of dispersant or dispersed oil results in bacterial communities significantly different from those exposed to crude oil. Mississippi-Alabama Bays and Bayous Symposium, Biloxi, MS.

Pabody, C. M., S. P. Powers, K. Heck, J. Cebrian and S. Scyphers. 2012. Fisheries enhancement by "Living Shorelines" — Does this concept work in coastal Alabama waters? Mississippi - Alabama Bays and Bayous Symposium, Biloxi, MS, November 14-15.

Park, K. 2012. Plugging the leak: Barrier island restoration following Hurricane Katrina enhances habitat quality for oysters in Mobile Bay, Alabama. Mississippi – Alabama Bays & Bayous Symposium, Mississippi Coast Coliseum and Convention Center, Biloxi, MS, November 15.

Park, K. 2013. Bottom boundary layer sediment dynamics using high-resolution data in a shallow, micro-tidal northern Gulf of Mexico estuary. ASLO Aquatic Science Meeting, New Orleans, LA, February 19.

Park, K. 2013. High-resolution investigation of sediment dynamics in the bottom boundary layer of a shallow, micro-tidal estuary with large freshwater discharge. 2013 Pacific Marginal Sea Meeting, Hangzhou, China, April 23.

Park, K. 2013. Jubilee, a celebratory hypoxia-related event in Mobile Bay, Alabama. UKC (US-Korea Conference on Science, Technology, and Entrepreneurship), Korean-American Scientists and Engineers Association (KSEA), East Rutherford, New Jersey, August 7-11.

Park, K. and B. Dzwonkowski. 2013. Across-shelf current and transport on a coastal shelf directly influenced by estuarine outflow. Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA, January 21-23.

Park, K. and H. K. Ha. 2013. Bottom boundary layer sediment dynamics using high-resolution data in a shallow, micro-tidal northern Gulf of Mexico estuary. ASLO 2013 Aquatic Science Meeting: Learning for the Future, New Orleans, LA, February 17-22.

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Park, K. and C.-K. Kim. 2013. A modeling study of salt exchange for Mobile Bay, a northern Gulf of Mexico estuary. Gulf of Mexico Oil Spill & Ecosystem Science Conference, New Orleans, LA, January 21-23.

Park, K., S. P. Powers, G. S. Bosarge and H.-S. Jung. 2012. Plugging the leak: Barrier island restoration following Hurricane Katrina enhances habitat quality for oysters in Mobile Bay, Alabama. Mississippi-Alabama Bays & Bayous Symposium, Biloxi, MS, November 14-15.

Parsons, M. L., D. M. Anderson, A. Robertson, D. L. Erdner, T. Smith, M. L. Richlen, R. Kiene, and Y. Okolodkov. 2013. CiguaHAB: A Regional Study of Ciguatera in the Greater Caribbean. GEOHAB (Global Ecology and Oceanography of Harmful Algal Blooms) Open Science Conference, Paris, France, April 23-26.

Patterson H. K., A. Boettcher and R. H. Carmichael. 2013. Using protein biomarkers to measure sublethal stress in the Eastern Oyster. Gulf Estuarine Research Society (GERS) Biennial Meeting, Dauphin Island Sea Lab, Dauphin Island, AL.

Patterson, W. F. III, D. T. Addis and J. H. Tarnecki. 2013. Fishery independent sampling of reef fish with micro-remotely operated vehicles. 143rd Annual Meeting of the American Fisheries Society. 8-12 September, Little Rock, Arkansas. (Invited)

Patterson, W. F. III, J. Tarnecki, Michael Norberg and Dustin Addis. 2013. Artificial reef research in the northern Gulf of Mexico. Northwest Florida Artificial Reef Workshop. 19-20 February, Niceville, Florida. (Invited)

Patterson W. F. III, J. Tarnecki, C. Jagoe, I. Romero, D. Hollander, A. Kane and M. James. 2012. Acute and chronic effects of the Deepwater Horizon Oil Spill on northern Gulf of Mexico reef fishes. Gulf Estuarine Research Society Biannual Meeting. 8-9 November, Dauphin Island, Alabama.

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Patterson W. F. III, J. Tarnecki, C. Jagoe, I. Romero, D. Hollander, A. Kane and M. James. 2013. Acute and chronic effects of the Deepwater Horizon Oil Spill on northern Gulf of Mexico reef fishes. Gulf of Mexico Research Initiative Meeting. 21-23 January, New Orleans, Louisiana.

Powers, S. P. and J. M. Drymon. 2013. Preparing for ecosystem-based management: a fisheries-independent sampling program for reef fish in the northern Gulf of Mexico. Annual Meeting of the Gulf and Caribbean Fisheries Institute.

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- sink populations in a shallow water benthic system. Annual Meeting of the American Elasmobranch Society (AES).
- Powers, S. P., C. L. Hightower and J. M. Drymon. 2013. Age composition and distribution of red drum (*Sciaenops ocellatus*) in offshore waters of the north central Gulf of Mexico: evaluating a stock under a federal harvest moratorium. Annual Meeting of the American Fisheries Society (AFS), Little Rock, AK. August.
- Presley, D. and A. C. Ortmann. 2012. Low abundances of Bacteroidales 16S rRNA genes in Little Lagoon, AL suggest detection of culturable coliforms may be due to environmental strains of bacteria. Gulf Estuarine Research Society, Dauphin Island, AL.
- Presley, D. and A. C. Ortmann. 2012. Microbial source tracking techniques reveal a limited community composition of *Escherichia coli* in a coastal lagoon determined by Denaturing Gradient Gel Electrophoresis. Mississippi-Alabama Bays and Bayous Symposium, Biloxi, MS.
- Rellinger, A.N., R. P. Kiene and D. J. Kieber. 2013. The effects of prolonged darkness on DMSP and other biogeochemically-relevant constituents in *Phaeocystis antarctica*. ASLO Aquatic Sciences Meeting, February 17-22, New Orleans, LA.
- Romero, I. C., D. J. Hollander, W. F. Patterson III, S. W. Ross, A. S. Kane, S. Murawski, E. Quintana-Rizzo, E. B. Peebles, E. A. Goddard and J. J. Torres. 2013. Spatio-temporal concentrations and composition of polycyclic aromatic hydrocarbons in fish: Evidence for DWH oil spill impact on mesopelagic and outer continental shelf fishes. Gulf of Mexico Research Initiative Meeting. 21-23 January, New Orleans, Louisiana.
- Scheffel, W. A., K. L. Heck, Jr., J. Cebrian and M. Johnson. 2013. Black mangrove expansion into northern Gulf of Mexico saltmarshes: What can we expect? Benthic Ecology Meeting, Savannah, GA, March.
- Schrandt, M. N., A. C. Ortmann and S. P. Powers. 2012. Coastal pelagic fish resources in the Gulf of Mexico: A population genetics analysis. Mississippi-Alabama Bays and Bayous Symposium, Biloxi, MS, November 14-15.
- Schrandt, M. N., A. C. Ortmann and S. P. Powers. 2012. Coastal pelagic fish resources in the Gulf of Mexico: A population genetics analysis. Gulf Estuarine Research Society, Dauphin Island, AL.
- Shepard, A., J. Valentine and C. D'Elia. 2013. Value of ecosystem services. 2013. Gulf of Mexico Oil Spill & Ecosystem Science Conference. New Orleans, LA.
- Spearman, T. P., D. Perez, N. Adams, J. M. Drymon and S. P. Powers. 2012. Expanding fisheries independent surveys into Alabama's artificial reef permit zones: traditional gear meets the unconventional. Mississippi-Alabama Sea Grant Consortium (MASGC), Bays and Bayous Conference, November 14-15.
- Stone, L.C., A. M. Kroetz, J. M. Drymon and S. P. Powers. 2012. The influence of depth on the distribution and composition of apex predators in the Northern Gulf of Mexico. Mississippi & Alabama Bays and Bayous Symposium, Biloxi, MS. November 14-15.
- Tarnecki, J. H. and W. F. Patterson III. 2012. Diet and trophic ecology of Red Snapper, *Lutjanus campechanus*, at natural and artificial reefs in the northern Gulf of Mexico. Gulf Estuarine Research Society Biannual Meeting. 8-9 November, Dauphin Island, Alabama.
- Tarnecki, J. H. and W. F. Patterson III. 2013. Diet and trophic ecology of red snapper, *Lutjanus campechanus*, on natural and artificial reefs in the northern Gulf of Mexico. Alabama Fisheries Association Annual Meeting. 6-9 March, Guntersville, Alabama.
- Tarnecki, J. H. and W. F. Patterson III. 2013. Diet and trophic ecology of red snapper, *Lutjanus campechanus*, on natural and artificial reefs in the northern Gulf of Mexico. 143rd Annual Meeting of the American Fisheries Society. 8-12 September, Little Rock, Arkansas.
- Tyssebotn, I. M., J. D. Kinsey, D. J. Kieber, R. P. Kiene, A. N. Rellinger, L. Oswald and J. Motard-Côté. 2013. Late summer concentrations and biological turnover rates of acrylate and dimethylsulfoxide in the Gulf of Mexico. ASLO Aquatic Sciences Meeting, February 17-22, New Orleans, LA.
- Valentine, J. F. and C.W. Martin. 2013. Impacts of restoration of predators with teeth and foundation species on energy exchange among trophic levels: results from a mesocosm experiment. Benthic Ecology Meeting, Savannah, GA.
- Vedral, A., B. Mortazavi, L. Steel and J. F. Valentine. 2012. Connecting food webs in Mobile Bay estuary: a stable isotope study investigating blue crab migration. Gulf Estuarine Research Federation, Dauphin Island, AL, November 8-9.
- Walter, J., B. Linton, W. F. Patterson III and C. E. Porch Jr. 2013. The value of empirical estimates of selectivity in integrated assessments. Center for the Advancement of Population Assessment Methodology Workshop, Selectivity: Theory, Estimation, and Application in Fishery Stock Assessment Models. 11-14 March, LaJolla, California.
- Wang, L.; R. J. Bernard, B. Mortazavi and A. C. Ortmann. 2012. A higher elevation *Juncus roemarianus* marsh overcomes sulfide accumulation that inhibits nitrification and denitrification in other vegetated coastal sediment. Gulf Estuarine Research Federation, Dauphin Island, AL, November 8-9.
- Wang, L., R. Bernard, B. Mortazavi and A. C. Ortmann. 2012. A higher elevation *Juncus roemarianus* marsh overcomes sulfide accumulation that inhibits nitrification and denitrification in other vegetated coastal sediment. Mississippi-Alabama Bays and Bayous Symposium, Biloxi, MS.
- Wang, L., R. Bernard, B. Mortazavi and A. C. Ortmann. 2012. A higher elevation *Juncus roemarianus* marsh overcomes sulfide accumulation that inhibits nitrification and denitrification in other vegetated coastal sediment. Gulf Estuarine Research Society, Dauphin Island, AL.
- Wang, L.; R. J. Bernard, B. Mortazavi and A. C. Ortmann. 2013. A higher elevation *Juncus roemarianus* marsh overcomes sulfide accumulation that inhibits nitrification and denitrification in other vegetated coastal sediment. ASLO Aquatic Sciences Meeting, New Orleans, LA, February 17-22.
- Wilson, B. J.; B. Mortazavi, R. P. Kiene and G. S. Starr. 2012. Coupled methane and carbon dioxide fluxes in coastal marshes along a salinity gradient. Gulf Estuarine Research Federation, Dauphin Island, AL, November 8-9.
- Wilson, B. J., B. Mortazavi, R. P. Kiene and G. S. Starr. 2012. Coupled methane and carbon dioxide fluxes in coastal marshes along a salinity gradient. Mississippi-Alabama Sea Grant Bays and Bayou Meeting, Biloxi, MS, November 14-15.
- Wilson, B. J., B. M. Mortazavi, R. P. Kiene and G. S. Starr. 2013. Coupled methane and carbon dioxide fluxes in coastal marshes along a salinity gradient. ASLO Aquatic Sciences Meeting, February 17-22, New Orleans, LA.

Other Presentations

Bernard, R. J. and B. Mortazavi. 2013. Sediment Nitrogen Cycling Across a Salinity Gradient in Mobile Bay, AL. University of Alabama, Biological Sciences Colloquium, Tuscaloosa, AL, March 15.

Carmichael, R. 2013. Multiple remote sensing and biogeochemical strategies define manatee movement patterns and habitat use in the northern Gulf of Mexico. National Space Science and Technology Center (NSSTC) Special Seminar, Huntsville, AL.

Carmichael, R., D. Dalrymple and W. Walton. 2013. Bivalve enhanced N removal: Cape Cod, MA and Mobile Bay, AL case studies. Nitrogen Removal by Oysters Workshop, VIMS, Eastern Shore Laboratory, VA. (Invited)

Carmichael, R., A. Jones, H. Patterson, W. Walton, A. Pérez-Huerta, E. Overton, M. Dailey and K. Willett. 2012. Assimilation of oil-derived elements by oysters due to the Deepwater Horizon oil spill ExxonMobil research colloquium, Dauphin Island Sea Lab, AL. (Invited)

Cebrian, J. 2012. Dumping nutrients into shallow coastal systems: patterns, causes and consequences of ecosystem change. Florida International University, April.

Cebrian, J. 2012. Dumping nutrients into shallow coastal systems: patterns, causes and consequences of ecosystem change. Virginia Institute of Marine Sciences, April.

Darrow, E., R. H. Carmichael, K. Calci and W. Burkhardt III. 2013. Sedimentary organic matter source shifts due to land use change in a Northern Gulf of Mexico estuarine system. College of Arts and Sciences Research Symposium, University of South Alabama.

Drymon, J. M. 2013. Stable isotope analysis as a tool in elasmobranch feeding studies. University of North Florida Shark Ecology Course Guest Lecture.

Drymon, J. M. 2013. Fisheries Oceanography. University of South Alabama Introduction to Oceanography Guest Lecture.

Drymon, J. M. 2013. Swimming, thermoregulation and buoyancy control. University of South Alabama Marine Vertebrate Zoology Lecture.

Heck, K. L. Jr. 2013. Shifting species interactions and the tropicalization of the northern Gulf of Mexico. February, University of North Carolina, Institute of Marine Science, Morehead City, NC.

Krause, J. W. 2013. Ocean Acidification ... the other CO2 Problem. Discovery Hall Teachers Workshop Lecture, Dauphin Island Sea Lab, 11 June.

Krause, J. W. 2013. Primary production of aquatic organic matter. Guest Lecture: Introduction to Oceanography, Instructor Robert Condon, Dauphin Island Sea Lab, 3 June 2013.

Mortazavi, B. 2012. Nearshore benthic nitrogen cycling along a continuum of anthropogenic impact. University of Southern Mississippi, Department of Marine Sciences, Stennis Space Center, MS, October 6.

Mortazavi, B. 2012. Nearshore benthic nitrogen cycling along a continuum of anthropogenic impact. Rutgers University, Department of Biological Sciences, Newark, NJ, October 9.

Park, K. 2012. Importance of stratification on salt transport in a northern Gulf of Mexico estuary. 4th International Conference on Estuaries and Coasts, Water Resources University, Hanoi, Vietnam, October 9.

Park, K. 2012. Mean and seasonal currents on the Alabama inner shelf in the northern Gulf of Mexico. Department of Oceanography, Seoul National University, Seoul, Korea, October 18. (Invited)

Park, K. 2013. Transport and retention of oyster larvae in Alabama coastal water: a field and modeling study. Department of Coastal Sciences, Gulf Coast Research Laboratory, University of Southern Mississippi, Ocean Springs, MS, March 8.

Park, K. 2013. A modeling study of transport and retention of oyster larvae in Alabama coastal water. Department of Marine Sciences, Texas A&M University at Galveston, Galveston, TX, March 28.

Park, K. 2013. Oyster larval transport and retention in the tidal Mobile Bay system, Alabama. Virginia Institute of Marine Science, College of William and Mary, Gloucester Point, VA, May 23. (Invited)

Park, K. 2013. Spring seasonal velocity structure on a river-influenced inner shelf. Gordon Research Conference: Coastal Ocean Circulation, University of New England, Biddeford, ME, June 10-13.

Park, K. 2013. Modeling of physical mass transport: salt exchange for a microtidal, stratified northern Gulf of Mexico estuary. Department of Environmental Engineering, Chungnam National University, Daejeon, Korea, July 10.

Patterson, W. F. III. 2013. Remotely operated vehicle marine research applications in the northern Gulf of Mexico. Deep-C GoMRI Consortium Teacher ROV Workshop. 10 July, Dauphin Island, Alabama. (Invited)

Patterson, W. F. III. 2013. Stuff an academic fisheries ecologists gets to work on every day. Dauphin Island Sea Lab High School Summer Program. 25 June, Dauphin Island, Alabama. (Invited)

Wilson, B. J.; B. Mortazavi, R. P. Kiene and G. S. Starr. 2013. Coupled methane and carbon dioxide fluxes in coastal marshes along a salinity gradient. University of Alabama, Biological Sciences Colloquium, Tuscaloosa, AL, March 15.

Patterson, W. F., III. 2013. Remotely operated vehicle marine research applications in the northern Gulf of Mexico. Deep-C GoMRI Consortium Teacher ROV Workshop. 10 July, Dauphin Island, Alabama. (Invited)

Patterson, W.F., III. 2013. Stuff an academic fisheries ecologists gets to work on every day. Dauphin Island Sea Lab High School Summer Program. 25 June, Dauphin Island, Alabama. (Invited)

Patterson, W. F. III, J. Tarnecki, Michael Norberg and Dustin Addis. 2013. Artificial reef research in the northern Gulf of Mexico. Northwest Florida Artificial Reef Workshop. 19-20 February, Niceville, Florida. (Invited)

Patterson, W. F. III, J. Tarnecki, C. Jagoe, I. Romero, D. Hollander, A. Kane and M. James. 2012. Acute and chronic effects of the Deepwater Horizon Oil Spill on northern Gulf of Mexico reef fishes. SEDAR Episodic Mortality Workshop. 13-15 December, New Orleans, Louisiana. (Invited)

Workshops, Meetings Attended or Organized

Ruth Carmichael

- NRDA Dolphin Health Assessments, NOAA, Mississippi Sound, MS. 2013
- Dolphin Safety Workshop, NOAA/ADCNR, Gulf Shores, AL. 2013
- Nitrogen Removal by Oysters Workshop, VIMS, Eastern Shore Laboratory, VA. 2013
- Coastal Wetlands Grant Program Workshop, USFWS, Five Rivers Delta Complex, Spanish Fort, AL. 2013
- Prescott Cetacean Stranding Workshop, FWC, Gulf Breeze, FL. 2013
- College of Arts and Sciences Research Symposium, University of South Alabama. 2013

- Association for the Sciences of Limnology and Oceanography (ASLO), New Orleans, LA. 2013
- Coastal and Estuarine Research Federation (CERF) Argentina, Mar del Plata. 2012

Marcus Drymon

- Workshop on tagging technology development, November, Newfoundland, Canada. 2012
- Workshop on archival tagging in large marine vertebrates, April, Achantines, Panama. 2013
- 2 day workshop on Team Based Learning at USA. 2013

Ken Heck

- Workshop on the Tropicalization of Temperate Ecosystems, The University of New South Wales, and the Sydney Institute of Marine Science, Sydney, AU, November, 2012

Ron Kiene

- Presented Departmental Research Integrity Workshop (annual half-day seminar)-Fall 2012

Jeff Krause

- Data workshop: NSF Project (Understanding the role of picocyanobacteria in the marine silicate cycle) Investigator workshop. Stony Brook University, Stony Brook, NY, 30-31 May 2013
- Project Planning workshop: NSF Proposal to Office of Polar Programs Arctic Research (December 2013 submission). Bigelow Laboratory for Ocean Sciences, Boothbay Harbor, ME, USA. 24-28 September 2013

Alice Ortmann

- Oil dispersants promote microbial growth and disrupt food chains, Mobile Bay, 2012
- Audubon Society, 5 Rivers Delta Resource Center, Spanish Fort, AL, October 2012
- Oil dispersants promote microbial growth and disrupt food chains, Science of the Spill: The Emerging Impacts of the BP Oil Disaster, Sierra Club, Spanish Fort, AL, December 2012.
- Met and presented with scientists from Exxon-Mobil at DISL to discuss experiments with dispersants. 2012.
- Exploring the microbial loop and bacterial diversity along a river dominated estuary, Gulf Ecology Division Laboratory (EPA), Gulfbreeze, FL, January 2013.
- The response of coastal microbes to oil and dispersant in experimental mesocosms, Sigma Xi Chapter at the University of Alabama, Birmingham, Birmingham, AL, April 2013.

- Identifying likely sources of fecal contamination of Little Lagoon, Alabama, Little Lagoon Preservation Society, Gulf Shores, AL, July 2013.
- Completed Sakai 101, USA online program, September 2013

Kyeong Park

- Participated in the 4th International Conference on Estuaries and Coasts, Water Resources University, Hanoi, Vietnam, October 8-11, organized by Water Resources University, 2012.
- Chaired a session, entitled "Coastal Structure I," at the 4th International Conference on Estuaries and Coasts, Water Resources University, Hanoi, Vietnam, October 9, 2012
- Participated in the Mobile Bay National Estuary Program 2013-2018 Comprehensive Conservation Management Plan Strategy Development Meeting (Water Quality Team), Mobile, AL, November 29, 2012, organized by MBNEP
- Participated in the Meeting for the Mobile Bay Sediment Budget Report, 5 Rivers – Alabama's Delta Resource Center, Spanish Fort, AL, February 4, 2013, hosted by MBNEP
- Participated in the Meeting for the Mobile Bay Modeling Report by Tetra Tech, Dauphin Island Sea Lab, AL, February 8, 2013, hosted by MBNEP
- Participated in the GCOOS Modeling Task Team Meeting, Holiday Inn, Houston, TX, February 15, 2013, hosted by the GCOOS
- Participated in the 4th Annual Hypoxia Research Coordination Workshop and the Gulf Hypoxia Modeling Technical Review Meeting, Stennis Space Center, MS, April 17-18, 2013, hosted by NOAA and NGI
- Participated in the Northern Gulf Coastal Hazards Collaboratory (NG-CHC) 2013 Annual Meeting, Mobile, AL, June 12-14, 2013, organized by NG-CHC

Public Outreach & Other Service Ruth Carmichael

- DISL's MSN Volunteer Training, Spanish Fort, AL. 2013.
- ALMMSN Volunteer Training, Mobile, AL. 2013.
- MSN Manatee tag assembly and approach training, Dauphin Island, AL. 2013.
- Mobile Boat Show, Mobile Convention Center, Mobile, AL. 2013.
- Maintain Gulf Estuarine Research Society Facebook page (118 fans from 4 Gulf of Mexico states and 2 countries). 2011-present.
- Maintain DISL's Manatee Sighting Network Facebook page (1,668 fans from 5 states and 15 countries). 2009-present.

- DISL Discovery Day, Dauphin Island, AL (2009-2013).

Just Cebrian

- Regular meetings with residents around our study sites in Perdido Bay (Big Lagoon State Park, Kee's Bayou and Gongora Drive) for environmental education and stewardship (from 2000 to present).
- Participation in the Charrette led by the Urban Planning firm "Duany, Plater and Zyberk" to redevelop the town of Perdido Key, Florida. Dr. Cebrian was instrumental in such planning by providing examples of how environmental protection can enhance the overall value of the area. October 2012

Marcus Drymon

- Alabama Coastal Fishing Association, Presentation on Sharks in Mobile Bay, August 2013

Ken Heck

- Visiting Research Fellow during fall 2012 at the University of New South Wales where I delivered two lectures and sat on a graduate student advisory panel concerning careers in Marine Science.

Ron Kiene

- DISL Teacher workshop on climate change. Talk entitled: Global warming. June 2013
- Boardwalk Talk, DISL Estuarium, Gas exchange in oceans and marshes. Oct 3, 2012
- JPC Law Office, Provided measurements of tertiary-butyl mercaptan in air samples collected in Eight Mile, Alabama in support of citizen action against Mobile Gas for mercaptan contamination; Provided general advice about mercaptans to citizens.

Jeff Krause

- Krause, J. W. and Lachenmyer, E. M. Don't sink too fast – an activity on adaptation (lesson adapted from "Plankton Races", COSEE OCEAN, Dr. Bob Chen, bob.chen@umb.edu). Dauphin Island Sea Lab: Discovery Day, 20 April 2013.
- Krause, J. W. Like to breathe? Thank phytoplankton! (adapted from "Breath Calculation" activity about phytoplankton, National Geographic Education activity, www.education.nationalgeographic.com). Dauphin Island Sea Lab: Discovery Day. 20 April 2013.
- Krause, J. W. Like oxygen? Thank phytoplankton. Boardwalk Talk series at the Dauphin Island Sea Lab Estuarium. 6 February 2013.

- Krause, J. W. Silicon biogeochemistry. Little Lagoon Preservation Society (Gulf Shores, AL). 18 January 2013.

Behzad Mortazavi

- Participated in a 10-day field campaign in New Jersey working with colleagues at Rutgers. Made measurements of methane flux and determined the isotopic composition of the emitted methane.

Alice Ortmann

- Continued to work with Kevin Dolbear and his classes at the Alabama School of the Math and Sciences. I hosted several sample collection and processing days at my lab, with many of my students participating.
- Participated in Discovery Day at DISL from 2011 – 2013.
- Animal Rescue Foundation – Volunteer, Grant Writer, Fostering, Fundraising

Keyong Park

- DISL Boardwalk Talk, entitled “Modeling Mobile Bay: oxygen levels and oyster larvae movement” (January 30, 2013)
- Examiner of Ph.D. Dissertation of Li Li (8-9/2013), “Modelling the tide and sediment dynamics in Darwin harbor, Northern Territory, Australia,” School of Physical, Environmental and Mathematical Sciences, The University of New South Wales, Canberra, Australia, (Major Advisor: X.H. Wang)
- Hosted a seminar, entitled “Linking the statistics of animal movement to their environment” by Chris Fleming (November 1, 2012), Smithsonian Conservation Biology Institute, VA
- Hosted a seminar, entitled “Where have all the oysters gone: the past and future of Texas oyster reefs, a geological perspective” by Timothy Dellapenna (September 6, 2013), Department of Marine Sciences, Texas A&M University at Galveston, Galveston, TX

Will Patterson

- Assistant Judge, Alabama Deep Sea Fishing Rodeo, Mobile Jaycees

Sean Powers

- Deep Sea Fishing Rodeo, Assistant Rodeo Judge, Mobile Jaycees,
- Nature Conservancy, Board Member, Global Oyster Task Force

Offices, Boards, Panels, Consulting Ruth Carmichael

- Academic Editor, PLoS ONE (International). 2013-present.
- Review Editor, Aquatic Biology (International). 2012-present
- Editorial Board, Coastal and Estuarine Science News (CESN) (International).

2012-present

- President, Gulf Estuarine Research Society (GERS), Coastal and Estuarine Research Federation affiliate (Regional affiliate of national federation). 2011-2013.
- Host and Planning Committee, Gulf Estuarine Research Society (GERS) Biennial Meeting, Dauphin Island, AL. 2012.
- Governing Board, Coastal and Estuarine Research Federation (International). 2011-2013
 1. International Relations Committee
 2. Scientific Advisory Committee, CERF Argentina 2012
- Member, Science Advisory Committee, Mobile Bay National Estuary Program (Regional). 2010-present.
- Advisor, Ecological Research Development Group, Lewes, DE (Regional). 2007-present.

Just Cebrían

- Member of the Mobile Bay National Estuary Program stakeholder team to develop a five year strategy for protecting and sustaining healthy beaches and shorelines along the Alabama Coast; “Beaches and Shoreline” Team. Fall 2012
- Participation (DISL representative) in the Gulf of Mexico Alliance open-Gulf Round Robin nutrient comparison. Fall 2012
- Member of the NOAA Integrated Ecosystem Assessment-Ecosystem Services Working Group led by Chris Kelble. May 2012-present
- Advisory member of the NASA-funded project: “The Application of Remotely Sensed Data and Models to Benefit Conservation and Restoration along the Northern Gulf of Mexico Coast” led by Maurice Estes
- Member of the Executive Committee and Subject Matter Expert (Perdido Coastal Lagoons) for the GOM Digital Atlas Development Team organized and coordinated by NCDCC (NOAA). January 2011-present.
- State of Alabama representative for the Gulf of Mexico Alliance Steering Committee on Habitat Conservation and Restoration. February 2011-present
- Member of the Alabama TNC Scientific Advisory Council for the development of restoration criteria in the 100:1000 Restoration Partnership.
- Member of the Science Advisory Committee for the Mobile Bay National Estuarine Program. April 2011-present
- Member of the Northern Gulf Institute Council of Fellows. September 2011-present
- Member of the NOAA/Gulf of Mexico Sea Grant Hydrological Restoration Monitoring Panel for successful

restoration partnership in the Gulf of Mexico (two working groups: “SAV” and “Nekton”) September 2011-present

- Elected Contributing Member of “Faculty of 1000”, Marine and Freshwater Ecology Section. 2011-present.
- Contributing Editor, Marine Ecology Progress Series. 2007-present.
- Board Member, The Open Oceanography Journal. 2007-present.
- Board Member, The Open Marine Biology Journal. 2007-present.
- Associate Editor, Gulf and Caribbean Research. 2010-present.
- Board Member, International Scholarly Research Network Ecology Journal 2010-present.
- Academic Editor, PLoS (Public Library of Science). 2011-present.

Marcus Drymon

- Member of SEAMAP HMS Advisory panel, attended SEDAR 34 shark assessment

Ken Heck

- Editor, Gulf of Mexico Science
- Senior Sub-Editor, Marine Ecology Progress Series
- President, Coastal and Estuarine Research Federation (CERF) 2011-present
- Adjunct Professor, School of Plant Biology, University of Western Australia
- Adjunct Faculty, Department of Biological Sciences, University of Alabama
- Member, U.S. Environmental Protection Agency Science Advisory Board Nutrient Criteria Review Panel
- Member, Scientific Advisory Committee, Mobile Bay NEP
- Member of the Coral Reef Scientific and Statistical Committee, Gulf of Mexico Fisheries Management Council
- Chesapeake Bay SAV Restoration Review Panel for CB Scientific and Technical Advisory Committee, 2009-present
- Director, Shelby Center for Ecosystem Based Fisheries Management
- DISL Faculty Annual Review Committee (Chair)
- Member of the Ecosystem Scientific and Statistical Committee, Gulf of Mexico Fisheries Management Council.

Ron Kiene

- Provided consulting services regarding sulfur odor in Eight Mile Alabama (derived from t-butyl mercaptan spill/leak).
- Associate Editor, Marine Chemistry, January, 1996 - present.
- Contributing Editor, Marine Ecology-Progress Series, January, 2008 –

- present
- Member, Advisory Board, Chemical Proficiency Testing (DMSP) and DMS certified standard intercalibration. October 2011-present
- Member, Chemical Proficiency Testing (DMSP) and DMS certified standard intercalibration. October 2011-present

Behzad Mortazavi

- Member, NSF-DEB Ecosystem Proposal Panel, October 2012
- Director MS program in Marine Sciences, University of Alabama
- UA representative on the Board on Oceans and Atmosphere at the Association of Public and Land Grant Universities, serve at the discretion of Provost Bonner at UA since July 2011

Alice Ortmann

- Member, American Society of Limnology and Oceanography
- Associate Member, American Society for Virology
- Member, American Society of Microbiology
- Member, International Society for Microbial Ecology

Kyeong Park

- Member, GCOOS (Gulf of Mexico Coastal Ocean Observing System) Modeling Task Team (November 2012-present)
- Member, Task Team for developing a white paper, entitled "An Ocean Monitoring System for the Five Gulf States" for the GOMURC (Gulf of Mexico University Research Collaborative) Board (July 2012-present)
- Member, Review Committee for Mobile Bay Hydrodynamic and Water Quality Model, Mobile Bay National Estuary Program (April 2012-present)
- Advisor, GeoSystem Research Co., Korea
- Member, Advisory Committee, Korea Maritime Institute, Korea

Will Patterson

- Member (2005-2013), Standing Statistical and Scientific Committee of the Gulf of Mexico Fishery Management Council
- Chair (2013-2015), Standing Statistical and Scientific Committee of the Gulf of Mexico Fishery Management Council
- Member (since 2005), Standing Statistical and Scientific Committee of the Gulf of Mexico Fishery Management Council the Gulf of Mexico and US South Atlantic Ocean, including the stock

assessment Review Workshop for the 2013 Gulf of Mexico red snapper stock assessment (SEDAR 31) held April 29-May 3, 2013 in Biloxi, MS; the stock assessment Review Workshop for the 2013 Gulf of Mexico menhaden stock assessment (SEDAR 32A) held August 27-30, 2013 in Morehead City, NC; and, the stock assessment Review Workshop for the 2013 South Atlantic blueline tilefish stock assessment (SEDAR 32) held August 27-30, 2013 in Morehead City, NC.

- Consultant, Stratus Consulting, Boulder, Colorado. Tasks include review of sampling design, data analysis and interpretation, and report preparation for Natural Resources Damage Assessment of northern Gulf of Mexico mesophotic reefs following the Deepwater Horizon Oil Spill.

Sean Powers

- National Research Council (US). Member. Committee on U.S. Army Corps of Engineers Water Resources Science, Engineering, and Planning: Coastal Risk Reduction. 2013-2014.
- Chair, Gulf States Fisheries Commission, Blue Crab Stock Assessment review. 2013.
- Panelist, Gulf of Mexico Spanish Mackerel Assessment workshop. 2013.
- Panelist, Gulf of Mexico Red Snapper Benchmark Assessment workshop. 2012-2103.
- Member, Gulf of Mexico Fishery Management Council's Scientific and Statistical Committee. 2009-2013.
- NOAA Damage Assessment and Restoration, via Industrial Economics. Fisheries and habitat damage assessments for the Deepwater Horizon Oil Spill. 2010-2013.
- Associate Editor, Gulf of Mexico Science. 2004-present.

Grants in Force

Ruth Carmichael

- A circulation and transport model for fishery management in Mobile Bay and Eastern Mississippi Sound, Mississippi-Alabama Sea Grant Consortium, \$149,876, 02/01/14 – 01/31/15, Co-PI with K. Park.
- Enhanced monitoring of Alabama's tagged manatees and comparison to the nGOM manatee opportunistic sighting database, ADCNR, \$42,429, 10/01/13 – 09/30/14, PI.
- Acquisition of a Laser Ablation Inductively Coupled Plasma Mass Spectrometer to Support Marine Science Research and Education in the Northern Gulf of Mexico, NSF, \$314,725, 07/01/13-06/30/14, Co-PI

with W. Patterson

- Alabama Marine Mammal Stranding Network: A Strategy for strengthening and sustaining an efficient stranding response and research unit, Alabama EMA, \$1,262,355, 08/01/12 – 07/31/14, PI.
- Legacy effects of land-use change and nitrogen source shifts on a benchmark system: Building capacity for collaborative research leadership at the Grand Bay Reserve, NERR NSC, \$354,750, 03/01/10 – 02/28/12; NCE through 08/31/14, Co-PI with Calci, Burkhardt III, Wu, Walton
- Data Management in Support of NOAA's Integrated Ecosystem Assessment for the Gulf of Mexico through the NGI Ecosystem Data Assembly Center, NGI/NCDDC, \$73,170, 12/01/11 – 11/30/12, PI.
- Database management and enhanced tissue sampling to inform West Indian manatee status in Alabama water, United States Fish & Wildlife Service, \$15,000, 09/01/12-09/31/13, PI.
- Data Management in Support of NOAA's Integrated Ecosystem Assessment for the Gulf of Mexico through the NGI Ecosystem Data Assembly Center, NGI/NCDDC, \$73,170, 12/01/11 – 11/30/12, PI
- Database management and enhanced tissue sampling to inform West Indian manatee status in Alabama water, United States Fish & Wildlife Service, \$15,000, 09/01/12-09/31/13, PI
- Acquisition of a Laser Ablation Inductively Coupled Plasma Mass Spectrometer to Support Marine Science Research and Education in the Northern Gulf of Mexico, National Science Foundation FSML, \$314,725, 8/1/2013-7/31/2014, Co-PI with W. Patterson, J, Krause, K. Heck and S. Powers

Just Cebrian

- Monitoring in small embayments as early warning system for ecosystem change on larger spatial scales, NOAA/NCDDC, \$56,000, 11/13-10/14, PI
- Ecosystem Services Provided by Gulf of Mexico Habitats: Tools, Valuation, and Application, National Sea Grant, \$843,306, 02/12-01/14, Co-PI with D. Yoskowitz and C. Carollo
- Monitoring of Little Bay restored marsh, Alabama Department of Conservation and Natural Resources, \$18,000, 10/13-09/14, PI
- Ecosystem services and restoration of Mobile Bay: an analysis of the environmental value regained with restoration of coastal habitats in

Mobile Bay, Mobile Bay National Estuarine Program, \$40,000, 08/12-07/14, PI

- Exploring the cost-effectiveness of restored marshes as buffers of runoff pollution in a world of rising seas, NOAA/Science Collaborative, \$371,099, 10/12-09/14, Co-PI with J. Cherry and C. Tobias
- Evaluation of the Pelican Point Habitat Restoration Project, National Fish and Wildlife Foundation, \$87,654,05/13-04/15, Co-PI with K. Heck
- Addressing derelict vessels and habitat impairment in the Dog River Watershed, Mobile, Alabama, NOAA Marine Debris Program, \$201,729, 09/13-12/14, Co-PI with J. Dindo and L. Yokel
- Cost-effectiveness analysis of reduction of runoff pollution in coastal waters using black needlerush (*Juncus roemerianus*) restoration, The National Park Service, \$20,000, 04/12-03/13, Co-PI with C. Tobias
- Ecosystem effects of potential mangrove expansion (*Avicennia germinans*) in the Northern Gulf of Mexico, The National Park Service, \$40,000, 04/12-03/13, Co-PI with K. Heck
- Extension on Ecosystem Approach to Management for the Northern Gulf of Mexico, The Northern Gulf Institute/NOAA, \$6,000 01/12-12/12, Co-PI with B. McAnally

Marcus Drymon

- Assessing reef fish and shark populations in coastal Alabama via fishery independent surveys, ADCNR MRD, \$95,000, March, 2013, Co-PI with S. Powers

Ken Heck

- Evaluation of the Pelican Point Habitat Restoration Project, National Fish & Wildlife Federation, \$46,414, 1/1/2013 – 6/30/2014, Co-PI with J. Cebrian
- Black Mangrove Extension into the Gulf Islands National Seashore: Will Climate Change Result in Significant Ecosystem Level Changes?, Department of the Interior – Fish and Wildlife Service, \$46,673, 9/1/2011 – 10/1/2013, PI
- Monitoring Seagrass Resources of the Gulf Islands National Seashore, National Park Service, \$54,986, 8/31/2011 – 12/31/2013, PI
- Submerged Aquatic Vegetation Restoration and Conservation with Baldwin County, AL, CIAP, \$200,000, 6/1/2012 – 5/31/2014, PI
- Acquisition of a Laser Ablation Inductively Coupled Plasma Mass Spectrometer to Support Marine Science Research and Education in

the Northern Gulf of Mexico, National Science Foundation - Improvements in Facilities, Communications, and Equipment at Biological Field Stations and Marine Laboratories (FSML), \$314,725, 8/1/2013-7/31/2014, Co-PI with W. Patterson, R. Carmichael, J. Krause and S. Powers

Ron Kiene

- Dimensions of Biodiversity. Dimensions: Collaborative Research: Bacterial taxa that control sulfur flux from the ocean to the atmosphere, National Science Foundation, USA budget \$513,777 Total project budget \$1,977,972), January 1, 2014- December 31, 2018, Co-PI's M. Moran, W. Whitman (UGA), C. Scholin & J. Birch (MBARI)
- Sulfur isotope ratio of dimethylsulfide, US-Israel Binational Science Foundation, 75,000 to Amrani; Travel costs only for Kiene, January 1, 2012 – December 31, 2013, Collaborative project with Dr. Alon Amrani, Hebrew University of Jerusalem.
- CIGUAHAB: Ciguatera Investigations in the Greater Caribbean Region: Ecophysiology, Population Connectivity, Forecasting, and Toxigenesis, NOAA-EcoHAB, USA budget portion \$149,110 for research costs + \$19,857 for boat time; total \$168,967, September 1, 2011-August 31, 2016, Collaborative project with FDA, WHOI and several Universities. M. Parsons, Lead PI
- Collaborative Research: Ecophysiology of DMSP and related compounds and their contribution to carbon and sulfur dynamics in *Phaeocystis antarctica*, National Science Foundation – Polar Programs-Antarctic Sciences Division, \$240,237, June 1, 2010 May 31, 2013, PI
- Reassessment of dissolved DMSP concentrations and turnover flux in the ocean, National Science Foundation Chemical Oceanography, \$412,866, September 1, 2009 August 31, 2012, 1-Year No-cost extension through Aug 31, 2013.

Jeff Krause

- Investigators: William Patterson, Ruth H. Carmichael, Kenneth L. Heck, Jeffrey W. Krause, Sean Powers
- Acquisition of a Laser Ablation Inductively Coupled Plasma Mass Spectrometer to Support Marine Science Research and Education in the Northern Gulf of Mexico, National Science Foundation FSML, \$314,725, 12/14/2012, Co-PI with W. Patterson, R. Carmichael, K. Heck

and S. Powers

- Group-specific diatom silica production in a coastal upwelling system, National Science Foundation – Biological Oceanography, \$119,374, 4/1/2013, Sub-award granted (from PI Jeffrey W. Krause at UCSB), Co-PI with J. Valentine
- Understanding the role of picocyanobacteria in the marine silicate cycle, National Science Foundation – Biological Oceanography, \$189,309, 4/9/2013 (movement of funded project from UCSB to DISL), Co-PI with M. Brzezinski

Behzad Mortazavi

- Geo-Ecological modeling of riverine habitat occurrence and nutrient retention, UA and Center for Freshwater Studies, \$120,753, 6/13 to 5/15, Co-PI with Edmonds, Cohen and Davis (UA)
- Effects of dissolved organic nitrogen enrichment from contaminated groundwater on nutrient availability and phytoplankton communities in a coastal Alabama lagoon, NSF Graduate Research Fellowship, \$126,000, 8/13 - 7/16, to support J. Anders
- Benthic nitrogen cycling and the fate of nitrate in Weeks Bay, Alabama, DOC-NOAA National Estuarine Research Reserve Graduate Fellowship, \$20,000, 06/01/11 to 05/30/13, to support R. Bernard
- Supplemental to RAPID Accelerating biodegradation of hydrocarbons from the Deepwater Horizon oil spill in the Gulf of Mexico with naturally occurring marine substrates. NSF-CBET. \$5,463, 05/25/12 to 05/31/2013

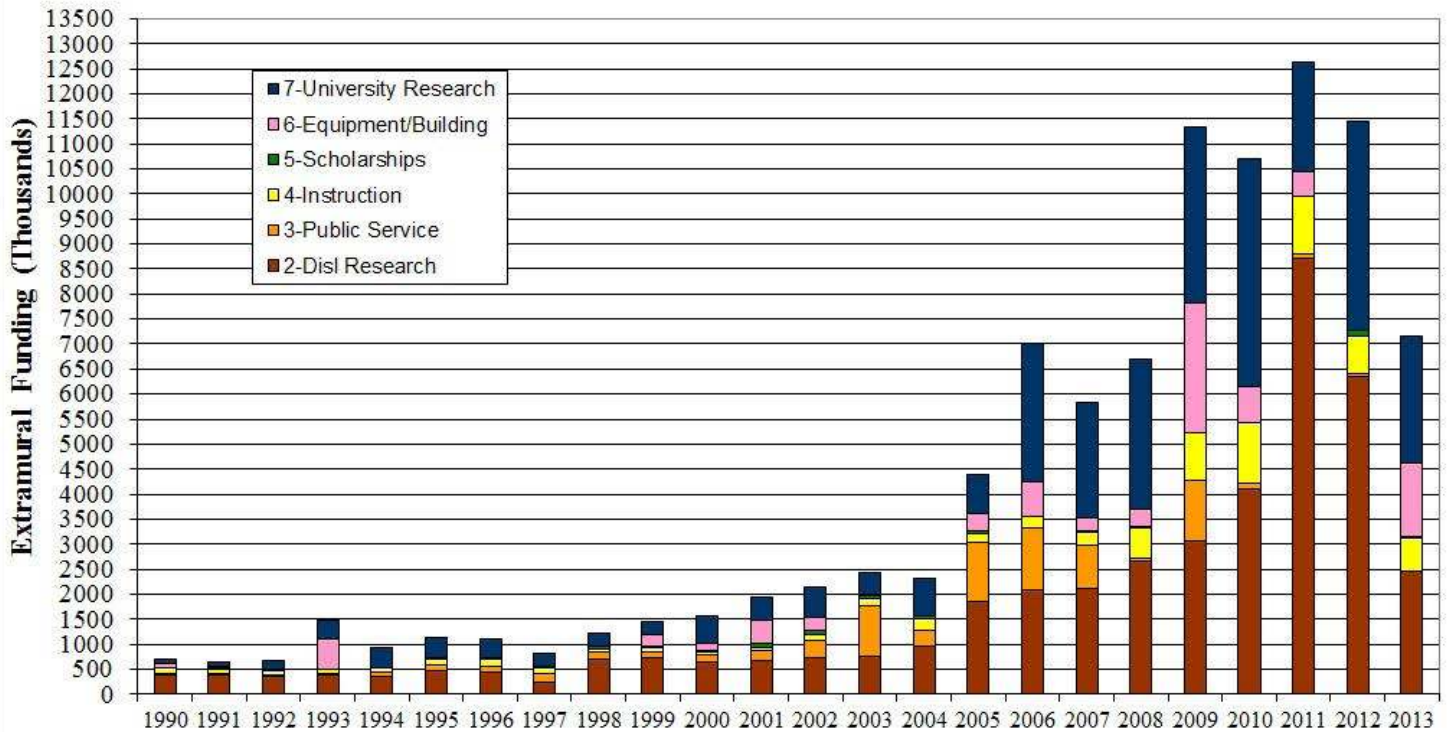
Alice Ortmann

- Optimization of a protocol to obtain high quality RNA from estuarine sediments, USA Arts & Sciences Support and Development Awards, \$1,487, 01/2013, PI
- Determining the predominant nitrogen and sulfur transformations in salt marshes using a metagenomics approach, USA Faculty Development Award, \$ 4,994, 01/2013, PI
- Residence time as a factor controlling HABs and fecal coliform bacteria in Little Lagoon, AL, Mississippi-Alabama Sea Grant Consortium, \$467,347. 2010-2012, Co-PI with H. MacIntyre and K. Park

Kyeong Park

- Research and education cyberinfrastructure investments to develop the coastal hazards collaborator in the northern Gulf coast, NSF EPSCoR RII Track-2

Extramural Funding



- Program, \$232,573, 09/01/2010-08/31/2013, Co-PI with S. Kimball
- Integration of and regional enhancements to the Gulf of Mexico Coastal Ocean Observing System: Enhancement of spatial coverage in the central northern Gulf of Mexico, NOAA National Ocean Service, \$366,823, 10/01/2012-09/30/2016, Co-PI with B. Dzwonkowski
- A circulation and transport model for fishery management in Mobile Bay and eastern Mississippi Sound, Mississippi-Alabama Sea Grant Consortium, \$149,876, 02/01/2014-01/31/2016, Co-PI with R. Carmichael
- Residence time as a factor controlling the effects of HABs and fecal contamination on ecosystem health in Little Lagoon, Alabama, Mississippi-Alabama Sea Grant, \$467,347, 02/01/2010-01/31/2013, Co-PI with A. Ortmann and H. MacIntyre
- Investigation of the three dimensional Eulerian flow field and resulting Lagrangian transport pathways on the Alabama shelf, Gulf of Mexico Research Initiative (GoMRI) RAPID, \$177,975, 12/01/2010-12/31/2012, Co-PI with B. Dzwonkowski, B. Webb and A. Valle-Levinson

Will Patterson

- Assessment of Escambia East Large Area Artificial Reef Site refugia reefs: Impacts of invasive lionfish, Florida

- Fish and Wildlife Conservation Commission, \$ 59,996, November 1, 2013 to October 31, 2014, Co-PI with R. Snyder
- Modeling the impacts of gear regulations in the northern Gulf of Mexico recreational reef fish fishery, NMFS-Sea Grant, \$ 77,000, June 1, 2013 to May 31, 2015, Co-PI with S. Garner
- Acquisition of a laser ablation inductively coupled plasma mass spectrometer to support marine science research and education in the northern Gulf of Mexico, National Science Foundation, \$314,725, June 1, 2013 to May 31, 2014), Co PI with R. Carmichael, J. Krause, K. Heck and S. Powers
- Data management in support of NOAA's integrated ecosystem assessment for the Gulf of Mexico through the NGI Ecosystem Data Assembly Center: DISL's Data Management Center, Northern Gulf Institute, \$68,622, June 1, 2013 to May 31, 2014, PI
- Examining vertebrate elemental signatures as nursery-specific tags of blacktip shark in the Gulf of Mexico, NMFS-Highly Migratory Species, \$10,000, August 1, 2012 to July 31, 2014, Co-PI with J. Carlson
- Estimating potential nursery sources for south Atlantic red snapper populations using otolith chemistry, NMFS-Marine Fisheries Initiative, \$64,700, January 1, 2012 to December 31, 2013, Co-PI with T.

- Kellison and B. Barnett
- Distinguishing three cohorts of juvenile red snapper, *Lutjanus campechanus*, in the northern and southern Gulf of Mexico using otolith chemical signatures, NMFS-Marine Fisheries Initiative, \$75,800, January 1, 2012 to December 31, 2013, Co-PI with B. Barnett
- Examining Hook Selectivity in the Northern Gulf of Mexico Recreational Reef Fish Fishery, NMFS-Cooperative Research Program, \$202,636, September 1, 2012 to August 31, 2014, Co-PI with c. Porch and A. Strelcheck
- Effect of Deepwater Horizon Oil Spill on fish communities associated with artificial reefs off northwest Florida, Florida Fish and Wildlife Research Institute, \$352,053 (USA budget: \$152,544), Award period: December 1, 2011 to February 1, 2013, Co-PI with D. Hollander, A. Kane and M. James
- Center for Integrated Modeling and Analysis of the Gulf Ecosystem (C-IMAGE), Gulf of Mexico Research Initiative, \$11,000,000 (USA budget: \$471,966), January 1, 2012 to December 31, 2015, Co-PI with S. Murawski and 14 others
- Acoustic tracking of reef fishes associated with EE-LAARS refugia reefs, Florida Fish and Wildlife Conservation Commission, \$98,139, July 1, 2011 to October 31, 2013, Funded to University of West Florida, PI

Sean Powers

- Acquisition of a laser ablation inductively coupled plasma mass spectrometer to support marine science research and education in the northern Gulf of Mexico, National Science Foundation, \$314,725, June 1, 2013 to May 31, 2014), Co PI with R. Carmichael, J. Krause, K. Heck and W. Patterson
- Intra- and inter estuary movement of tarpon and red drum in coastal Alabama., U.S. Fish and Wildlife, Sportsman Restoration Fund via Alabama Department of Conservation and Natural Resources, Marine Resources Division, \$37,000, 2013-201, PI
- Alabama Reef fish surveys, SEAMAP: NMFS via Alabama Marine Resources Division, \$185,000, 2013-2014, PI
- Ecosystem-Based Fisheries Assessment of Reef Fishes in the Northcentral Gulf of Mexico, NMFS MARFIN, \$322,000, 2013-2015 Co-PI with J. Drymon
- Red Snapper and Greater Amberjack research in the Alabama Artificial Reef Permit Zone., U.S. Fish and Wildlife, Sportsman Restoration Fund via Alabama Department of Conservation and Natural Resources, Marine Resources Division, \$204,660, 2013-2014 Co-PI with R. Shipp
- Assessment of decapod crustaceans as sentinel estuarine species, Collaborative with UNO and USM., U.S. Dept. of Interior, Bureau of Ocean Energy Management, \$1,200,000 (\$399,300. U. South AL), 2012-2017, PI
- Dendritic Polymers as Biocompatible Dispersants for Oil Spill Mitigation, U.S. Environmental Protection Agency, \$500,000 (\$204,000 U. South AL), 2012-2014, Co-PI with D. Ladner, P. Ke (Clemson) and A. Whelton (USA)
- Oyster Reef Restoration Success Metrics-Post Doc Support, The Nature Conservancy, Marine Imitative, \$44,000, 2012-2013, PI
- A Decision Support Toolkit for the Functional Design of Structures in Living Shorelines, MS/AL Sea Grant, \$130,000, 2012-2014, Co-PI with B. Webb, S. Douglas
- Scientific support for oyster damage assessment associated with the Deepwater Horizon Incident, NOAA, Natural Resource Damage Assessment, via Industrial Economics, Inc., \$600,000, 2010-2012, PI
- Sustainable coastal pelagic fisheries, NOAA, \$750,000. 2010-2014, Co-PI with J. Dindo and R. Shipp
- Ecological and fisheries implications of red snapper

(*Lutjanus campechanus*) and gag (*Mycteroperca microlepis*)

- interactions, NOAA MARFIN, \$303,188, 2010-2012, PI
- Prince William Sound Herring Survey: Top-down regulation by predatory fish on juvenile herring, NOAA Exxon Valdez Oil Spill Trustee Council, \$678,900 (\$210,000 U. South AL.), 2009-2013, Co-PI with M. Bishop.

Research Projects Abroad

Just Cebrian

- Universidad del Mar del Plata (Mar del Plata, Argentina), Research on marsh ecology (regulation of marsh ecosystem function), March 2012, 3 weeks

Ken Heck

- Participated in field work in Finland as part of DISL Field Marine Science course taught at Åbo Akademi University, Husö Biological Station.



- **Board of Directors**
- **Executive Committee**
- **Program Committee**

The Board of Directors is comprised of the Presidents of each of the 22 member institutions.

The Executive Committee has full power and authority in the interval between meetings of the Board of Directors to do all acts and perform all functions which the Board of Directors itself might do or perform, except that it shall have no power to amend the bylaws. Among its duties are to review and approve the annual budget; approve curricular options and other major policies and procedures; and facilitate and stimulate the development of education and research programs.

The Program Committee Members consists of one faculty member, appointed by the President, from each of the member institutions. These members serve as the primary liaison between the member institution and the Sea Lab, and are responsible for advising the Sea Lab's Executive Director in planning and implementing the education, research and service programs of the DISL.

The contact information listed is for the Program Committee Member.

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Program Committee: Dr. John Aho
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(Interim President: Dr. John Smith during reporting period)
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Program Committee: Dr. Jack O'Brien
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Federal Awards/Grants

Federal Grantor/ Pass-Through Grantor/ Program Title	Assistance Period	Budget		Revenue Recognized	Expenditures
		Total	Federal Share		
Research and Development Cluster					
U.S. Department of Commerce					
Direct Programs					
Marine Fisheries Initiative	08/01/2009-07/31/2013	211,258.00	211,258.00	39,333.44	39,333.44
Marine Fisheries Initiative	09/01/2010-08/31/2013	749,250.00	749,250.00	196,539.00	194,654.12
Passed Through University of Southern Mississippi					
Sea Grant Support Oceanic and Atmospheric Projects	2/1/2010-1/31/2014	190,274.00	119,346.00	37,529.99	37,529.99
Sea Grant Support Oceanic and Atmospheric Projects	02/01/2010-01/31/2013	441,549.00	289,254.00	28,408.48	28,408.48
Sea Grant Support Oceanic and Atmospheric Projects	2/1/2012-1/31/2015	64,690.00	31,240.00	20,827.00	20,827.00
Passed through Alabama of					
Conservation and Natural Resources					
Coastal Zone Management Administration Awards	10/1/2011 - 3/31/2013	105,000.00	105,000.00	54,071.38	54,071.38
Coastal Zone Management Administration Awards	10/1/2011 - 3/31/2013	30,000.00	15,000.00	7,397.58	7,397.58
Coastal Zone Management Administration Awards	10-1/2012 - 9/30/2013	2,000.00	1,000.00	1,000.00	1,000.00
Coastal Zone Management Administration Awards	4/1/2013 - 3/31/2014	22,000.00	15,400.00	7,606.34	7,616.34
Coastal Zone Management Administration Awards	10/1/2012-9/30/2013	30,000.00	15,000.00	15,000.00	15,000.00
Coastal Zone Management Administration Awards	10/1/2012-09/30/2013	10,000.00	10,000.00	8,698.53	8,698.53
Coastal Zone Management Administration Awards	10/1/2011-9/30/2012	6,000.00	6,000.00	782.61	782.61
Coastal Zone Management Administration Awards	10/1/2012-9/30/2013	6,000.00	6,000.00	6,000.00	6,000.00
Coastal Zone Management Administration Awards	10/1/2012-3/31/2014	88,000.00	88,000.00	55,634.66	55,634.66
Coastal Zone Management Administration Awards	10/1/2012-3/31/2014	105,000.00	52,500.00	48,645.00	48,645.00
Passed Through Mississippi State University					
(NOAA) Cooperative Institute	1/1/2012 - 6/30/2013	70,164.00	70,164.00	54,263.02	54,263.02
National Oceanic and Atmospheric Administration					
(NOAA) Cooperative Institute	4/1/2012 - 8/1/2013	65,000.00	65,000.00	85,092.99	85,092.99
National Oceanic and Atmospheric Administration					
(NOAA) National Coastal Data Development Center	06/01/2013-05/31/2014	68,623.00	68,623.00	23,297.70	23,297.70
National Oceanic and Atmospheric Administration					
National Oceanic and Atmospheric Administration	07/01/2012-11/30/2013	6,403.00	6,403.00	6,143.98	6,143.98
Passed Through The Nature Conservancy					
Passed Through University of New Hampshire					
Coastal Zone Management Administration Awards	9/15/2010-9/14/2013	354,750.00	354,750.00	138,314.19	138,066.08
Passed Through Mississippi Department of					
Marine Resources					
Coastal Services Center	08/01/2009-12/31/2012	224,223.00	224,223.00	33,748.71	33,748.71
NGI - Northern Gulf Institute					
Passed through Mississippi State Univ.					
National Oceanic and Atmospheric Administration	10/1/2011 - 3/31/2013	44,972.00	44,972.00	24,830.73	24,830.73
(NOAA) Cooperative Institute					
U. S. Department of Health and Human Services					
Direct Program					
Food and Drug Administration-Research	9/21/2011-8/31/2013	250,000.00	250,000.00	125,427.44	125,427.44
National Science Foundation					
Direct Programs					
National Science Foundation	2/15/2013-12/31/2014	189,309.00	189,309.00	30,716.69	30,716.69
Passed Through Bermuda Institute of					
Ocean Sciences					
Bermuda Institute of Ocean Sciences (BIOS)	10/01/2010-9/30/2013	151,708.00	151,708.00	29,597.91	29,597.91
Passed Through the Regents of the University of					
California-Santa Barbara					
	4/1/2013 - 3/31/2014	70,024.00	70,024.00	19,121.96	19,121.96

Federal Grantor/ Pass-Through Grantor/ Program Title	Assistance Period	Budget		Revenue Recognized	Expenditures
		Total	Federal Share		
Passed Through The University of Alabama In Huntsville					
Exp. Program to Stimulate Competitive Research	10/01/2010-08/31/2013	239,283.00	239,283.00	82,431.89	82,431.89
Other Federal Awards					
US Department of Commerce					
Direct Programs					
Congressionally Identified Awards and Projects	10/01/2009-09/30/2015	377,264.00	295,247.00	63,580.03	63,580.03
Congressionally Identified Awards and Projects	10/1/2008-03/31/2013	2,151,837.00	2,151,837.00	199,328.06	199,328.06
Passed Through Gulf of Mexico Alliance (GOMA)					
Unallied Management Projects (M)	1/6/2012 - 12/31/2013	79,745.00	79,745.00	14,999.79	14,999.79
Unallied Management Projects (M)	1/1/2013-12/31/2013	36,000.00	36,000.00	30,916.03	30,916.03
Passed Through The Florida Aquarium					
Congressionally Identified Awards and Projects	7/20/2010-8/20/2011	122,580.00	76,407.00	14,278.61	14,278.61
Passed Through Texas A & M research Foundation					
U. S. Department of the Interior	06/01/2011-05/31/2013	53,365.00	53,356.00	23,330.71	23,330.71
Direct Program					
Fish and Wildlife Service	9/1/2011 - 10/1/2013	46,673.35	46,673.35	27,516.66	27,516.66
Fish and Wildlife Service	9/1/2011 - 10/1/2013	60,000.00	60,000.00	37,961.40	37,961.40
Fish and Wildlife Service	08/01/2012-09/30/2014	20,000.00	20,000.00	20,000.00	20,000.00
Passed Through Weeks Bay Foundation					
Fish and Wildlife Service	9/1/2012-8/31/2014	105,884.00	105,884.00	82,173.39	82,173.39
Passed Through Mobile County Public Works Beureau of Ocean Energy Management Coastal Impact Assisstance Program					
	07/21/2010-11/30/2012	249,998.17	249,998.17	54,189.65	54,189.65
Passed Through State of Alabama Beureau of Ocean Energy Management Coastal Impact Assisstance Program					
	1/1/2011-10/31/2012	100,000.00	100,000.00	16,161.96	16,161.96
Passed Through Baldwin County Commission Beureau of Ocean Energy Management Coastal Impact Assisstance Program					
	10/01/2010-12/31/2013	250,000.00	250,000.00	54,360.62	54,360.61
Coastal Impact Assisstance Program					
	04/20/2011-02/28/2013	200,000.00	200,000.00	73,898.01	73,898.01
Shoreline/Habitat Restoration					
	6/1/2012-5/31/2014	200,000.00	200,000.00	5,643.30	5,643.30
Coastal Impact Assisstance Program					
Passed Through Texas A & M University Gulf Coast Cooperative Studies Unit National Parks Service					
Gulf Coast Inventory and Monitoring Network	08/31/2011-12/31/2013	54,986.00	54,986.00	22,981.37	22,981.37
Gulf Coast Cooperative Studies Unit	08/16/2013-2/01/2014	12,517.00	12,517.00	377.16	377.16
Passed Through Alabama Department of Conservation and Natural Resources ADCNR-Wildlife and Freshwater Fisheries					
	10/1/2012-09/30/2013	39,899.00	39,899.00	39,899.00	39,899.00
Environmental Protection Agency Direct Programs					
National Estuary Program					
National Estuary Program	10/01/2006 -09/30/2012	4,204,701.00	2,102,350.00	10,386.68	200,249.02
National Estuary Program	10/01/2010-9/30/2013	2,822,600.00	1,411,300.00	800,868.20	988,220.02
National Estuary Program	2/14/2012-9/30/2015	645,600.00	645,600.00	542,012.86	542,012.86
Gulf of Mexico Program	05/01/2010-04/30/2013	319,797.00	239,925.00	32,006.61	32,006.61
Gulf of Mexico Program	12/01/2008-11/30/2011	229,765.00	205,965.00	17,324.00	17,324.00
Gulf of Mexico Foundation, Inc.	1/1/2011-12/31/2012	58,451.00	58,451.00	58,451.00	58,451.00
Passed Through State of Florida Department of Environmental Protection Nonpoint Source Implementation					
	9/15/2010-9/30/2012	51,152.14	51,152.14	83.73	83.73
National Aeronautics and Space Administration (NASA) Passed Through University of South Carolina Science					
	12/15/2009-12/14/2011	22,725.00	22,725.00	4,794.38	4,794.38
		\$16,381,043.66	\$12,218,724.66	\$3,427,984.43	\$3,803,075.59



Balance Sheet

Marine Environmental Sciences Consortium
Dauphin Island Sea Lab
Statement of Net Assets
For the Year Ended September 30, 2013

ASSETS

Current Assets

Cash	2,829,764
Accounts Receivable	1,904,601
Inventories	118,676
Total Current Assets	<u>4,853,040</u>

Noncurrent Assets

Capital Assets:	
Land	658,757
Buildings	13,702,716
Improvements Other Than Buildings	391,481
Equipment	2,376,530
Vessels	1,075,392
Library Holdings	842,322
Construction in Progress	43,866
Less: Accumulated Depreciation	<u>(7,060,256)</u>
Total Capital Assets, net of Depreciation	<u>12,030,809</u>
Total Noncurrent Assets	<u>12,030,809</u>
Total Assets	<u>16,883,849</u>

LIABILITIES

Current Liabilities

Accounts Payable	33,531
Lease Obligations	17,447
Compensated Absences	26,706
Deferred Revenue	1,633,671
Deposits Held for Others	151,842
Total Current Liabilities	<u>1,863,197</u>

Noncurrent Liabilities

Compensated Absences	418,396
Other long-term liabilities	10,671
Total Noncurrent Liabilities	<u>429,067</u>
Total Liabilities	<u>2,292,265</u>

NET ASSETS

Invested in Capital Assets, net of related debt	12,002,691
Restricted for	
Expendable	
Capital Projects	28,334
Research & Scholarships	77,893
Instruction	287,427
Public Outreach	423,917
Unrestricted	1,771,322
Total Net Assets	<u>14,591,584</u>

Discovery Hall Programs Participation Totals, and Graduate and Undergraduate Credit Hours Earned

