

MIMES REPORT

Minorities in Marine and Environmental Sciences

Winter 1999

South Carolina Department of Natural Resources
Marine Resources Division

Summary of 1999 Summer Intern Program

SUMMER INTERN PROGRAM

This was the fifth year of the Marine Resource Division's (MRD) twelve-week program, funded by the National Science Foundation (NSF), Ocean Science Program. The students' presentations on August 12, 1999 marked the end of 1999's summer internship. For the Minority Affairs Committee (Yvonne Bobo, Donnia Richardson, Charlie Barans, Bill Roumillat, Louis Heyward, Phil Maier, Ray Rhodes, Saundra Upchurch, and Donnie Kinard) and the Marine Resources Division (MRD) volunteers, the summer intern program is a twelve-month process. Student recruitment material is prepared and disseminated by the first of each year. Prior to the mid-March application deadline, the mentors are recruited, and the visiting speakers are scheduled. In April, the applicants are ranked, matched with mentors, and then interviewed by committee members and prospective mentors. During the remaining months, the summer program's schedule is prepared, a mentor workshop is held, and the travel plans for speakers and interns are arranged.

MRD internship is designed to give undergraduates "hands-on" experience in the fields of marine and environmental sciences. Students are given the opportunity to conduct independent research projects under the guidance of marine scientists; assist with other projects at the Marine Resources Center; and observe fellow interns working on their research projects. The scientists serve as mentors to the students, explaining all facets of current research and the importance of conducting high quality research.

One of the most important tasks of the Minority Affairs Committee is to evaluate the success of the previous year's program, coupled with a professional external critique. These assessments are used to continually improve the program. MRD believes self-evaluation, is a critical step to providing a high quality, 'hands-on learning' experience for minority students. NSF's goal is that the program will increase the number of minorities, especially African-Americans, choosing marine or environmental science as a profession and continuing their education through graduate school.



Natasha Cobb, Wanda Lewis, Taconya Piper, Shamara Bullock, Celere Leonard, and Raissa Menendez-Delmestre

THE WORLD OF SCIENCE

Shamara Bullock, a marine biology major and senior at the University of Maryland Eastern Shore in Princess Anne, Maryland, assisted her mentors, Dr. Elizabeth Wenner and Mr. Mark Thompson, with various horseshoe crab studies. The focus of her research project was to characterize the spatial distribution and the size classes of juvenile horseshoe crabs that inhabit estuarine sand flats. “The most enjoyable part of my research was the field work,” said Shamara. “I was given adequate instruction, but not so much that I was unable to think for myself.”

Shamara Bullock measures a juvenile horseshoe crab in her study.



Raissa Menendez-Delmestre, a sophomore and science major at the University of San Juan, San Juan, Puerto Rico, worked with Kay Davy, under the guidance of Dr. John Miglarese. “My mentor was always there to help and explain things to me,” states Raissa. She designed a survey to collect the opinion of anglers on the effectiveness of the SC Marine Game Fish Tagging Program and on the program’s plans to eliminate a few game species from its tagging list.

Raissa enters the information on anglers’ survey forms.



Taconya Piper, another senior at the University of the Maryland Eastern Shore, studied under the direction of Dr. Charles Wenner and his team of Inshore Fisheries scientists (Bill Roumillat and Myra Brouwer). Taconya conducted fecundity experiments on spotted seatrout (*Cynoscion nebulosus*). On her exit survey, Taconya wrote, “I always knew that I wanted to work in the marine science field, this experience has helped to strengthen this and now I know exactly what area of research that I want to pursue.”

Taconya Piper pulls in a seine net.



Celere Leonard, a senior at Tuskegee University in Tuskegee, Alabama, studied under Drs. Fred Holland and Charles Barans. The biology major spent the summer measuring the response of an oligocheate worm species to hypoxic water conditions. “By the end of the summer, my laboratory techniques had improved, and I now pay greater attention to detail,” stated Celere.

Celere Leonard sifts her sediment samples.



Natasha Cobb, a sophomore and chemistry major at the College of Charleston in Charleston, South Carolina, spent the summer assisting her mentor, Dr. Amy Ringwood, with an ongoing study in a Charleston Harbor estuarine system. Natasha's summer research entailed determining how metal pollution affects the American oyster's reproduction success and production of a cellular defense chemical. "I enjoyed all of the laboratory work, and I gained basic knowledge that will build the foundation of my future" said Natasha. "I feel that this is where I learned the most valuable information."

Natasha Cobb inspects centrifuged samples.

Wanda Lewis, a senior at New Mexico State University, in Las Cruces, New Mexico, worked with Dr. Peter Moeller of NOAA/National Ocean Service. The biology/chemistry major spent the summer trying to isolate a compound that would eradicate, mitigate, or control *Gymnodinium breve*, the red tide dinoflagellate. "Learning to work with scientific equipment was so different from just reading about them," said Wanda. "I learned a lot this summer."

Wanda Lewis prepares samples for an experimental run.



CLASSROOM TRAINING

During the first month of the program, the interns attended four workshops conducted by Marine Resources Division (MRD) staff. Bruce Stender and Bill Roumillat held a workshop on scientific writing. David Wyanski covered the basics of statistics, and Dr. Thomas Mathews instructed the students on proper laboratory procedures and safety protocols. Dr. Fred Holland, Director of Marine Resources Research Institute (MRRI), spoke on the importance of watershed health to marsh and tidal creek communities. He also stressed how understanding ecological processes is vital to the sound development of coastal zone resources.

GUEST SPEAKERS - EXCELLENT ROLE MODELS

An important aspect of the program is to give students an opportunity to interact with role models. During July, minority scientists representing several areas of expertise visited Marine Resources Division to discuss intern research projects, career goals and success strategies with the students. Dr. Michael Howell, geology professor at the University of South Carolina in Columbia, South Carolina, presented some of his research results on international sea floor sampling. Discussions during the day focused on student concerns over understanding the research culture

and successfully conducting independent research within such a system. The second speaker, Dr. Cecil Jennings of the School of Forest Resources of the University of Georgia, presented a seminar on his recent scientific research on fisheries management conflicts. He then stressed the importance of continued education through graduate school and approaches for being accepted at universities specializing in their interest areas. Rear Admiral Evelyn Fields, Commander of the NOAA Corps in Washington, D.C., visited the interns and shared her experiences as a successful woman officer in NOAA. She also offered suggestions on work ethics and networking. At the end of July, Ms. Ruth Kiambo, a University of Charleston graduate student and recent employee at the NOS laboratory, shared her experiences with the students. She emphasized the importance of further education in graduate school and gave helpful information on how and where to apply to graduate schools. Each speaker spent time in an informal atmosphere offering the students suggestions and encouragement.

PREPARATIONS FOR THE BIG DAY!

After eight intensive weeks of research and lectures, the students wrapped up their experiments and began preparing their written reports and oral presentations. They analyzed data, interpreted results, and wrote conclusions. With the help of mentors, and the MRD computer and graphics staff, the students prepared slides for the oral presentations. On August 12, the students presented summaries of their research projects to scientists, family, friends, and MRD volunteers. Following the presentations, mentors, along with Dr. John Miglarese, MRD Deputy Director, presented each student with a certificate of achievement.



Endia



Alexis



LaToya

UPDATE ON PREVIOUS INTERNS



Semonia

Semonia Eadie, a 1994 intern and graduate of Claflin College in Orangeburg, South Carolina, is a manager at Assessment Systems Incorporation Test Center in North Charleston, South Carolina.

Goler Collins, a 1996 intern and

graduate of South Carolina State University in Orangeburg, is a math teacher at Dreher High School in Columbia, South Carolina. For several years, Goler has brought his classes to the Marine Resources Division to experience science first-hand. Milly



Goler

Puddan, a 1998 intern, is a first year pharmacy student at the Medical University of South Carolina (MUSC) in Charleston. Three 1998 interns participated in additional summer internships during summer of 1999. Endia Johnson was a Minority Medical Education Program summer intern in Nashville, Tennessee. Alexis Epps participated in



Milly

the MEDIC-B Scholars Summer Research Program funded by the National Institute of Environmental Health Services. LaToya Smalls participated in another National Science Foundation (NSF)-funded summer internship, the Savannah State University-Harbor Branch Oceanographic Institute (SSU-HBOI) Summer Undergraduate REU program.

Once again, summer interns presented their research projects at national meetings. Taconya Piper and Celere Leonard presented posters at the Estuarine Research Federation '99 conference held on September 25-30, 1999 in New Orleans, Louisiana. Wanda Lewis gave an oral presentation at the New Mexico Alliance for Minority Participation/Waste Management Education and Research Consortium Annual Conference. Wanda also received biology credit from her university for the research conducted as part of her internship. Another 1999 intern, Natasha Cobb gave an oral presentation of her research project to the South Carolina Department of Natural Resources Advisory Board in Charleston, South Carolina.

Alumni of the Minority Intern Program, what are you doing these days? We would love to know how all of our previous interns are doing and where they are now. We would appreciate telephone numbers, home addresses, and e-mail addresses to keep in touch. Thanks!

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Minority Intern Program's web page: www.dnr.state.sc.us/marine/minority