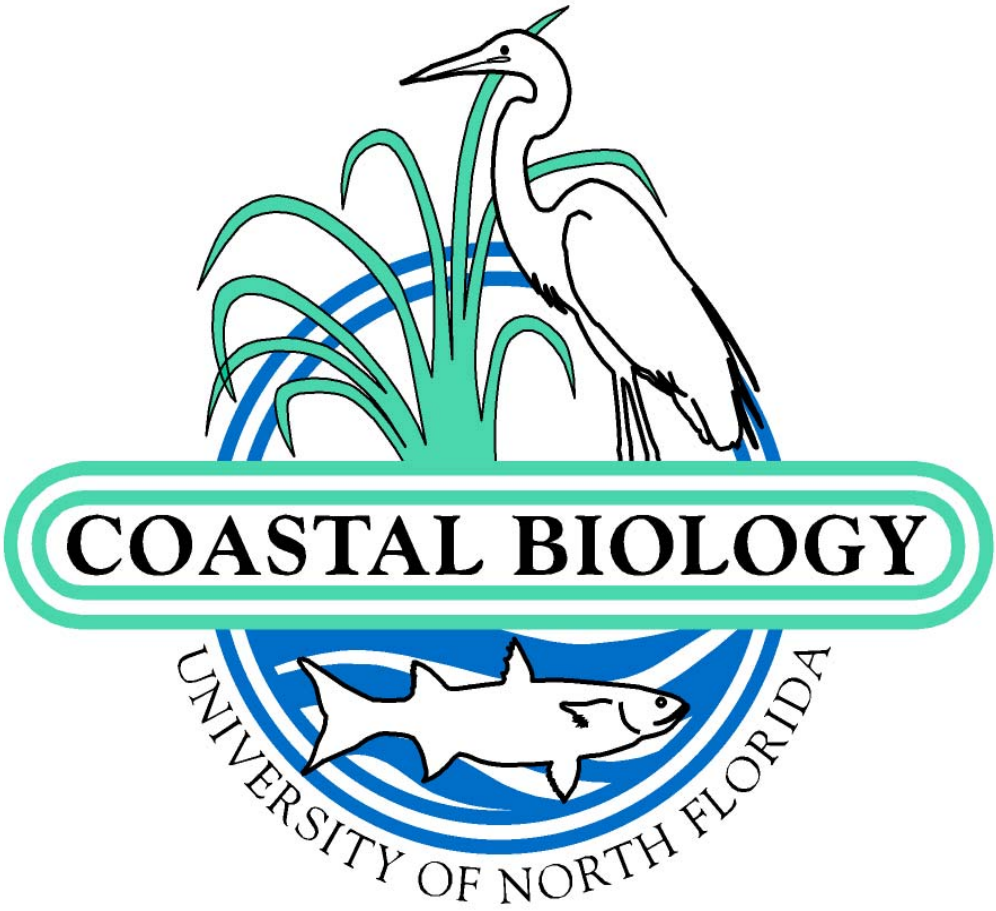
ANNUAL REPORT

2008-2009

COASTAL BIOLOGY FLAGSHIP PROGRAM



Executive Summary

The 2008-2009 academic year saw a dramatic decrease in funding with the loss of the full-time Coastal Biology Director position. Those duties are now performed ad-hoc whenever possible by the current Biology Chair and former director. Funding for Coastal and Oceanographic journal subscriptions continued. The popular public lecture series on Coastal topics and issues continued through funding by the Brotman family and a donation by Ms. Sarah Bailey. A total of four lectures were provided by the public through these two funds and a grant acquired by Dr. Cliff Ross from Sea Grant provided funds for a fifth public lecture. Faculty associated with the Coastal Program continued their success obtaining significant grants and contributing to the general field of Coastal Biology through presentations at scientific meetings and through peer-reviewed publications. Coastal Funds provided varying amounts of support for some of these publications and for a number of presentations. Most coastal funds that supported research were directed at undergraduate and graduate students resulting in numerous presentations largely based on undergraduate Directed Independent Studies and Graduate Student theses.

Contents

Introductory Remarks

The Coastal Biology Flagship program has been on a coast-mode during the past year. Initiatives begun January-July 2008 continued to provide benefits to the program. Dr. James Gelsleichter, an aquatic toxicologist, was hired spring 2008 and brings new coastal expertise to the department and has acquired grants and is funding undergraduate and graduate students. He is the prime user of the new vessel and SUV. Other faculty members continued their coastal work with small grants provided to their students who are focused on coastal research. All but one of the tenure-track faculty members participated in some aspect of the coastal programs. The coastal program is now featured prominently on the Biology Department web site. Two tracks, now formally part of the Biology degree program are in place and attracting students to UNF's Biology program.

Funding for the Director of the Coastal Biology Flagship Program was used this year to fund the Biology Department Chair. Thus, the program suffered from an ability to respond to requests in the local community and general discipline of Coastal Science. The Chair of Biology also served as the Coastal Biology Director as much as possible. The Coastal Biology administrative assistant, with help from the faculty, has been successful in maintaining an excellent public lecture series and in promoting the capabilities of the Coastal faculty. She maintains coastal budgets and processes requests for funding from students and faculty. Coastal funds are used to repair and maintain Biology Department vessels used for coastal research. A request by parents and staff at the Mayport Middle School to develop a joint summer Coastal Program for Middle School students was explored, but could not be initiated for summer 2009. An attempt will be made again next year.

The Coastal Director played a role in the restructuring of the Florida Institute of Oceanography (FIO) as a member of the committee that wrote the justification for the FIO to remain extant and for support from the state university system. The coastal director also chaired a review team tasked with examining the U.S. Corps of Engineers Environmental Research Laboratory in Vicksburg and providing recommendations for improving the laboratory. He was also invited to serve on a panel discussing Ecosystem Restoration at their national conference in Los Angeles.

The Coastal Program provided lecturers for UNF's continuing education series. Six evening lectures were provided as a program on the Coast and environment. Andy Beall, Dale Casamatta, Matt Gilg, Jim Gelsleichter, Dan Moon and Cliff Ross spoke on topics ranging from fossils on the beach to sharks. The program was well received.

The Coastal Program responded to requests by the community whenever appropriate expertise was available. The response was muted the past year because faculty were often not available.

Coastal Flagship Program Chronology

Year 1 – 2006-2007

1) Search for Director of Coastal Biology Director Completed
2) Major acquisition of library resources to support Coastal Program
3) Purchase of 12-passenger van for Coastal Laboratory Fieldtrips
4) Renovation of laboratory facilities for Coastal Director
5) In-house grants provided for faculty and student coastal research

Year2 – 2007-2008

1) Director of Coastal Biology arrived January 2008
2) Administrative Assistant (part-time) for Coastal Program hired
3) Funds expended (42K) to continue Coastal journal subscriptions
4) Coastal Vessel and SUV purchased to support Coastal Research
5) Public Lecture Series on Coastal Issues Initiated and Funded
6) Summer class for public school teachers on Teaching Coastal Biology in secondary and middle schools developed and taught.
7) Coastal Biology Track and Applied Coastal Track proposed for Biology Curriculum
8) Connections initiated with local consulting companies, Jacksonville Corps of Engineers District, St Johns Water Management District, and many other agencies.
9) Support provided for graduate student research.
10) Support provided for graduate student travel for presenting research.
11) Support provided for faculty travel related to coastal research
12) Monthly articles for the community on Coastal topics provided to local newspapers.
13) Numerous TV and radio interviews on Coastal topics.
14) Coastal Biology featured on Biology web site.

Year 3 – 2008-2009

1) Funds for Coastal Director position eliminated
2) Part-time administrative support for Coastal Biology increased to ¾ time.
3) Funds expended (42K) to continue Coastal journal subscriptions
4) Tracks (concentrations) in Biology approved including proposed Coastal tracks
5) Estuarine Ecology course taught
6) Public Lecture Series on Coastal Issues continues
7) Support provided for graduate student research.
8) Support provided for graduate student travel for presenting research.
9) Support provided for faculty travel related to coastal research

Year 4 – 2009-2010 (Final Year of Flagship Funding)

Public Lecture Series

The Coastal Program accomplished major goals this year including 5 Public lectures funded by our coastal program along with The Brotman Family Lecture Series Fund, The Sarah Bailey Fund, and The Elise B. Newell Seminar Series. All of these lectures were free and open to the general public and were received with great interest by the community. Our speakers were:

1) September 25, 2008, Dr. Nancy Rabalais, Executive Director of Louisina Universities Marine Consortium, "The Dead Zone in the Gulf of Mexico".
2) October 23, 2008, Drs. Chuck and Maggie Amsler, University of Alabama Professors, "Antarctica Studies: Life on the Ice"
3) November 20, 2008, Dr. Ann Pabst, UNCW Professor, "Marine Mammals"
4) January 29, 2009, Dr. Stanley Riggs, Professor in the Department of Geological Sciences at East Carolina University, "Climate Change, Sea Level Rise and Storms, Past Present and Future of Our Coastal System"
5) February 26, 2009, Dr. Frank Moore, Professor and Chair of The Department of Biology, The University of Southern Mississippi, "A Place to Land? Stopover Biology of Migratory Birds.

UNF Continuing Education Program & Other Outreach

Our Faculty participated in a Coastal Biology Flagship Program team effort with UNF Continuing Education in the Spring of 2009. These were also public lectures and promoted by the UNF Continuing Education Department and The Flagship Program. Our Biology Professors presented:

1) April 7, 2009, Senior Lecturer Andy Beall, UNF Biology, "Fossils and Geology"
2) April 14, 2009, Dr. Dale Casamatta, Associate Professor, UNF Biology, "The St. Johns River"
3) April 28, 2009, Dr. Matthew Gilg, Assistant Professor, UNF Biology, "Exotic Invaders"
4) May 12, 2009, Dr. Jim Gelsleichter, Assistant Professor, UNF Biology, "Sharks"
5) May 26, Dr. Dan Moon, Associate Professor, UNF Biology, "Wetlands and Carnivorous Plants"
6) June 9, 2009, Dr. Cliff Ross, Assistant Professor, UNF Biology, "Climate Change"
7) The Coastal Flagship Program partnered with Environmental Services Inc. and The Jacksonville Public Library for an Exhibit in the Downtown Jacksonville Library in the month of July 2009. Field photographs from UNF Biology along with fossils were shown for the month. Dr. Dale Casamatta presented "The Current State of the St. Johns River" at the Downtown Library Lunch and Learn Series on July 15, 2009.

Faculty/Student Grants and Travel Awards

For the Fall 2008 Semester, Grants were awarded to Students and Faculty:

Faculty Awards:

Dr. Joe Butler, Travel Award, $2,480

Dr. Matthew Gilg, Lab Supplies, $4000

Dr. Cliff Ross, Lab Supplies, $4690.00

Dr. Dale Casamatta, Lab Supplies, $1000

Dr. Kelly Flynn, Lab Supplies, $529.00

Student Awards:

Marc Hanke, Lab Supplies, $1000

Ralph Perkerson, Travel, $1113

For the Spring 2009 Semester, Coastal Research Awards and Travel Awards were given to the following graduate students in awards up to $1000:

Research Awards:

1) Kelly Flynn: $1000 research award; The study of Daphnia Magna
2) Ryan Ford: $1000 research award; Shark Biology
3) Diana Silva.: $850 research award; Dragonfly Population Research, St. Augustine Fields

Travel Awards:

1) Christy Crace: $1000 award; Attend and present scientific data to CERF 2009; Estuaries and Coasts in a Changing World, Portland, OR.
2) Marc Hanke: $1000 award; Attend and present scientific data to The American Fisheries Society Meeting in Nashville, TN.

3) Nathan Lauer: $800 award; Attend and present scientific data to CERF 2009; Estuaries and Coasts in a Changing World
4) Jason McGregor: $1000 award; Attend and present scientific data to The Ecological Society of America in Albuquerque, NM.
5) Ralph Perkerson: $1000 award; TBA
6) Christina Walker: $1000 award; Attend and present scientific data to The Annual Elasmobranch Society Meeting in Portland, OR.
7) Jennifer Wilson: $1000 award; Attend and present scientific data to The Molecular Genetics of Bacteria and Phages Meeting

Journal Subscriptions

There are a great amount of subscriptions that have been donated by The Coastal Flagship Program to the UNF Library. Below are a list of journals supplied by the program; each subscription may have up to 85 journals in one subscription. Approximately $42000 has been contributed to the Library. These are:

Nature
Science
Proceedings of the National Academy of Sciences
Marine Ecology Progress Series
BioOne
International Journal of Systematic and Evolutionary Biology
American Journal of Physiology
American Journal of Tropical Medicine and Hygiene
Cell
Science Citation Index
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Faculty Publications/Presentations/Scholarship

Biology Scholarship Report 2008-2009

	Refereed Publications									
Number of Tenured and Tenure-track faculty	Referred Articles	Journal Articles	Conference Proceedings	Book Chapters	Book Reviews	Encyclopedia Articles	Juried Creative Works and Performances	Refereed or Invited Presentations	ORSP contracts & grants	Patents Obtained
Total 14	4	6	2	2	0	0	0	59	39	0

Refereed Articles:

Ahearn, G. A., Sterling, K. M., and Roggenbeck, B. A. (2008) Transport and detoxification of heavy metals by invertebrate epithelial lysosomes. 4th CPB Meeting in Africa: Mara 2008. "Molecules to migration: The pressures of life" (Ed. S. Morris & A. Vosloo). Medimond Publishing Co., via Maserati 6/2, 40124 Bologna, Italy, pp. 61-74.

Gunasekera, S.P., Ross, Cliff, Paul, V.J., Matthew, S., and Luesch, H. 2008. Dragonamide C and D, Two linear lipopeptides from the marine cyanobacterium *Lyngbya polychroa*. *Journal of Natural Products*, 71 (5): 887-890.

Hahn DA*, James L, Milne K, Hatle JD. 2008. Life history plasticity after attaining a dietary threshold for reproduction is associated with protein storage in flesh flies. *Functional Ecology* 22:1081-1090.

Hatle JD, Paterson CS, Jawaid I, Lentz C, Wells SM**,** and Fronstin RB**.** 2008. Protein accumulation underlying lifespan extension via ovariectomy in grasshoppers is consistent with the disposable soma hypothesis but not dietary restriction. *Experimental Gerontology* 43:900-908*.*

Hatle JD*****, Wells SM, Paterson C, Allen I, Fronstin RB, Fuller LE, Gordy LJ, Jawaid I, Lentz C, Melnyk S, Quattrochi J. 2008. Reduced diet and reduced reproduction both increase lifespan in lubber grasshoppers, perhaps by independent mechanisms. 4th CPB Meeting in Africa: Mara 2008. "Molecules to migration: The pressures of life" (Ed S. Morris & A. Vosloo). Medimond Publishing Co, via Maserati 6/2, 40124 Bologna, Italy. Pgs 143-156.

Lukesova, A., J.R. Johansen M. Martin & D.A. Casamatta. 2009. Aulosira bohemensissp. Nov.: Further uncertainty at the base of the Nostocales (Cyanobacteria). *Phycologia 48:118-129*

Mandal, A., Arunachalam, S. C., Meleshkevitch, E., Miller, M., Mandal, P. K., Boudko, D., and Ahearn, G. A. (2009) Cloning of sarco-endoplasmic reticulum Ca^{2+}-ATPase (SERCA) from Caribbean spiny lobster, *Panulirus argus*. J. Comp. Physiol. B. 179(2):205-214.

Matthew, S, Ross, Cliff, V. J. Paul, and H. Luesch. 2008 Pompanopeptins A and B, new cyclic peptides from the marine cyanobacterium *Lyngbya confervoides*, *Tetrahedron*, 64 (18): 4081-4089.

Mullins, A. and Ahearn, G. A. (2008) Zinc dependent L-leucine uptake in *Homarus americanus* mid-gut. 4th CPB Meeting in Africa: Mara 2008. "Molecules to migration: The pressures of life" (Ed. S. Morris & A. Vosloo). Medimond Publishing Co., via Maserati 6/2, 40124 Bologna, Italy, pp. 83-90.

Sa, M. G., Ahearn, G. A., and Zanotto, F. P. (2009) $^{65}Zn^{2+}$ transport by isolated gill epithelial cells of the American lobster, *Homarus americanus.* J. Comp. Physiol. B. 179: 605-615.

Sharp, K., Arthur, K.E., Gu, L., Ross, Cliff, Harrison, G., Gunasekera, S.P., Meickle, T., Matthew, S., Luesch, H., Thacker, R., Sherman, D., Paul, V.J. 2009. Phylogenetic and chemical diversity of three chemotypes of bloom-forming *Lyngbya* (Cyanobacteria: Oscillatoriales) from reefs of Southeast Florida. *Applied and Environmental Microbiology* 75 (9): 2879-2888.

Sterling, K. M., Cheeseman, C. I. and Ahearn, G. A. (2009) Identification of a novel sodium-dependent D-fructose co-transporter in the hepatopancreas of the Atlantic lobster *Homarus americanus*. J. Exp. Biol. 212: 1912-1920.

Oral/Poster Presentations:

Bielmeyer, G., Main, W. , Ross, Cliff. Copper Accumulation And Oxidative Stress In The Sea Anemone, *Aiptasia pallida*, After Waterborne Copper Exposure. Society of Environmental Toxicology and Chemistry (SETC). 29th annual meeting. Nov. 16-20, 2008. Tampa FL.

Butler, J.A. and G.L. Heinrich. Survey of the distribution of the ornate diamondback terrapin in the Big Bend Region of Florida. Southeastern Estuarine Research Society, University of Tampa, November 14, 2008.

Butler, J.A. and G.L. Heinrich. Preliminary results of a survey of diamondback terrapins in the Big Bend Region of Florida. Florida Regional Meeting of the Diamondback Terrapin Working Group, Cocoa Beach, February 7, 2009.

Casamatta, Dale, Lentz, Michael, Wilson, Jennifer, Teman , Jason & Davenport, Tessa. 2009. An exploration of the role and specificity of two freshwater cyanophages from eutrophic lakes in Northeast Florida. Northeast Algal Symposium. Amherst, MA. (Presented by Dale Casamatta)

Casamatta, Dale, J.R. Johansen & R.B. Perkerson. How ecologically permissive are Pseudanabaenalean (Cyanobacteria) genera? A plethora of new clades when different habitats are contemplated. Phycological Society of America, New Orleans, LA, July 2008.

Casamatta, Dale, Michael Lentz**,** Jennifer Wilson, *Jason Teman & Tessa Davenport*. An exploration of the role and specificity of two freshwater cyanophages from eutrophic lakes in Northeast Florida. NEAS, Univ. Massachusetts, Amherst, April 2009.

Crace, C., Moon, J.C., and Moon, D.C. The influence of salinity and spider predation on insect herbivores of black mangrove (*Avicennia germinans*). Southeastern Estuarine Research Society meeting November 2008

DeCastro, Joy, Ochrietor, Judith **,** 2009 Southeast Nerve Net meeting, UNF, March 2009 –"Colocalization of Basigin and MCT1 in the mouse brain."

Gilg, Matthew, Gobin, Judith, Soto, Alexandra Benthic Ecology Meetings. Corpus Christi, TX.

Gilg, Matthew, Urian, Alyson Benthic Ecology Meetings. Corpus Christi, TX. The effect of cold exposure on mortality in the Asian green mussel, *Perna viridis*: Implications for potential range expansion.

Gilg, Matthew, Rodriguez, Emmanuel, Benthic Ecology Meetings. Corpus Christi, TX. Geographic variation in M7 lysin allele frequency: a test of the hypothesis of reinforcement on the rapid evolution of a reproductive protein.

Gilg, Matthew, Rodriguez, Emmanuel, University of North Florida, Summer Research Day. Geographic variation in M7 lysin allele frequency: a test of the hypothesis of reinforcement on the rapid evolution of a reproductive protein.

Glaze, Danielle, Ochrietor, Judith, 2009 Southeast Nerve Net meeting, UNF, March 2009 – "Investigation of the protein-protein interaction between Basigin and MCT1 within the C-terminus of the MCT1 molecule obtained from vertebrate retina."

Glaze, Danielle**,** Ochrietor Judith, UNF Scholars Transforming Academic Research Symposium, April 2009 – "Investigation of the protein-protein interaction between Basigin and MCT1 within the C-terminus of the MCT1 molecule obtained from vertebrate retina."

Hackney, Courtney T., 2008 Corps of Engineers Environmental Research Lab, Vicksburg, MS Invited Lecture "Implications of Sea Level Rise on Tidal Wetlands"

Hackney, Courtney T., 2009 Louisiana Restoration Technical Panel, Invited Lecture on "Implications of Sea Level Rise on Freshwater Wetlands in Coastal Louisiana"

Hackney, Courtney T., 2009 Society of Wetland Scientists Annual meeting in Madison, Wisconsin"Impacts of Drought on Tidal Swamps in the Southeastern U.S." with M. Posey, L. Leonard, B. Avery, T. Alphin, &J. Culbertson.

Hackney, Courtney, T., 2008-2009 Presentations to the St. Augusting Orchid Society, Orlando Orchid Society and North Carolina Piedmont Orchid Society on *Cattleya* Hybridizing.

Howard, John, Ochrietor, Judith, 2009 Southeast Nerve Net meeting, UNF, March 2009 – "Investigation of a lactate shuttle complex in neural tissues."

Howard, John, Ochrietor, Judith**,** UNF Scholars Transforming Academic Research Symposium, April 2009 – "Investigation of a lactate shuttle complex in neural tissues."

Judd ET, Drewry M*, Wright K, and Hatle JD**.** 2009. Adult nutrient allocation in ovariectomized versus reproducing grasshoppers through stable isotope analysis. Symposium on Biological Complexity: Processes of Aging, Salk Institute. Poster presentation. San Diego, CA

Judd ET*, Drewry M, Wright K, and Hatle JD**.** 2009. Life-extending ovariectomy increases fat body mass, but probably not nutrient allocation to muscle, in grasshoppers. Annual meeting of the American Aging Association. Scottsdale, AZ, USA.

Lentz Michael, Gaukman, Alex, Bacon, Justin, Pennington, Cynthia, Wilson, Jennifer and Casamatta, Dale . Molecular and morphologic characterization of cyanophages from eutrophic lakes in Northeast Florida. 30th Annual Southeastern Phycological Colloquy, St. Augustine, FL

Lentz, Michael, Gaukhman, Alex, Bacon, Justin, Pennington, Cynthia, Wilson, Jennifer, Casamatta, Dale, 2008. Molecular and morphologic characterization of cyanophages from eutrophic lakes in northeast Florida.. American Society for Virology Conference. Ithaca, NY

Meickle, T., Matthew, S., Ross, Cliff., Luesch, H., Paul, V.J. 2009. Bioassay-guided Isolation and Identification of Desacetyl-Microcolin B from *Lyngbya* cf. *polychroa. Planta Medica* May 8.

Norwich, A., D. Casamatta, D. Moon, Rossi, A.M, and K. Smith. 2009. Exploring the

potential impact of native plant riparian zones for nutrient amelioration of non-

point source pollution by examining changes in algal communities. *Annual Meeting of the Phycological Society of America*, Honolulu, Hawaii.

Ochrietor, Judith, Bahishta Yaquabi, 2009 Southeast Nerve Net meeting, UNF, March 2009 – "Biochemical analysis of Cyclophilin A in the monocarboxylate shuttle system of the mammalian retina"

Ochrietor, Judith, Zahra, Marwa, UNF Scholars Transforming Academic Research Symposium, April 2009 – "CyPA: the missing link for translocation of monocarboxylate shuttle system components in mammalian retina."

Ochrietor, Judith, Zahra, Marwa, "CyPA: the missing link for translocation of monocarboxylate shuttle system components in mammalian retina."

Ochrietor, Judith, McCormack, A.D, Zahra, M, Yaqubi B, Wilhoite G. , and Finch, N.A., "Investigation of a monocarboxylate shuttle system in the mammalian retina" American Society for Cell Biology meeting, San Francisco, California, December 2008

Ochrietor, J.D, A. D. McCormack, M. Zahra, B. Yaqubi, G. Wilhoite, and N. A. Finch "Investigation of a monocarboxylate shuttle system in the mammalian retina" Southeast Nerve Net meeting, Jacksonville, Florida, March 2009

Ross, Cliff and Casamatta, Dale, hosted a Regional Meeting (w/ Dale Casamatta) The 30th Annual Southeastern Phycological Colloquy.Oct. 25th, 2008. Ponte Vedra, FL

Ross, Cliff, Cell Stress in Marine Plants and Algae. Gulf Research Laboratory, University of Southern Mississippi. Oct. 10, 2008

Ross, Cliff, Underwater Adhesives: Wound Healing in Marine Algae. Program of Fisheries and aquatic Sciences, University of Florida. Feb. 27, 2009.

Ross, Cliff, Santiago, L, Heat shock protein 90 and nitric oxide co-regulate thermally-induced bleaching in the soft coral *Eunicea fusca*. 11th International Coral Reef Symposium, Ft. Lauderdale, FL July 7-11, 2008.

Ross, Cliff, Paul, V.J., Ritson-Williams, L. J. Walters, K. Arthur, S. Gunasekera, and T. Meickle. Ecological Consequences of Cyanobacterial blooms on coral reefs. 11th International Coral Reef Symposium, Ft. Lauderdale, FL July 7-11, 2008.

Ross, Cliff, Paul, V., S., Matthew, and Leusch, H. Serine Protease Inhibitors from the Floridian Marine Cyanobacterium *Lyngbya confervoides*. 49th Annual Meeting of the American Society of Pharmacognosy, Aug. 2008, Athens, Greece.

Ross, Cliff, Arthur, K, V.J Paul, C. Ross, H. Paerl, J. Joyner, J. O'Neil The role of nutrients in *Lyngbya* growth and chemical defense. 11th International Coral Reef Symposium, Ft. Lauderdale, FL July 7-11, 2008.

Santiago, L., Mydlarz, L., and Ross, C**.** Gene Expression of the Stress Response in Soft Corals. 38th Annual Benthic Ecology Meeting, Corpus Christi, Texas (March 4-7, 2009).

Schuster, K.L**.** and Butler, J.A**.** Assessing terrapin use and mortality on the Downing-Musgrove Causeway to Jekyll Island, Georgia. Regional Meeting of the Diamondback Terrapin Working Group, Cocoa Beach, February 7, 2009.

Schuster, K.L. and J.A. Butler. An experimental habitat restoration for the management of gopher tortoises (*Gopherus polyphemus*) in Pumpkin Hill Creek Preserve State Park, Duval County, Florida. Gopher Tortoise Council 30th Annual Meeting, Jekyll Island, Georgia, October 3-5, 2008.
Ochrietor, Judith, Yaquabi, Bahishta, April 2009 – "Biochemical analysis of Cyclophilin A in the monocarboxylate shuttle system of the mammalian retina."

Smith, K. J. 2008. Spatial patterns in habitat use by fishes in the Nassau River Estuary, Northeast Florida. Abstracts of the fall 2008 Southeastern Estuarine Research Society meeting

Stringfellow, E. and C. Ross. Can *Labyrinthula* sp. infect *Vallisneria americana* of the St. Johns River? 30th Annual Southeastern Phycological Colloquy.Oct. 25th, 2008. Ponte Vedra, FL.

Welling, M., Ross, C., Pohnert, G. Dihydroxycoumarin Biosynthesis and Biopolymer Wound Plug Formation in *Dasycladus vermicularis*.

The British Phycological Society, 57th Winter Meeting; The Natural History Museum London (5th-7th January 2009).

Wilson, Jennifer, Davenport, Tessa, Teman, Jason, Casamatta, Dale and Lentz, Michael. 2009. Exploring the ecology and molecular aspects of freshwater cyanophages. Scholars Transforming Academic Research Symposium (STARS). Jacksonville, FL

Contracts and Grants (ORSP)

Dr. Greg Ahearn received $7500 from the John A. Delaney Presidential Professorship award to conduct research on lobster renal physiology

Dr. Joe Butler, 2006 - 2009 Florida Game and Fresh Water Fish Commission Nongame Wildlife Program. Survey of the distribution and Population Status of the Ornate Diamondback Terrapin in the Big Bend Region of Florida. $35,956.00. This is the final year for this funding.

Dr. Joe Butler, Undergraduate TLO – Gopher Tortoise Undergraduate Research, $3000.00. This will be for work to be done in fall 2009 and beyond. The funding will support 2 or 3 undergraduate students.

Dr. Joe Butler, Graduate TLO – Gopher Tortoise Graduate Research, $2000.00. This will be for work to be done in fall 2009 and beyond. The funding will support one graduate student.

Dr. Joe Butler, Dean's Undergraduate Research Assistantship – Habitat restoration techniques to enhance a gopher tortoise population on the UNF campus, $3000.00. The work for this project is being done over summer and the funding is supporting one undergraduate student.

Dr. Joe Butler, Environmental Center Seed Grant - Habitat restoration techniques to enhance a gopher tortoise population on the UNF campus, $2000.00. The work for this project started in spring and is continuing over summer and the funding is supporting one graduate student.

Dr. Dale Casamatta established adequate vegetative buffer zones for nutrient input reduction into the lower St. John's River, St. John's River Water Management District Project (concluded Jan. 2009), $175,000

Dr. Dale Casamatta, with Dr. Mike Lentz, DNA Sequence Analysis of Aquatic Viruses from Lake Oneida, Environmental Center Grant (With M. Lentz), $2000

Dr. Jim Gelsleichter, NOAA Fisheries: "Cooperative Atlantic States Shark Pupping and Nursery (COASTSPAN) survey of north Florida waters." September 2008-2009. $5,000

Dr. Jim Gelsleichter, UNF COAS Dean's Council Undergraduate Research Assistantship: "Non-lethal assessment of reproduction in the endangered smalltooth sawfish." $3,000 (student support).

Dr. Jim Gelsleichter, UNF Summer Scholarship Grant: "Development of the UNF Shark Biology Program: A long-term survey of shark abundance and habitat use in northeast Florida waters." $7,500 (faculty support, leverages NOAA funding listed above).

Dr. Jim Gelsleichter, UNF Environmental Center Seed Grant: "Multibiomarker assessment of fish health in the lower St. Johns River." $4,000 (research support).

Dr. Jim Gelsleichter, UNF COAS Dean's Leadership Council Transformational Learning Scholarship: "Shark nursery ground habitat use and spatial ecology in northeast Florida." $1,000 for student Yaira Osborne, $500 for faculty mentorship (supports DIS student in Summer 2009).

Dr. Matt Gilg, 2008- National Science Foundation, RIG:RUI: Genotype specific fertilization success; a test of the hypothesis of reinforcement in the rapid evolution of a reproductive protein. $174,350 (July 1, 2008-June 30, 2010)

Dr. Matt Gilg, 2008 United States Department of Agriculture, CSREES – NRI: Strangers in a strange land: biological and economic impacts of two invasive mussels along the East coast of the United States in an oyster agro-ecosystem. PI – E. Hoffman, UCF, $370,239 (Co-PI –Gilg, $117,950)

Dr. Coutney T. Hackney, $12,000 from Elizabeth City State University to continue Monitoring and Evaluating changes in the Cape Fear River from Deepening Wilmington Harbor.

Dr. John Hatle, (2006-2009) Testing direct effects of reproduction on stress and mortality via ovariectomy. National Institute of Aging, Academic Research Enhancement Award (R15). Priority score of 123 (score range 100–500, lowest is best). $166,488.

Lentz Michael, Casamatta D. Spring 2009. DNA Sequence Analysis of Aquatic Viruses from Lake Oneida. UNF Environmental Seed Grant. $2000.

Dr. Michael Lentz, UNF Summer 2008 Scholarship Grant: "A keratinocyte differentiation system to address papillomavirus DNA replication". $7500.

Dr. Daniel Moon, Establishment of native vegetative riparian buffer zones for nutrient reduction in the lower St. Johns river basin (Co-PI with Dale Casamatta, Kelly Smith, and Tony Rossi), Saint Johns River Water Management District, $175,000 (through 9/08)

Dr. Daniel Moon, Environmental Center seed grant, $2,000

Dr. Daniel Moon, Academic Affairs summer grant, $7500

Dr. Judy Ochrietor, Summer 2009 Research grant. "Investigation of metabolic activity in photoreceptor neurons" $7500.

Dr. Judy Ochrietor, Transformational Learning Opportunity grant. "TLO-COAS Learning and Memory Research" $20,000

Dr. Judy Ochrietor, UNF Undergraduate Research Grant to John Howard. Characterization of the MCT1-L1 interaction in the brain. $1000 to mentor for supplies

Dr. Cliff Ross, Florida Institute of Oceanography (shiptime proposal), "Seagrass Susceptibility to Infection and Disease" This award will provide 8 days of ship time (June 2009) on a research vessel, which will provide the Ross lab with access to seagrass habitats for the study of host-pathogen interactions (valued at **$24,800**).

Dr. Cliff Ross, St. Johns River Water Management District. "Salinity-Induced Enzymatic Stress Response In Submerged Aquatic Vegetation." **$3,000**; (Fall 2008)

Dr. Cliff Ross, Smithsonian Marine Science Network Research Proposal. "Coral-algal-microbial interactions on reefs of Florida and Belize." (Co-PI w/ Dr. Valerie Paul of the Smithsonian Marine Station). **$22,000**. (Sept. 2008)

Dr. Cliff Ross, Elise B. Newell Seminar Series (Florida Sea Grant): -intent of the Elise B. Newell seminar series is to enhance the capabilities of marine-related academic units in Florida. This is achieved by bringing experts to one or more campuses. **$900**. (Sept. 2008).

Dr. Cliff Ross, St. Johns River Water Management District. "Salinity-Induced Enzymatic Stress Response In Submerged Aquatic Vegetation." **$12,000**; (Spring 2009)

Dr. Cliff Ross, Coastal Biology Faculty Supply and Equipment Grant (May 2008). Pathogen-Induced Defense Responses in Seagrasses. **$4,960.00**

Dr. Cliff Ross, Deans Council Faculty Fellowship. "Cellular Mechanisms of Toxin Release from Bloom Forming Cyanobacteria" **$4,000** + course release (Sept 2008)

Dr. Cliff Ross, UNF Transformational Learning Opportunity (Fiscal year 2009-2010); Impacts of Environmental Stressors on Tropical Coral Reefs. **$12,000**

Dr. Cliff Ross, UNF Undergraduate Research Scholarship Grant (Fiscal year 2009-2010); Diseases of Marine Seagrasses. **$1,000**; (2009).

Dr. Cliff Ross, UNF Undergraduate Research Scholarship Grant (Fiscal year 2009-2010); Phenolics in turkey Oaks. **$1,000**; (2009). *(Cannot accept two $1000 payments-see Seagrass award above)*

Dr. Cliff Ross, UNF Summer Scholarship grant (Summer 2009); Seagrass Wasting Disease: The Decline of Seagrass Meadows **$7,500**

Dr. Kelly Smith, final year of funding for Grant 230162: Establishment of Native Riparian Buffer Zones for Nutrient Reduction in the Lower St. Johns River Basin with co-PIs Tony Rossi, Dan Moon, and Dale Casamatta.

Dr. Kelly Smith, final year of funding for Grant 210214: Evaluation of the US EPA Guidance, Ambient Aquatic Life Water Quality Criteria for Dissolved Oxygen (Saltwater): Cape Cod to Cape Hatteras, for Applicability to the Southeast US Estuaries

Coastal Budget for 08-09

The base budget for the 2008-2009 academic year (year 3) included the Coastal Directors salary and fringes and the Administrative Assistant for the Flagship Program. There is also an annual expense of $42,100 for continuation of journals and other library resources. The available budget for 08-09 was $19,900. These awards are listed in this report. In fiscal 2007-2008, these funds were obligated for graduate and undergraduate travel and presentations at scientific meetings (largely for graduate student presentations in late summer and early fall), vessel maintenance, and supply grants for student research. Last year unspent funds carried over from fiscal 07-08. We expected that funds would carry over again in summer 08-09 and they were not. The fiscal 09-10 budget will be required to fund obligations made for funds from 08-09 that were lost when they were not carried over.

Future 09-10 Plans

The future of Coastal Biology at UNF is bright. There is tremendous demand by various segments of the Jacksonville community as well as demand from students interested in the education of a Biology Department with strengths in Coastal or Marine Biology. There are many current students interested in internships with Coastal Biology interests and agencies and private employers with internship and cooperative opportunities. We are hopeful that future positions will be available to mentor and guide an internship program and are now allowing a limited number of students to take advantage of these opportunities.

There is also demand from local schools for programs in coastal sciences. We hope to initiate a trial program with the Mayport Middle School in summer 2010. We also plan to continue the popular community lecture series support by the Brotman family, Ms. Sarah Bailey, and grants obtained by faculty. Community outreach is limited by the lack of faculty who have responsibilities to the Coastal program. Currently Coastal Biology activities are largely limited to the availability of the part-time Coastal Biology administrative assistant.