



**Proposal for Flagship Program in
Coastal Biology**

**Respectfully submitted by
The faculty of the Department of Biology
College of Arts and Sciences**

I. EXECUTIVE SUMMARY

The Department of Biology proposes a Flagship Program in Coastal Biology. The geographic location of the University of North Florida and the current areas of faculty expertise make us exceptionally well suited to be a center of excellence in the study of coastal ecosystems. The campus is uniquely situated near the Atlantic Ocean, the St. John's River, and the Intracoastal Waterway. All of these bodies of water and their associated coastal habitats lie within 15 miles of campus. No other university in the country has all of these coastal habitats in such close proximity. Moreover, a Flagship Program in Coastal Biology will build upon strengths already present in the Department of Biology, and bring into **focus** an emerging theme that has been naturally developing within the department over the past several years. Specifically, the department has built a cadre of scientists whose research expertise covers a wide range of coastal biology, from genetics and molecular biology to ecosystem level aspects. These biologists have gathered at a university that is ideally situated for the study of coastal habitats. Thus the Biology Department at UNF is poised to become a regional leader in the study of coastal biology.

Marked increases in departmental course offerings, faculty grantsmanship, and scholarly publications have accompanied the development of an independent Biology Department and the addition of new faculty to the department. It is fair to say that our department is in the position to make a transition to national recognition for its programs, particularly in coastal biology.

The Biology Department has always been committed to **excellence** in the classroom, the lab, and in the field. By creating a focused program in coastal biology, additional opportunities to provide our students with excellent learning experiences will develop. A number of proposed collaborations have been motivated by our move towards a coastal emphasis. This in turn provides unique Transformational Learning Opportunities for our students, as championed by President Delaney. New undergraduate and graduate emphases in coastal biology will be offered to Biology Majors, which will provide our graduates with a unique competitive edge in related jobs and graduate programs, and an increased awareness of the need for stewardship of coastal ecosystems.

Never has coastal biology been more **relevant** than in this time and at this place. The Florida coast has been assaulted by man and nature in ways we are just beginning to understand. UNF is uniquely positioned to take a lead role in determining the impacts of many current risks to coastal systems, such as hurricanes, pesticide runoff, over fishing and invasive species. These impacts affect the aesthetics of the coast, recreation, development, and many commercial enterprises in both local and national communities. Recent algal blooms in the St. Johns River brought this to the attention of the Jacksonville community last summer, when recreational and commercial use of the river, and in some cases

simply proximity, led to illness among some Jacksonville residents. Why did these blooms occur? Why now? What can we do to prevent or lessen their impact in the future? The recent high profile hurricane seasons have also brought attention to coastal issues. We currently have little idea as to what the short- and long-term impacts of past and inevitable future hurricanes have on local and regional plants and animals. Other recent high-profile news items include the discussion of drilling for oil closer to Florida's Gulf Coast and wetlands development, both locally and nationally. These are the very issues that UNF Biology faculty members think about every day. With the focus afforded by Flagship status, our faculty's day to day research and teaching efforts can have a significant positive impact on the future of the First Coast. These are the types of important questions that a Flagship Program in Coastal Biology at UNF can begin to address. With the day-to-day importance of coastal issues on the First Coast, this Flagship program will generate consistent positive local publicity for UNF and the broader scientific community.

There is a great deal of energy and optimism among the faculty and students for continued development of a truly outstanding, nationally recognized Coastal Biology program at UNF.