

PREFACE

This marine science field and laboratory manual is designed to introduce students to the function and structure of estuarine ecosystems. We have tried to include extensive literature and website citations so that the beginning marine science student can understand estuarine ecology in a concise and coherent manner.

The field laboratory exercises that follow have been written to conform with the Sunshine State Standards, and can be integrated into biology, oceanography, marine biology, and ecology courses. Each activity includes an introduction, an objective for the student, materials required, procedure, critical thinking skills, references to other sources for further study, and the Sunshine State Standards number.

This manual is divided into five sections. Section 1 introduces the student to the scientific method and its statistical applications. Section 2 has the student look at the various physical components of estuarine systems. Section 3 introduces the student to plant communities. Section 4 takes the student through labs designed to enhance knowledge of animal communities. The final section, 5, looks at an increasingly important subject, human interaction with estuarine systems in terms of environmental impact.

Rookery Bay was established in 1978 as a National Estuarine Research Reserve managed by the Florida Department of Environmental Protection. The Reserve was established as a site for estuarine and coastal research as well as a continuing educational resource. The National Oceanographic and Atmospheric Administration (NOAA) administers the National Estuarine Research Reserve system.

High school students and their educators are encouraged to utilize the Reserve as a field trip site. Specialized equipment, necessary to complete some of the field activities described in this manual, is available at the Reserve.