

## PREFACE

This study was undertaken through the support of the Galveston Bay National Estuary Program, and was completed through the support of the Center for Research in Water Resources of the University of Texas. Fundamentally, this study was an exercise in data acquisition and compilation, and could not have been performed without the assistance and generosity of many individuals. Foremost, it is a pleasure to acknowledge the assistance of the Corps of Engineers, both the Galveston District Office and the Fort Point Area Office. Not only are the data holdings on federal projects and 404 permitting absolutely essential to this type of study, but the experience and knowledge of the Corps staff of Galveston Bay, distilled from a continuity of 150 years in this estuarine system, are a resource to the Galveston Bay region and to the state.

This study also received valuable assistance and information from the staffs of the National Ocean Service, National Marine Fisheries Service and the Environmental Protection Agency. Mr. David Boswell, as a CRWR research assistant, spent many hours digging through records on dredging and 404 permitting at the Corps offices, and organizing this data for analysis. The value of his work to this study far outweighed his consumption of shrimp po'boys. Dr. Bill White of the Bureau of Economic Geology of the University of Texas generously shared his results on photogrammetric analysis of various wetland categories for the Galveston Bay system, undertaken in a separate project supported by GBNEP. Finally, the study greatly benefited from the contributions of Dr. Neal Armstrong, especially in interpretation of bay habitats. Dr. Armstrong graciously served as Co-Principal Investigator on this project, but his time commitments prohibited his taking an active part in the data analysis and report preparation.

This is probably an appropriate forum to register several conventions and idiosyncrasies of the presentation. The general approach of the report is to work from the specific to the general, to accumulate detail into depictions of sections of the bay, and finally the bay system *in toto*. Dredge-and-fill activities are matters of detail, however, and their complete description frequently entails rather fine geographical resolution. After some reflection, it was decided that detailed reproduction of maps of areas of Galveston Bay in this report would constitute an inappropriate diversion of project resources from the central objective, namely a quantification of dredging and filling. While some general maps of the bay and its channel network are presented to orient the reader less familiar with the Galveston Bay environment, there are many geographical references in the text that cannot be located on these maps. Reference is made to the excellent navigation charts and topographic maps available for the Galveston Bay area from, respectively, the National Ocean Service and the U.S. Geological Survey.

On matters of terminology, this writer is aware that the Latin "data" is the plural of "datum," but subscribes to the use of the English "data" as a collective noun, whose plurality is determined by the sense of the usage, see, e.g., the *American Heritage Dictionary (2nd College Edition)*. Any readers who find this offensive should pencil in "data set" and all will be well. A different class of readers may

find the term "spoil" offensive, in reference to the disposition of dredged sediments. Historically, this evolved as a technical term equivalent to "hydraulic fill" or "dredged material," which doesn't necessarily spoil anything. The term is still in use in its nautical sense (see any NOS navigation chart), but in this report it is used primarily in discussion of historical practices consonant with the terminology of the time.

On matters of units, most workers in the coastal zone have come to utilize nautical units, scientific (i.e., metric) units, and engineering (i.e., British) units interchangeably. Therefore, no great effort has been made to render quantities in a consistent system (which, in this writer's view, is a tempest in a teapot). For dredging in particular, the historical convention has been to employ cubic yards in the measure of volume of dredged material and dredged channels, and acres in the measure of their area. This has been observed here, which entails reporting other comparative factors, such as bay volume or tidal prism, in cubic yards as well. Also, the full precision implicit in the data record has been reported. While this leads to dredged volumes (say) reported to 6 or 7 significant digits, the accuracy of these numbers is no better than 3 significant digits. As the data is (see previous paragraph) aggregated and applied to larger sections of the bay in the concluding chapter, an appropriately truncated precision is employed.

