

## EXECUTIVE SUMMARY

The Shoreline Survey for Unpermitted Discharges is a study within the Galveston Bay National Estuary Program which identifies and maps permitted and unpermitted discharges in nine selected shoreline segments of the Galveston Bay system. These nine segments represent a cross section of typical shoreline segments which would be encountered in any estuarine environment. This study was designed to develop a standard methodology for future comprehensive shoreline surveys. A personal computer database program (ReflexPlus) was developed for this program.

The study was broken down into three basic parts: determination of permitted discharges within a segment, an aerial survey, and a shallow draft boat survey. Research was performed to determine the location, description and discharge type from the appropriate regulatory agencies. Permitted sites were plotted on seven and one half minute USGS topographical maps and the information entered into the database. Compilation of the initial data base was followed by an aerial photo-survey over each segment (still and video) to confirm the location of permitted sites, to document unpermitted discharges, to prioritize areas within the segment for the subsequent ground photo-survey, to plot the unpermitted sites on the same map for use in the ground survey. Aerial observations were also entered into the database. The final part was the shoreline photo-survey using shallow draft boats to verify the location (using LORAN C) of the plotted sites, to search for additional unpermitted discharges, to plot these on the same map, and enter these observations into the database. Some regions were better suited for aerial surveys (e.g., a shallow bayou) while others were better suited for ground surveys (e.g., a heavily foliated bayou or intensely developed shorelines). By combining both aerial and boat surveys efficient and complete coverage was achieved.

Based on our experience on this project a cost estimate, study design and methodology were developed to conduct a comprehensive survey of the entire Galveston Bay system. Numerous concerns in regard to logistics, methodology, and conceptual criteria have arisen and been identified through this study. These need to be addressed in the scope of work before such a comprehensive survey is undertaken.

All raw data developed in this project, including maps and charts, listings from the data base of permitted and unpermitted discharge locations, and photographs used in the documentation of sites are archived and available for inspection at the Galveston Bay Information Center. The Galveston Bay Information Center is located in the Jack K. Williams Library on the Texas A&M University at Galveston Campus on Pelican Island.