SECTION 9: ENVIRONMENTAL ASSESSMENT

Conservation of coastal waters and wetlands in Calhoun County as well as other Texas coastal counties is intrinsically tied to recreational activities like fishing, hunting, birding and boating. The health of the coastal economy is also tied to the health of the coastal zone. Adequate supplies of clean, fresh water carrying nutrients and sediments to many different coastal wetland habitats like salt marshes and seagrass beds are essential for economically and ecologically important species of fish, shell fish, birds and wildlife. All bay and estuary systems along the Texas Coast have great commercial, recreation and conservation value. Each of these systems face conservation challenges to varying degrees that can threaten their health and productivity including diminished freshwater inflows, habitat loss and poor water quality. Similar challenges are faced in the San Antonio Bay system in Calhoun County consisting of the primary bays San Antonio and Espiritu Santo and the secondary bays Hynes, Guadalupe and Shoalwater.

In the United States, 54% of all Americans now live in 772 coastal counties adjacent to the Atlantic and Pacific Oceans, the Gulf of Mexico and the Great Lakes. Over the past 30 years, coastal populations have grown by 41 million, faster than the country as a whole. By the year 2025, nearly 75 percent of all Americans are expected to live in coastal counties. Most of the coastal property along the Atlantic and Pacific Oceans and Gulf of Mexico has already been developed. One exception is the coastal areas surrounding Calhoun County, particularly coastal properties in southern Calhoun County where recent subdivision developments in the Port O'Connor and Seadrift area identified in this study are already in place and others in the planning stages. Older coastal developments in and around the Cities of Port Lavaca and Point Comfort as well as these cities themselves, also have some potential for future growth. Increased development of these coastal areas within Calhoun County present opportunities for economic growth and prosperity but also present the challenges of balancing future growth with the protection of natural resources including the bays and estuaries impacted by this growth not only in coastal areas but inland areas of the county as well. Providing adequate wastewater treatment facilities and services to sustain future growth will be an important factor in protecting the bay and estuary systems in Calhoun County.

Discharges from treated, partially treated and untreated domestic wastewater effluent can impact the water quality of a receiving stream in various ways. The productivity of many coastal marine systems is limited by nutrient availability, and the input of additional nutrients to these systems in

moderation can help increase productivity however the consequences of nutrient over-enrichment can be detrimental to coastal marine systems. Many of the detrimental consequences are associated with eutrophication. Eutrophication increases oxygen consumption and can lead to low-oxygen or oxygen-free water bodies. This can lead to fish kills as well as more subtle changes in ecological structure and functioning, such as lowered biotic diversity and lowered recruitment of fish populations. Seagrass beds are particularly vulnerable to damage from eutrophication. Nutrient over-enrichment can also produce harmful algal blooms that can harm fish and shellfish and pose a direct public health threat to humans.

Balancing future growth with protection of natural resources will be an important issue for Calhoun County to address in the years ahead. Although the downturn in the economy over the past years has suppressed development along the coastal areas of the county, it is likely that growth will continue when economic conditions improve, especially in the southern portion of the county. The focus of the this study was to evaluate the feasibility of developing regionalized and centralized wastewater facilities to serve existing and future populations in Calhoun County including unincorporated areas of the county with failing on-site septic sewage facilities (OSSF) that are experiencing public health and water quality issues. Results of the study have shown that a regionalized or centralized approach to providing wastewater services will be costly due to the current location of existing rural population areas in relation to existing wastewater treatment facilities within the county. Financial assistance through grants and low interest loans from state and federal agencies identified in this study would be a necessity to improve the cost effectiveness of a regional or centralized project.

Although a regionalized or centralized approach to providing wastewater services would be the most effective method of wastewater treatment in terms of producing a higher level of water quality in treated wastewater effluent, the high monthly cost of providing these services make it difficult for customers to afford, particularly those with limited incomes. Existing state and federal water quality standards used in the development of wastewater discharge permits for new treatment plants as well as permit renewals for existing plants could also have an impact on costs.

With the high cost of providing regional or centralized wastewater services, there will likely be a decision by some property developers as well as individual landowners to pursue the cheaper alternative of installing OSSF's. Although the state has implemented much stricter rules and regulations regarding the installation, operation and maintenance of OSSF's, counties still face the challenge of limited staff to inspect these systems once installed to insure on-

going compliance with current rules and regulations. Continued emphasis should be placed on developers and homeowner's to insure that OSSF's have been permitted in accordance with current rules and regulations and constructed by a licensed installer and that procedures are in place to inspect these systems periodically once installed. Development of a program to educate homeowners about current OSSF permit requirements as well as the proper operation and maintenance of their OSSF is also important. Continued pursuit of state and federal funding opportunities to assist existing developments within the county experiencing failing septic systems will also be important.

THIS PAGE INTENTIONALLY LEFT BLANK