1.1 Background

Municipal water conservation efforts in Texas have been motivated by diverse goals such as preventing land subsidence, addressing short-term or long-term water shortages, providing environmental protection, and avoiding or postponing the high costs of new water system improvements. Through implementation of water conservation programs across the state, experience has been gained in the effective delivery of programs and lessons learned in approaches which are not as effective.

Industrial water users have also made advances in water use efficiency over the past several decades. Inspired by increasing costs of resources, such as the water itself, energy needed to pump, treat, and heat water in industrial processes, and the challenges of drought, many Texas businesses have developed or adopted techniques to lower water use. One indication of the success of industrial efforts is actual water use recorded for the manufacturing sector in the year 2000. Actual use was 70 percent of water demand projections developed in the late 1990s.

Agricultural growers using groundwater from the Ogallala Aquifer have pioneered water efficiency in agricultural irrigation in the Texas panhandle region. As early as the 1970s, low-pressure center pivot irrigation systems were reducing water use by 30 percent to 50 percent from existing irrigation methods at the time. Since then, irrigation efficiency has increased both in the sophistication of low pressure irrigation methods as well as increased efficiency in other irrigation and water management methods in agricultural production.

While there are a number of successful conservation efforts in Texas, there is an opportunity for a more comprehensive effort by all sectors of the State. The legislation that created the Water Conservation Task Force was passed in order to further conservation efforts in the State. One of the objectives of the Task Force was to gather information about the elements of successful conservation programs, good cost estimates and reliable water savings estimates for use in water resource planning. In this guide, the Task Force uses the following working definition of conservation: Those practices, techniques, programs, and technologies that will protect water resources, reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses. As part of its work, the Task Force hopes to move the process of water conservation planning a significant step forward in Texas by the publication of Best Management Practice Guidelines based upon this current analysis.