

INTRODUCTION

Texas is a rapidly growing state that in 1992 surpassed New York to become the second most populous state in the United States. Texas' population has more than doubled in the past 40 years from 9.5 million in 1960 to over 20 million today. The State Water Plan predicts that Texas' population will double again in the next 50 years, increasing to over 39 million residents by the year 2050²⁵. Many problems are associated with such rapid population growth, none of which are more important than water resource issues. Water is a dynamic resource that is crucial to the state's economic development. Competition over limited water resources is sure to increase as rapid population growth continues. Water supply is dependent upon several factors including the amount of precipitation, evaporation, stream flow, and absorption into the ground. Climatic variations, coupled with rapid population growth and economic development, have resulted in increasing water quality and quantity problems for the state of Texas.

Water quality problems arise from natural and manmade pollution that can render water unusable or too costly to use. As population and economic development continue to increase, so will associated pollution problems and water supply shortages. Shortages in water supplies required to meet municipal, industrial, and agricultural needs have already occurred in many regions of the state as evidenced during the drought of 1995 – 1996, which resulted in an estimated economic impact of \$6 billion²⁵. The water supply shortages and accompanying economic losses that occurred between 1995 and 1996 can partially be attributed to the fact that Texas was one of three western states without a State Drought Contingency Plan at the time. In addition, environmental water needs are often not met.

In response to the need for improved water management, the 75th Texas Legislature passed the water resource management legislation Senate Bill 1. This landmark legislation addresses many different aspects of water management and calls for grass roots water resource planning. Regional water plans from across the state will be merged to form the new State Water Plan by January 2002. Regional water planning areas were designated according to 31 TAC §357.3 (a) taking into consideration the following factors:

- (1) river basin and aquifer delineations;
- (2) water utility development patterns;
- (3) socioeconomic characteristics;
- (4) existing regional water planning areas;
- (5) political subdivision boundaries;
- (6) public comment; and
- (7) other factors the Texas Water Development Board (TWDB) deemed relevant.

After the designation of regional water planning areas, the TWDB designated “regional water planning group representatives . . . to serve as the initial coordinating body to include at least one representative from each of the 11 interests listed in Texas Water Code §16.053 (c)” (31 TAC §357.4 (a)). The regional water planning groups (RWPG) consist of representatives from the public, counties, municipalities, industries, agricultural interests, environmental interests, small businesses, electric generating utilities, river authorities, water districts, and water utilities within the regional water planning area. Other interest groups such as recreation, were added by some of the RWPG's.

The goals of the regional water plans are consistent with that of the State Water Plan under Section 1.01 of Senate Bill 1. This section states that:

The state water plan shall provide for the orderly development, management, and conservation of water resources and preparation for and response to drought conditions, in order that sufficient water will be available at a reasonable cost to ensure public health, safety, and welfare; further economic development; and protect the agricultural and natural resources of the entire state.

Senate Bill 1 brings a new aspect to Texas water resource planning by calling for the protection of the “natural resources of the entire state.” Environmental water needs of the state’s natural resources must be considered while planning for future water development. The guidelines for the development of regional water plans, 31 TAC §357.5 states that the RWPG should “recommend potentially feasible strategies that are cost effective and environmentally sensitive” and “consider environmental water needs” in their plans. Likewise, 31 TAC § 357.7, states that “regional water plan development shall include a description of ... natural resources ... and identified threats due to water quality or quantity problems.”

Furthermore, Senate Bill 1 offers the RWPG the opportunity to identify river and stream segments of unique ecological value. The details and criteria for this section are as follows:

31 TAC § 357.8 Ecologically Unique River and Stream Segments

(a) Regional water planning groups may include in adopted regional water plans recommendations for all or parts of river and stream segments of unique ecological value located within the regional water planning area by preparing a recommendation package consisting of a physical description giving the location of the stream segment, maps, and photographs of the stream segment and a site characterization of the stream segment documented by supporting literature and data. The recommendation package shall address each of the criteria for designation of river and stream segments of ecological value found in subsection (b) of this section. The regional water planning group shall forward the recommendation package to the Texas Parks and Wildlife Department and allow the Texas Parks and Wildlife Department 30 days for its written evaluation of the recommendation. The adopted regional water plan shall include, if available, Texas Parks and Wildlife Department's written evaluation of each river and stream segment recommended as a river or stream segment of unique ecological value.

(b) A regional water planning group may recommend a river or stream segment as being of unique ecological value based upon the following criteria:

- (1) **biological function**--stream segments which display significant overall habitat value including both quantity and quality considering the degree of biodiversity, age, and uniqueness observed and including terrestrial, wetland, aquatic, or estuarine habitats;*
- (2) **hydrologic function**--stream segments which are fringed by habitats that perform valuable hydrologic functions relating to water quality, flood attenuation, flow stabilization, or groundwater recharge and discharge;*
- (3) **riparian conservation areas**--stream segments which are fringed by significant areas in public ownership including state and federal refuges, wildlife management areas, preserves, parks, mitigation areas, or other areas held by governmental organizations for conservation purposes, or stream segments which are fringed by other areas managed for conservation purposes under a governmentally approved conservation plan;*

(4) high water quality/exceptional aquatic life/high aesthetic value--stream segments and spring resources that are significant due to unique or critical habitats and exceptional aquatic life uses dependent on or associated with high water quality; or
(5) threatened or endangered species/unique communities--sites along streams where water development projects would have significant detrimental effects on state or federally listed threatened and endangered species, and sites along streams significant due to the presence of unique, exemplary, or unusually extensive natural communities.

The Region J (Plateau) Regional Water Planning Area consists of the counties of Bandera, Edwards, Kerr, Kinney, Real, and Val Verde (Figure 1). In an effort to assist the regional planning groups in this endeavor, the TPWD compiled a list of ecologically significant stream segments based on agency studies, data, and expertise. Streams that meet at least one of the criteria listed above were considered by the TPWD to be ecologically significant. Nineteen river and stream segments were identified by Texas Parks and Wildlife Department (TPWD) as ecologically significant in Region J (Table1).

The TPWD has undertaken a major nature tourism program called the Great Texas Wildlife Trails^{21,22}. The model for the program is the highly popular and economically successful Great Texas Coastal Birding Trail. All six counties of Region J (Plateau) Water Planning Area are included in the new Heart of Texas Wildlife Trail. When completed, the auto-tour trail will feature signs denoting wildlife-viewing sites along the main route and numerous loop trails, descriptions of birds and other wildlife and their habitats, and other information of interest to travelers. Nature tourism is the fastest growing segment of the travel industry. Over three dozen public and private properties have already been nominated for the Heart of Texas Wildlife Trail within Region J. The goal is to have a variety of city, county, state, federal and private sites on the trail. This will provide nature tourists with diversity of habitats and wildlife viewing opportunities. The TPWD wants community leaders, conservation organizations, business owners and private landowners to appreciate the enormous opportunity to feature Region J's diverse natural history and attract tourist dollars that could become an increasingly important segment of the area's economy.

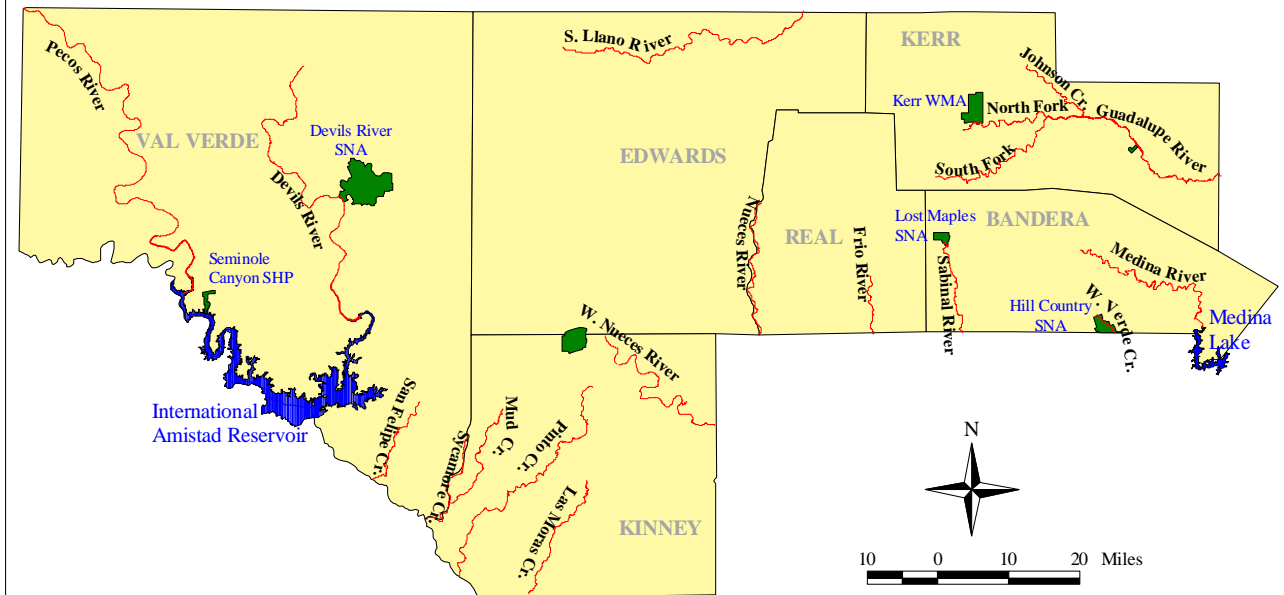
Most of the nominated sites are dependent upon rivers, streams, springs, and the riparian habitats associated with the river and stream segments identified in this report. Protection and sound management of these natural resources will help ensure the long-term economic value of these resources.

Table 1. Ecologically significant river and stream segments in Region J.

River / Stream Segment	Biological Function	Hydro. Function	Riparian Cons. Area	Exceptional Aquatic Life/ High Aesthetic Value	Endangered / Threatened Species
Bandera County					
Medina River	X	X	X	X	*
West Verde Creek	X	X	X	X	*
Sabinal River	X	X	X	X	X
Edwards County					
South Llano River	X	X		X	*
Kerr County					
Johnson Creek	X	X	X	X	*
Fessenden Branch	X	X	X		*
South Fork Guadalupe River	X	X		X	*
North Fork Guadalupe River	X	X	X	X	*
Guadalupe River	X	X	X	X	*
Kinney County					
Las Moras Creek	X	X	X	X	X
West Nueces River	X	X			X
Pinto Creek	X	X		X	X
Mud Creek	X	X		X	*
Sycamore Creek	X	X		X	X
Real County					
Nueces River	X	X		X	X
Frio River	X	X		X	*
Val Verde County					
Pecos River	X	X	X	X	X
Devils River	X	X	X	X	X
San Felipe Creek	X	X		X	X

* Certain endangered and threatened species are known to occur in the county and are known to use riparian habitat, but they are not restricted to those habitats.

Region J (Plateau) Water Planning Area



Ecologically Significant River and Stream Segment Descriptions