

# Springs of Texas



VOLUME I

*Gunnar Brune*

Introduction by Helen C. Besse

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## INTRODUCTION TO THE SECOND EDITION

Helen C. Besse

When Gunnar Brune self-published *Springs of Texas, Volume I*, in 1981, most of the state water planning agencies and local environmental communities either did not recognize the importance of his work or were not aware of its existence. Brune had spent the previous decade conducting research and field studies, and then writing this book that describes the physical characteristics of springs, the archeology and history of springs' use, the ecological setting of springs, and the local use and lore surrounding springs for 183 out of 254 Texas counties. Gunnar Brune died before he could complete volume II.

Gunnar Brune described many of the large springs across the state as well as innumerable small springs present along river and stream courses that provide the base flow for waterways across the state. Brune repeatedly stated in the 1981 edition of this book that many of the springs he described had failed or were failing. With the pronounced influx of population in the last twenty years and the increased agricultural and industrial activities around the state, one can only wonder how many of the more than 2,000 springs have gone dry since he described them through the 1970s.

Nevertheless, this book is even more important to-

day. Its value to water planners, elected officials, policy makers, municipal, county, and state administrators, wildlife stewards, environmentalists, and water lovers has not diminished. Springs are "the canary in the coal mine." The health of our springs reflects the health of our underground water resources and is seen in the state's surface resources as well.

In the section "The Prehistoric Setting of Springs," Brune provided a quote from another book on the beliefs that early Americans had about springs. It is appropriate to repeat those words here:

Gods and heroes were born out of springs, and ever afterward came and went between the above and below worlds through their pools. Every pueblo had sacred springs somewhere near-by. There was every reason to sanctify them—physical, as life depended upon water; spiritual, as they had natural mystery which suggested supernatural qualities; for how could it be that when water fell as rain, or as snow, and ran away, or dried up, there should be other water which came and came, secretly and sweetly, out of the ground and never failed (Horgan, 1954).



and other prehistoric relics were found in 1933 during the excavation for the swimming pool, according to Ronald Johnson of the Heart 'O Texas Council, Boy Scouts of America. Spanish silver mines and a powder magazine are reported to have been identified. In 1847 Robert Childers built a corn mill which used the spring waters for power. The mill could grind 8 bushels (282 liters) of corn in 24 hours. Wild turkeys caused considerable trouble by eating the corn meal. The mill was later known as Shanklin's mill and operated until 1905. Later the water was used for irrigation of crops. A historical marker is present at the site. The combined flow of the springs was 96 lps on May 18, 1975.

**Little River Spring (9)**, three kilometers west of Little River, furnished water for Fort Little River, which has a historical marker. The fort was built in 1836 and used for only one year as a military garrison. It is also called Fort Griffin and Fort Smith, making it easily confused with Fort Griffin in Shackelford County and Fort Smith in Arkansas. It was used for many years by the settlers as a place of defense against the Indians. In 1841 the Santa Fe expedition members, encamped here, shot many bison for sport and for the tongues and other choice parts. Many of the animals were wounded by the pistol shots and probably died later.

The spring issued at 0.63 lps on May 18, 1975, from terrace gravel on top of Austin chalk and has formed a deposit of travertine. In 1965 it was reported to be dry. It is at the south edge of a gravel pit just west of the fort, of which nothing remains.

One kilometer east of Little River, on the south side of Highway 436, are **Buchanan Springs (13)** on Tom Russell's farm. North of the highway, on R. N. Allison's property, are a second group called **Willow Springs**. Southeast of here Captain Goldsby Childers in 1835 maintained good relations with the Indians, entertaining them for dinner at his home. The Childers family returned the visits and were treated to a good dinner by the Indians on one occasion, consisting of corn bread, venison, honey, and coffee. Buchanan Park was later located at the springs. Used for irrigation, they issue from Quaternary gravel amid beds of water cress and supply several duck ponds. On July 20, 1975, Buchanan and Willow Springs produced 3.5 lps. On January 9, 1978, after much dry weather, the flow was 1.8 lps.

**Elliott Springs (38)** are one kilometer south of Little River on Charles Screws' property. They were formerly the water supply for the town of Little River. On January 9, 1978, after much dry weather, they poured out 1.3 lps from gravel amid beds of water cress.

**Sulphur Springs (18)**, five kilometers east-northeast of Salado, flowed 0.32 lps on July 20, 1975. They issue from the Edwards and associated limestones like Salado Springs at Salado. However, toward the east the water in this aquifer becomes saline and contains large amounts of sulfate. This is because the water here does not circulate as freely as that to the west, and therefore has more time to become saturated with minerals. The springs' waters were valued for their medicinal qualities in early days. Around 1859 many families camped there, and a health resort grew up around them. Salado Creek, Springs, and the town were probably named for the saline Sulphur Springs. *Salado* is Spanish for *salty* or *saline*.

**Salado Creek and Springs (2)** are not in the least saline. Salado Springs water contains only 500 milligrams of dissolved solids per liter (see table of Selected Chemical Analyses of Spring Waters near the back of this book).

Salado Springs were recognized long ago by the Tawakoni Indians as a beautiful place at which to live. They left many flint implements, beads, pottery sherds, and metal ornaments.

Undoubtedly Paleo-Indian people occupied the site much earlier. In 1732 the Spaniard Bustillo y Ceballos probably stopped at Salado Springs while traveling to the west. The springs were settled in 1851 by Archibald Willingham and became a well-known stage stand. They were described as

a succession of fine boiling springs which from year's end to year's end send up great volumes of pure, clean water and which in their course to the Leon River cross many rapids and form many pools of rare beauty and utility. The certain supply of water and the swiftness of the stream makes the Salado one of the best streams in the state for water power, and it is only a matter of time until it will be utilized.

This prediction was soon realized. From 1851 to 1868 there were 11 flour, grist, saw, cotton-gin, and wool-carding mills using the spring water for power. From 1863 to 1878 the Davis mill dam flooded some of the lower springs. A court order forced the lowering of the dam.

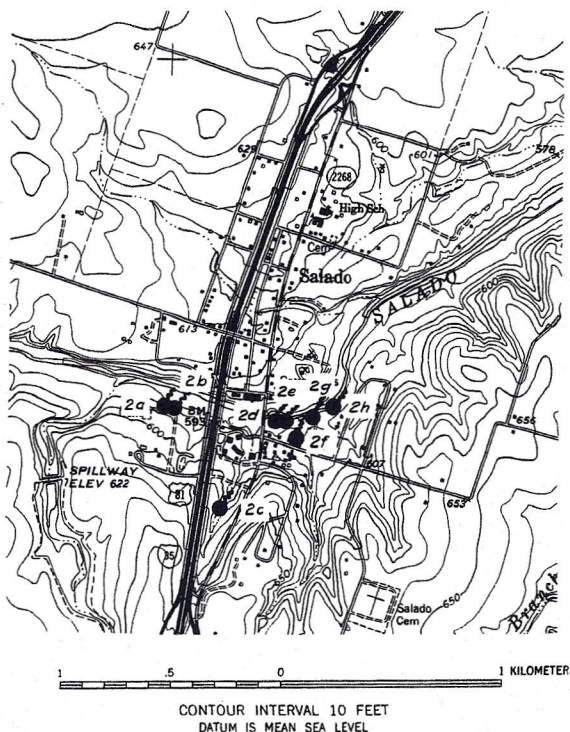
Several historical markers are present in the town. Salado has now become a great tourist attraction, with many antique and art stores, the Stage Coach Inn, and a swimming hole.

The location of the springs, all of which rise under artesian pressure through faults in the Edwards and associated limestones, is shown on the accompanying local area map. Most emerge between 160 and 175 meters above sea level. The two moderately large





Swimming hole at Salado Springs.



Location of the various Salado Springs.

**Robertson Springs (2a and 2b)** are on Mrs. Sterling Robertson's property west of Interstate 35. Next, going downstream, is the **Dining Room Spring (2c)**, a smaller spring which rises near the inn dining room. A cave with buried Spanish gold is rumored to be close to this spring. Next come the two **Big Boiling Springs (2d and 2e)** which reportedly once rose in a fountain almost two meters high. During the days of the Chisholm Cattle Trail drives (1867-1895) a stone wall was erected around these springs to keep the cattle out. Big Boiling Springs were then the water supply of the town. (See Plate 13, f). Farther downstream are the moderately large **Critchfield or Elm Spring (2f)** on Chester Critchfield's property, the smaller **Benedict Spring (2g)** on Dr. O. L. Benedict's place, and the moderately large **Anderson Spring (2h)**. Other smaller springs occur throughout the area.



The recharge area for the springs is believed to be primarily in Williamson County, where several large faults cross Salado Creek about eight kilometers west of Interstate 35, the water entering the Edwards limestones there and moving to the northeast. Discharge measurements, in liters per second by water years, follow:

1902	370	1961	1,000
1903	370	1962	710
1934	220	1963	400
1948	300	1964	310
1950	180	1965	820
1951	160	1966	930
1952	220	1967	400
1954	190	1968	710
1955	160	1969	790
1956	130	1970	650
1957	230	1971	310
1958	680	1972	340
1959	370	1973	820
1960	680		

Measured discharges for individual springs follow:

Robertson Springs	Aug. 26, 1948	28
	Aug. 25, 1950	20
	Aug. 15, 1951	11
Big Boiling Springs	Aug. 26, 1948	14
	Aug. 25, 1950	8
	Aug. 15, 1951	8
Elm or Critchfield Spring	Aug. 26, 1948	48
	Aug. 25, 1950	23
	Aug. 15, 1951	48
Benedict Spring	Aug. 26, 1948	6
	Aug. 25, 1950	3
	Aug. 15, 1951	3
Anderson Spring	Aug. 26, 1948	31
	Aug. 25, 1950	37
	Aug. 15, 1951	45

A second **Elm Springs (30)** were located six kilometers south-southeast of Salado. The Elm Springs school was 400 meters south of these springs from 1894 to 1937. Ernest Townsend, who attended the school in 1914, remembers the small springs on Middle Darra Creek. The springs, which issued from Austin chalk, are gone now, as are the elm trees for which they were named. A few willows survive, and a historical marker calls attention to the former site of the school. Several wells pumping nearby have lowered the water table.

On the Solana Game Preserve and Breeding Farm, 10 kilometers northwest of Jarrell (latitude 30°53' and longitude 97°40'), are the **Headquarters (22)** and **Warwick (23) Springs**. They discharged 6.3 and 13 lps respectively on June 8, 1975. Indian burned-rock middens are common around these springs on Rumsey Creek. The larger springs on the Solana Ranch are discussed under Williamson County.

On Mustang Creek nine kilometers west-southwest of Salado are **Willingham Springs (35)**, on the C. B.

Hodge ranch. Here Wilson Willingham settled in 1851. The Willingham Springs church is one kilometer south-east. About three kilometers downstream are **Three Chimneys Springs (36)**. In addition to these two groups of springs, many other small springs discharge from the Edwards limestone in this scenic, rocky area amid fern-covered bluffs and boulders.

A third **Elm Springs (21)** is five kilometers west-northwest of Salado. This group of three springs on Bill Maedgen's farm produced around 28 lps from the Edwards and associated limestones on May 18, 1975. Wilbur Foster, president of the Salado chamber of commerce, kindly guided the writer to these springs.

On Buttermilk Creek 16 kilometers west-southwest of Salado are **Abbott Springs (32)**. Rising from Edwards limestone on the Lindsey Ranch, they produced a flow of 2.5 lps at the downstream road crossing on January 8, 1978. Many live oak and cedar trees dot the site.

## BEXAR COUNTY

Prehistoric people lived in Bexar county many thousands of years ago, especially near the larger springs. According to some accounts a Spanish settlement was made near here in 1632. When Domingo Teran de los Rios and Damian Massanet arrived in 1691, they found several "docile and affectionate" hunting and gathering Coahuiltecan bands called Payayans using the springs. They apparently practiced little agriculture, but were experts at trapping deer, javelina, and water fowl.

Bexar County is one of Texas' richest counties in history. This abundant heritage is tied inextricably to the large springs which were found here. Teran and those who followed him saw the advantages of such a well-watered area, and it was not long (1718) until the first of the Spanish missions, San Antonio de Valero or the Alamo, was established. The other four missions were operating by 1731. Construction of a complex system of irrigation ditches and dams was begun with the San Pedro ditch in 1738, taking water just downstream from San Pedro Springs. The well-preserved Espada dam and aqueduct may still be seen near Mission San Juan in southeastern San Antonio. Numerous mills derived their water power from the larger springs, probably beginning with a sugar and wheat-flour mill at Mission San Jose in 1794. As recently as 1904 four hydroelectric power plants were using the spring waters.

Most of the writer's field studies were made on November 6-12, 1975.