

San Solomon Spring

A Texas Geoheritage Site

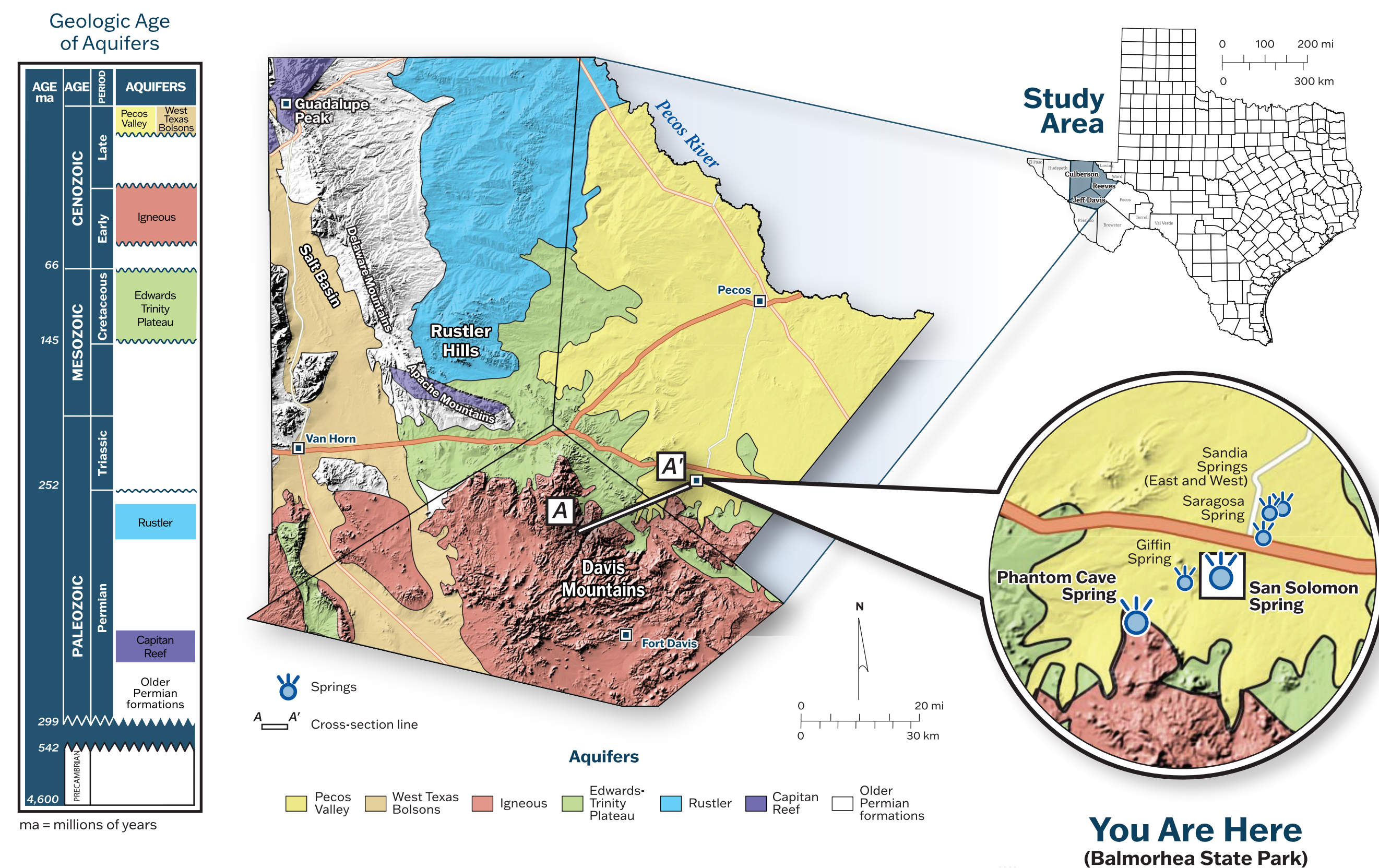


Pool at Balmorhea State Park

Framed by scenic views of the Davis Mountains, this park offers far more than natural beauty—it holds deep scientific, educational, cultural, and recreational importance. Whether you're swimming, exploring, or simply taking in the scenery, you're experiencing a rare and treasured piece of Texas' natural heritage.

Aquifers: A Geologic Source for Natural Springs

Aquifers are geologic units that provide water of usable quality to wells or springs. Springs occur where groundwater reaches the surface.



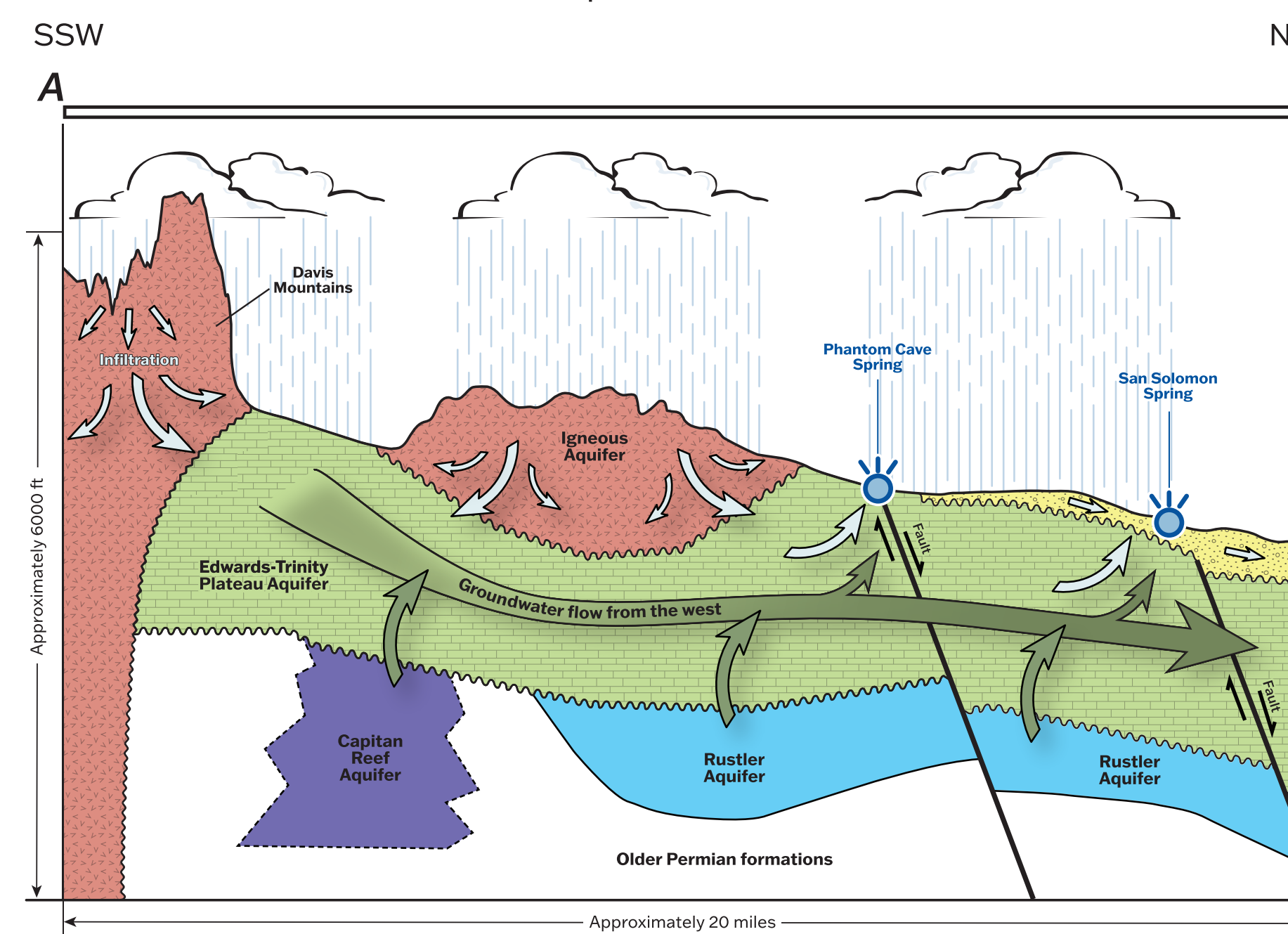
The Multiple Aquifers that Flow into San Solomon Spring

The San Solomon Springs System consists of six local springs: East Sandia, West Sandia, Saragosa, San Solomon, Giffin, and Phantom Cave.

Groundwater emerging at San Solomon Spring flows primarily from the **Edwards-Trinity Plateau Aquifer**, but scientists think that this aquifer receives additional groundwater through cross-aquifer flow from the **Igneous**, **Rustler**, and **Capitan Reef Aquifers**, helping to support the system as a whole.

Groundwater Flow Paths

(conceptual illustration)

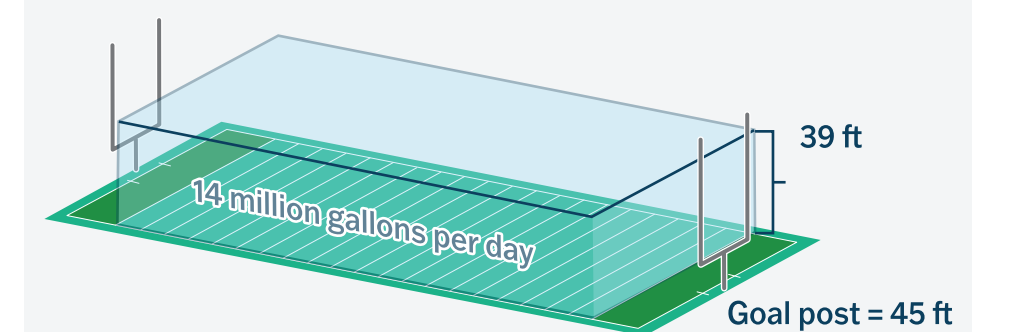


Balmorhea Pool



The pool at Balmorhea State Park covers 1.3 acres and holds 3.5 million gallons of water. It is the largest spring-fed swimming pool, by volume, in the world.

How Much Water Flows from the Springs Each Day?



Today, San Solomon Springs produces about **14 million gallons** of water each day—enough to flood the playing area of a football field with 39 feet of water (approximately 39 acre-feet).

Records from 1940 show an average flow rate of about **27 million gallons** per day, nearly double today's flow. This difference underscores the need for water conservation and ongoing research into this complex aquifer system.

Amazing Adaptation

In an amazing adaptation, a few animal species, including two endangered desert fishes—**Comanche Springs Pupfish** and **Flame Gambusia**—can withstand natural swings in salinity as fresh and brackish groundwater mix. These rare fish are only found in the San Solomon Springs System.



Comanche Springs Pupfish
(*Cyprinodon elegans*)



Flame Gambusia
(*Gambusia pyrrhos*)

Photo Images ©Kevin Conway, Texas A&M University

(Not actual size)

Groundwater that supplies the aquifers follows several paths:

➡ A Long Slow Path

Slow-moving **brackish (mildly salty) water** travels long distances through deep rock layers before emerging at the spring. Much of this water began its journey up to 100 miles to the west, in the Salt Basin and Rustler Hills.

➡ Short Quick Paths

After rainfall in the Davis Mountains, **fresh water** infiltrates the nearby rocks of the **Igneous Aquifer** and flows underground into the **Edwards-Trinity Plateau Aquifer**. The groundwater then flows through pore spaces and cracks in the rock to reach the spring. This pulse of fresher water temporarily **lowers the saltiness of the springs**.

Thoughtful water stewardship ensures that this unique desert oasis remains a thriving natural resource.



The primary goal of the Texas GeoSign program is to establish a network of geologic information signs to engage and educate people about the geologic history of Texas when they visit parks, highway rest areas, and other public locations.



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