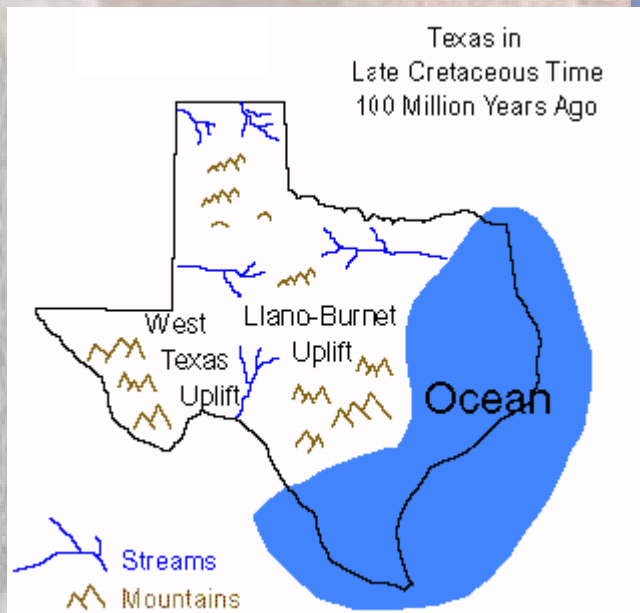


A photograph of a cave interior. The scene is dimly lit, with a warm, golden light source visible in the upper center, possibly a candle or a small lamp. The cave walls are covered in various rock formations, including stalactites hanging from the ceiling. The floor is rocky and covered with lush green moss and small plants. A small waterfall flows over a rock in the center of the frame. The overall atmosphere is mysterious and ancient.

The Fragile World of Austin Underground

This is what Texas looked like 100-75 million years ago.



Cretaceous Marine Fossils (85-70 million years before the present)



Stantonoceras solisense
Ammonite



Osteopygis sp.
The Zilker Park Turtle



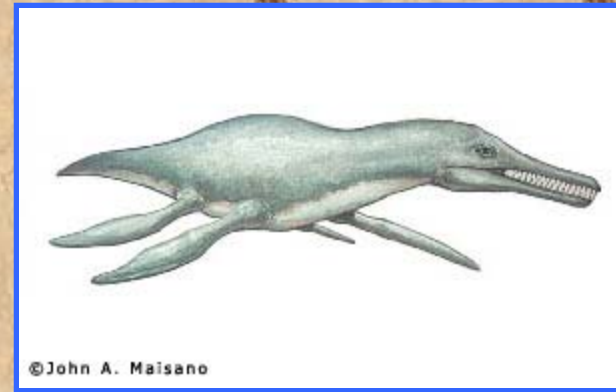
Crateraster mccarteri
Starfish

Cretaceous Marine Fossils

(85-70 million years before the present)



Mosasaurus maximus
The Onion Creek Mosasaur

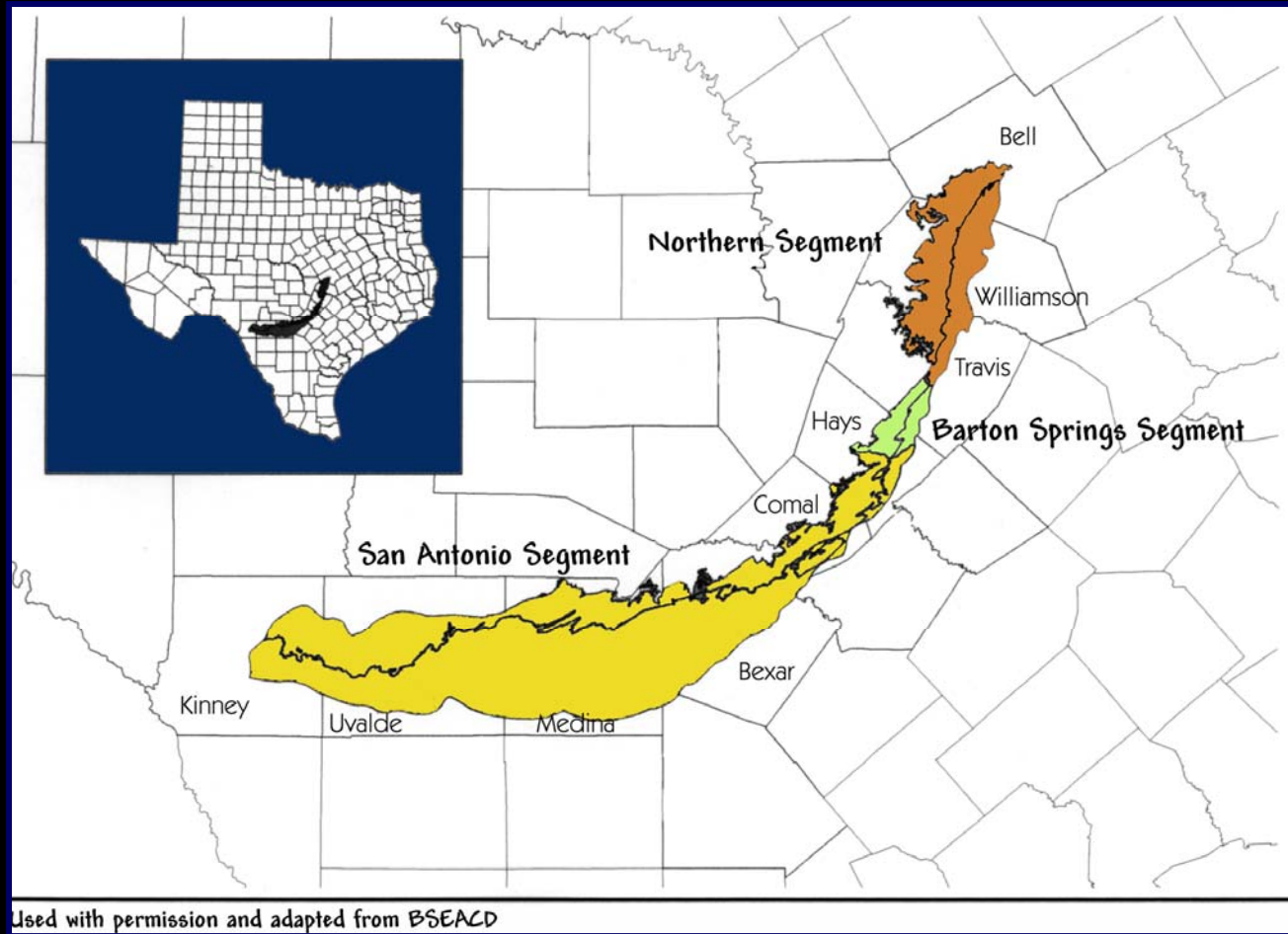


Polyptychodon sp.
The Shoal Creek Plesiosaur

Sand, Sediment, and Seashells containing calcite formed the limestone



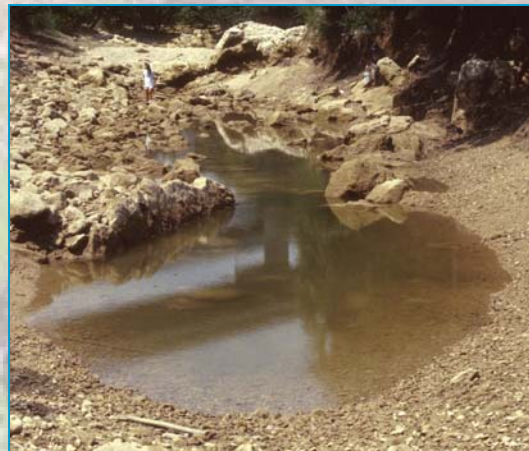
The Edwards Aquifer in Texas



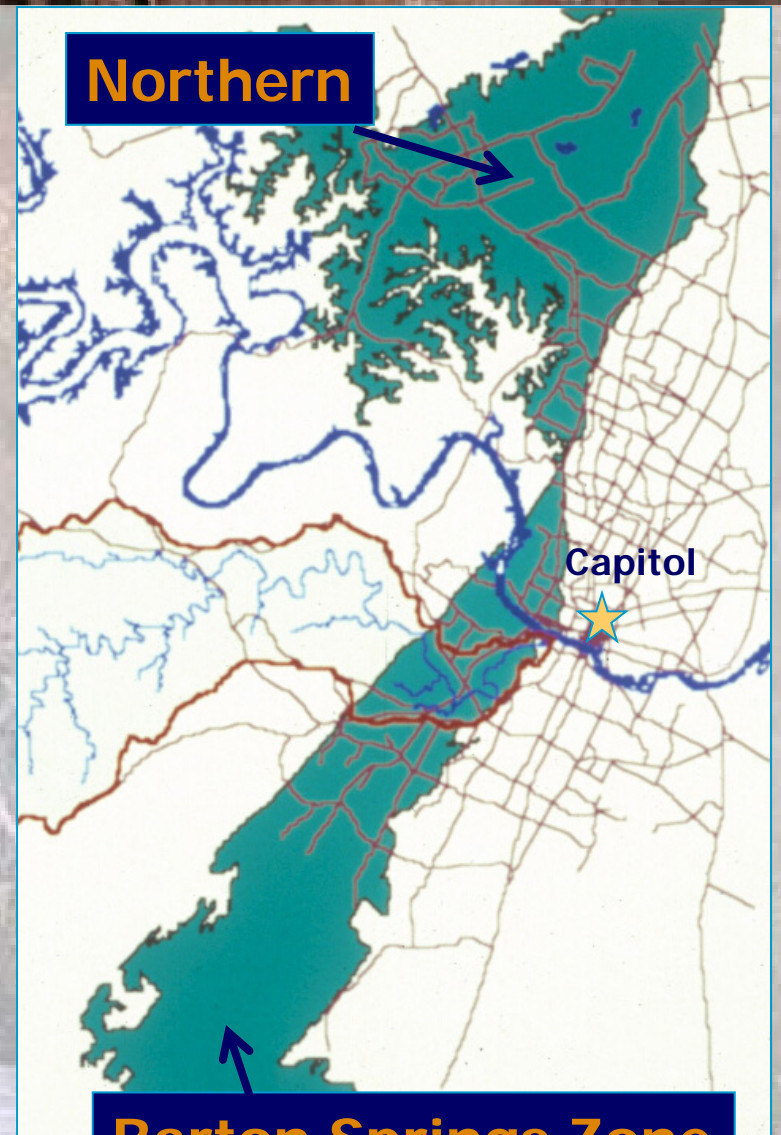
Edwards Aquifer in Austin

Northern vs. Barton Springs Recharge Zone

Northern (upland)

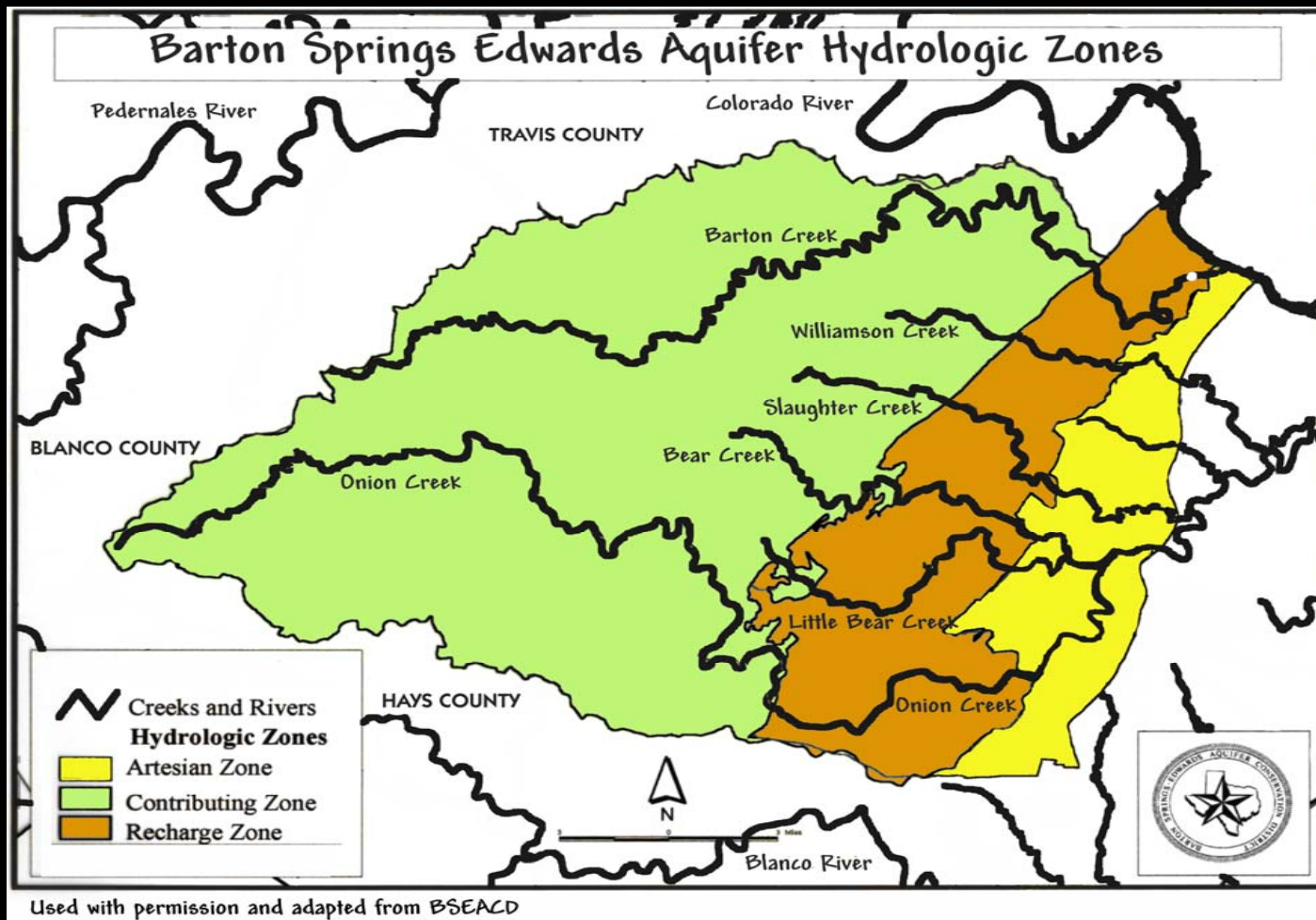


Barton Springs Zone (creeks)

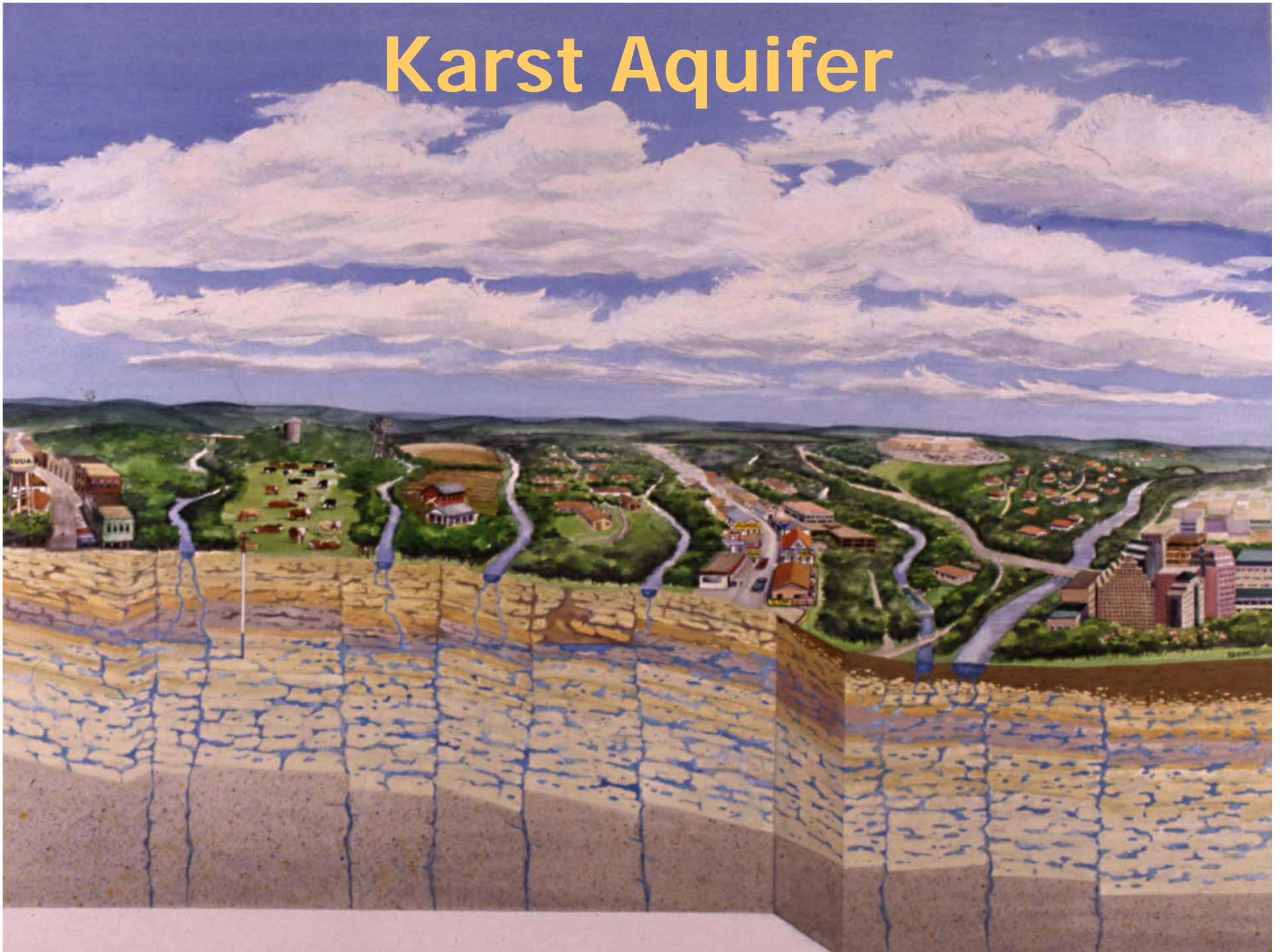


Barton Springs Zone

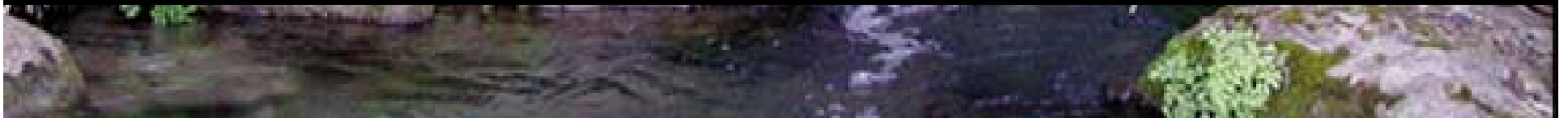
Zones of the Barton Springs Segment



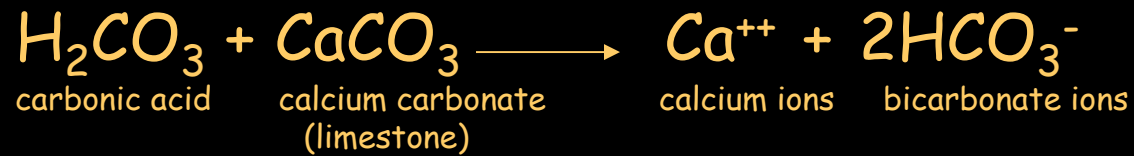
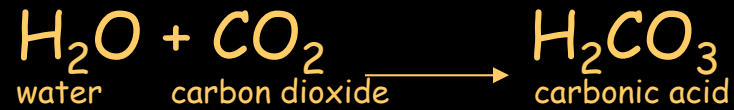
Karst Aquifer



Now Entering Edwards Aquifer Recharge Zone



Dissolution of Limestone Rock

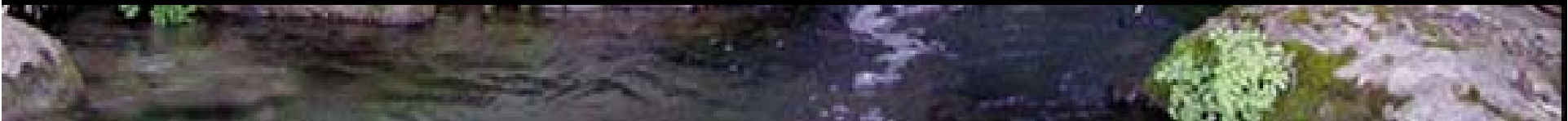


The Recharge zone is where the caves and openings of the Edwards limestone meet the land surface.

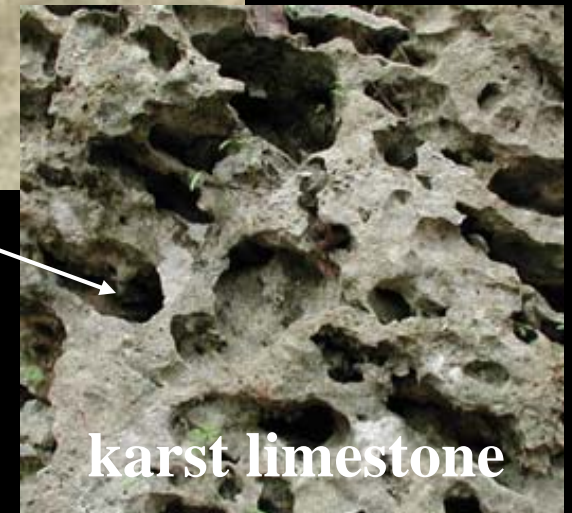




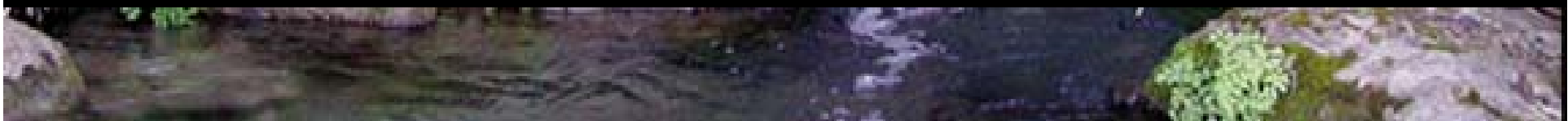
Austin's water comes from one of 47 watersheds...19 "recharge" the Edwards Aquifer



“Environmentally-Sensitive Recharge Zone” (all rocks are not created equal)

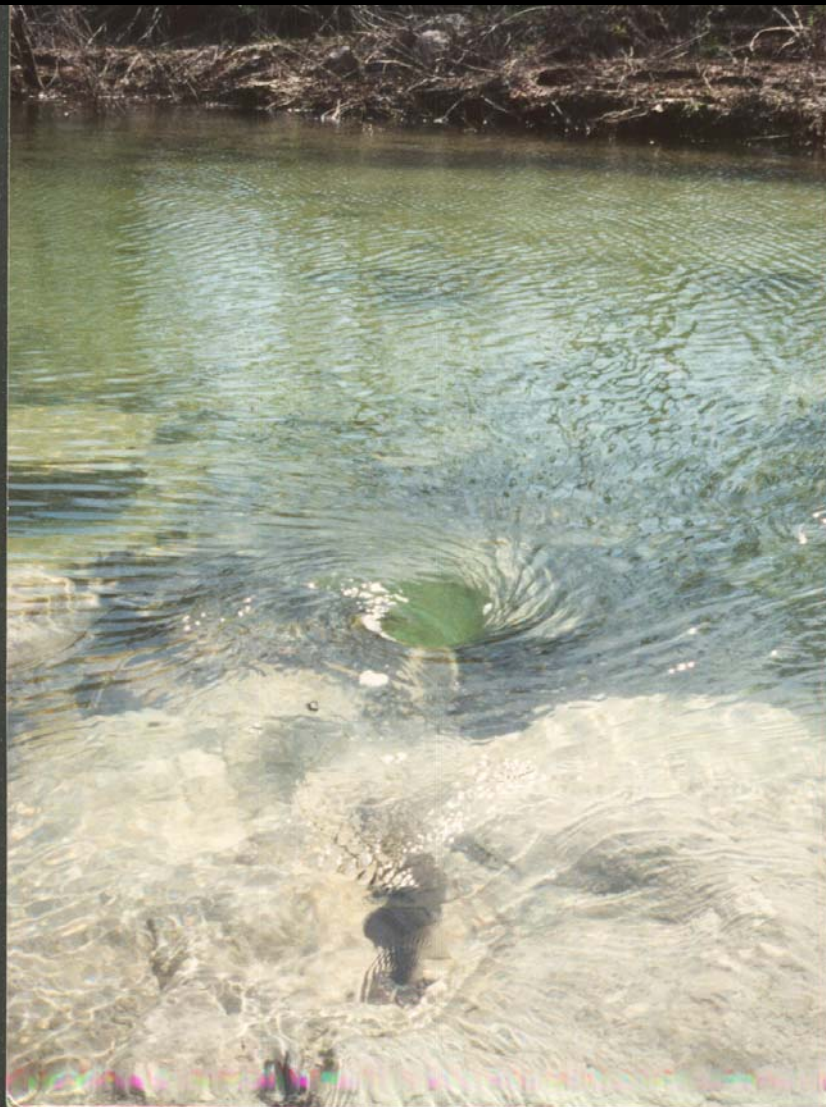
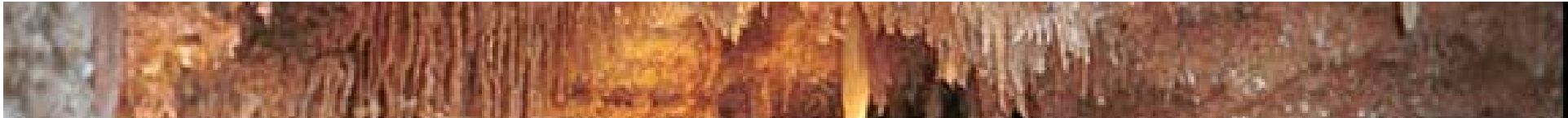


Contaminants can be washed directly to groundwater through holes in the bedrock

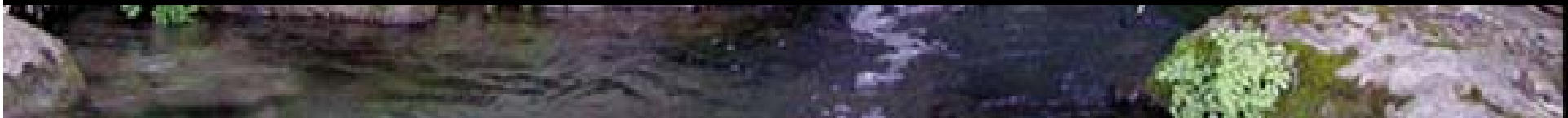


**Creekwater disappearing into Dry Fork Sinkhole
on Tributary to Williamson Creek**

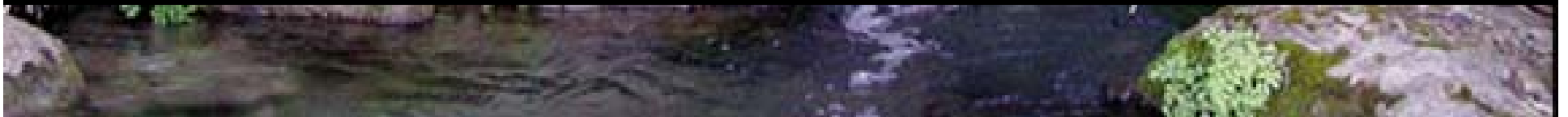




**Whirlpool formed as
creekwater recharges
aquifer**



Airman's Cave on Barton Creek

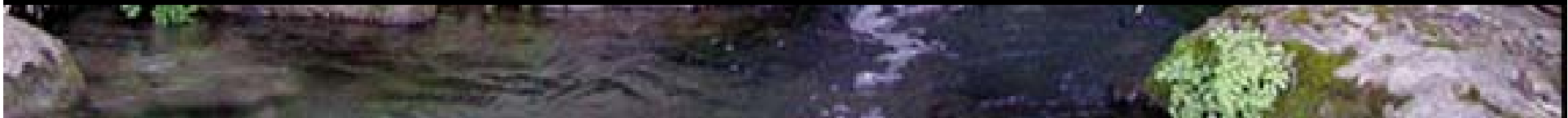




**Pit in Midnight Cave
(Slaughter Creek Watershed)**

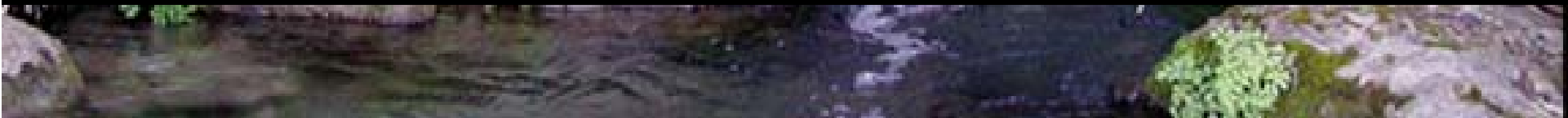


Pool in Midnight Cave





Cave Stream in Blowing Sink Cave
254 Feet Below the Surface



Stalactites, Stalagmites and Columns



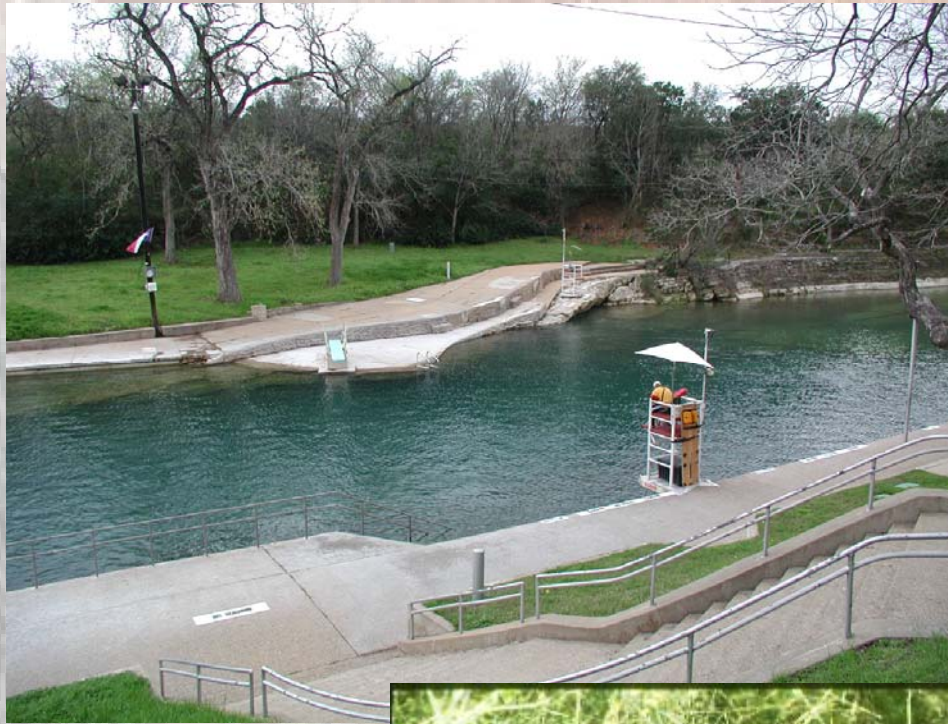
Slimy Salamander



Development over Recharge

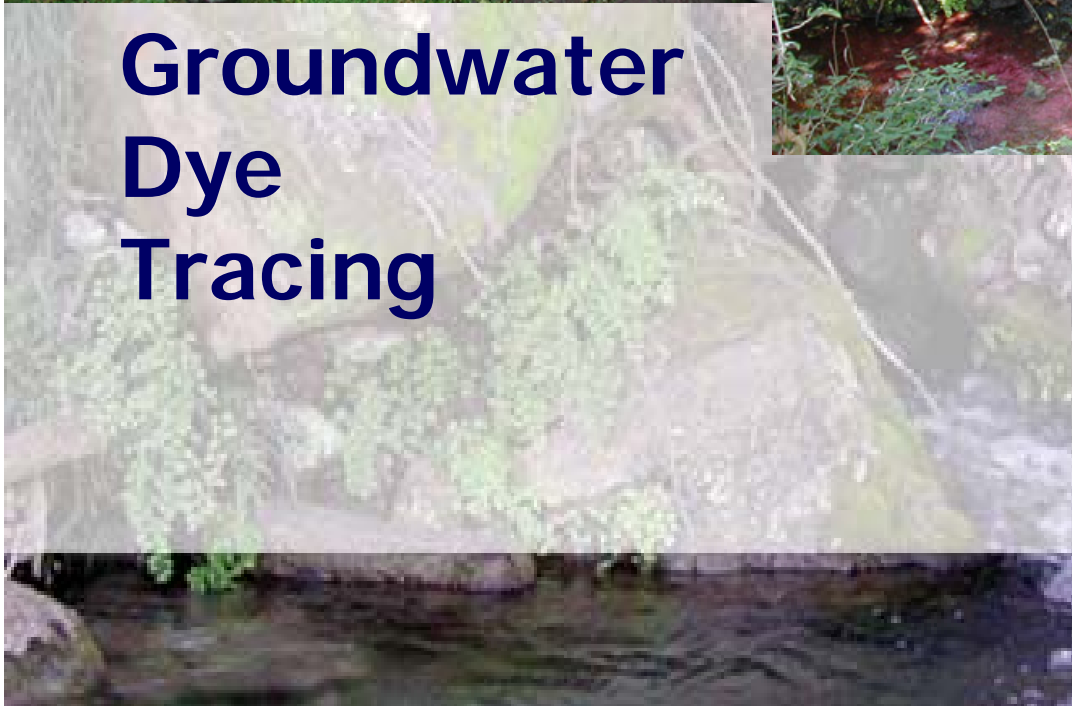


Groundwater Coming Out of Spring

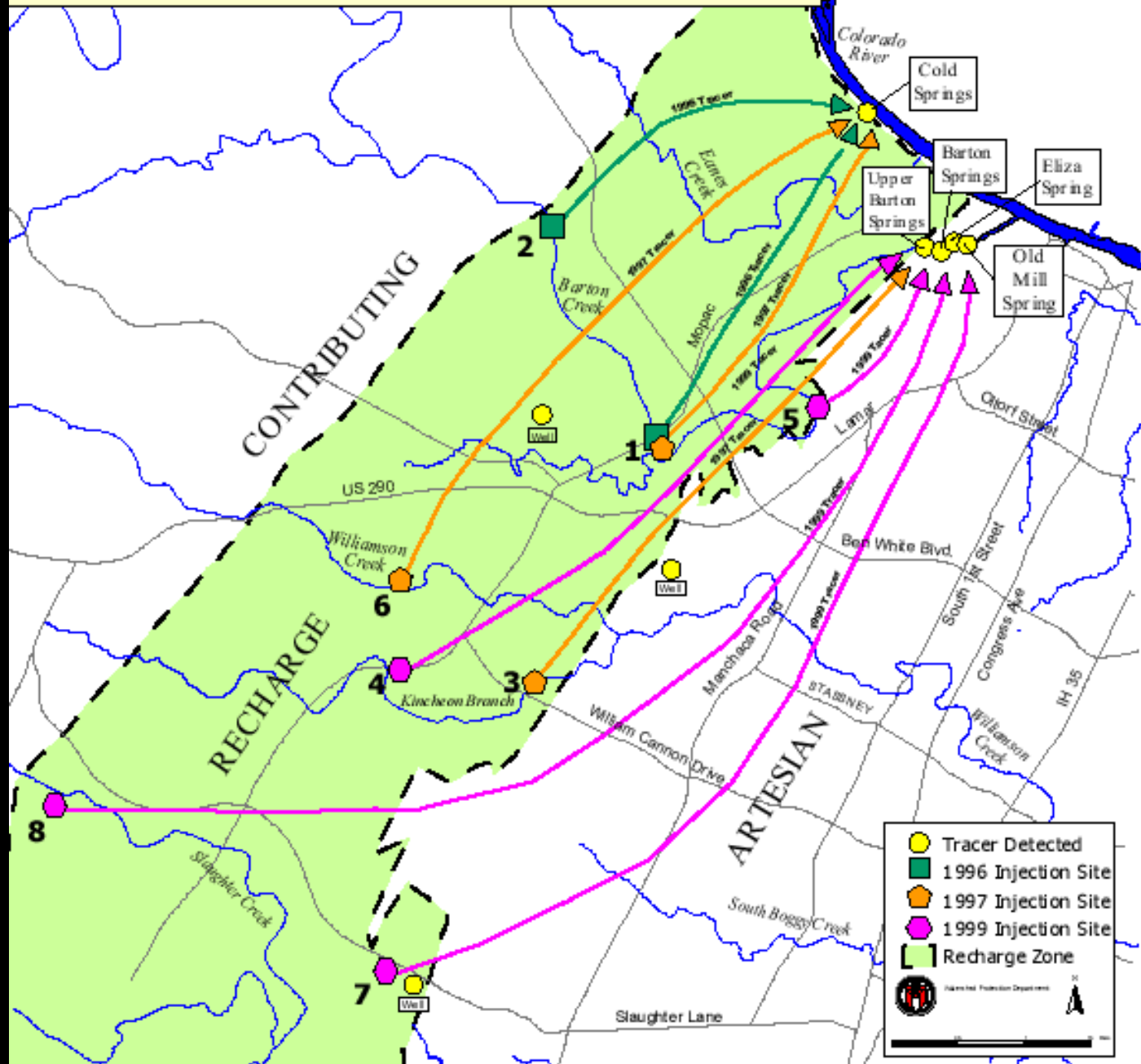




Groundwater Dye Tracing



Barton Springs Zone Dye Trace Study

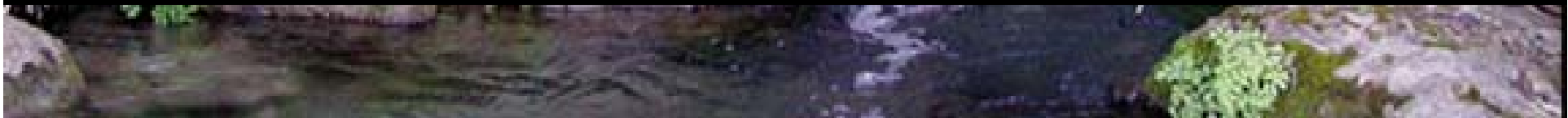




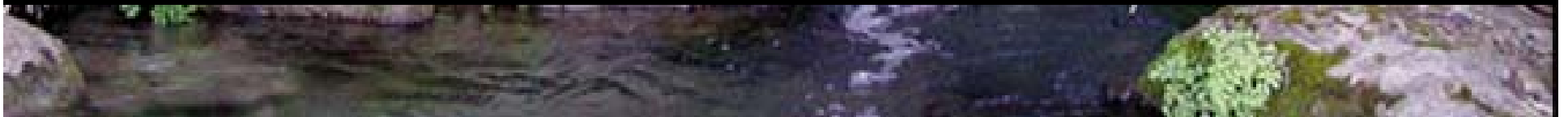
The Barton Springs Segment of the Edwards Aquifer (BSEA) an important resource for the Austin area

There are 60 springs and 20 caves in the Barton Creek watershed that:

- Supply drinking water to wells for numerous communities
- Provide habitat for endangered species
- Provide clean base flow to the Colorado River
- Supply the City of Austin with part of its drinking water supply
- PROVIDE RECREATION AT BARTON SPRINGS POOL



The Barton Creek watershed contains the habitat (Barton Springs) for the Barton Springs Salamander



What do we find in the water?

- In Northwest Austin, springs in developed areas have nitrate concentrations that are eight times higher than springs in undeveloped areas



- Traces of Atrazine (a weed killer) have been detected in area springs at levels of concern



- Used oil from a single oil change can pollute a million gallons of fresh water--a year's supply for 50 people



A scenic view of a waterfall cascading over mossy rocks in a forest. The water is white and frothy as it falls, surrounded by lush green foliage and trees. The scene is captured from a slightly elevated angle, showing the rocky terrain and the dense forest.

CAUSES OF POLLUTION

- Our leaking cars
- Washing our cars
- Yard care habits
- Pet waste
- Littering

Ways You Can Help Reduce Impacts to the Aquifer

- Use compost for fertilizer
- Never fertilize before it rains
- Pull weeds instead of using chemicals
- Use native plants in landscaping. They require less water, fertilizer, and herbicide to survive
- Do not wash harmful substances into storm drains
- Recycle your oil
- Pick up your trash and recycle
- Wash your car on the lawn or at a car wash
- Promote green spaces around local caves and sinkholes

**WASH YOUR CAR,
NOT YOUR CREEK.**

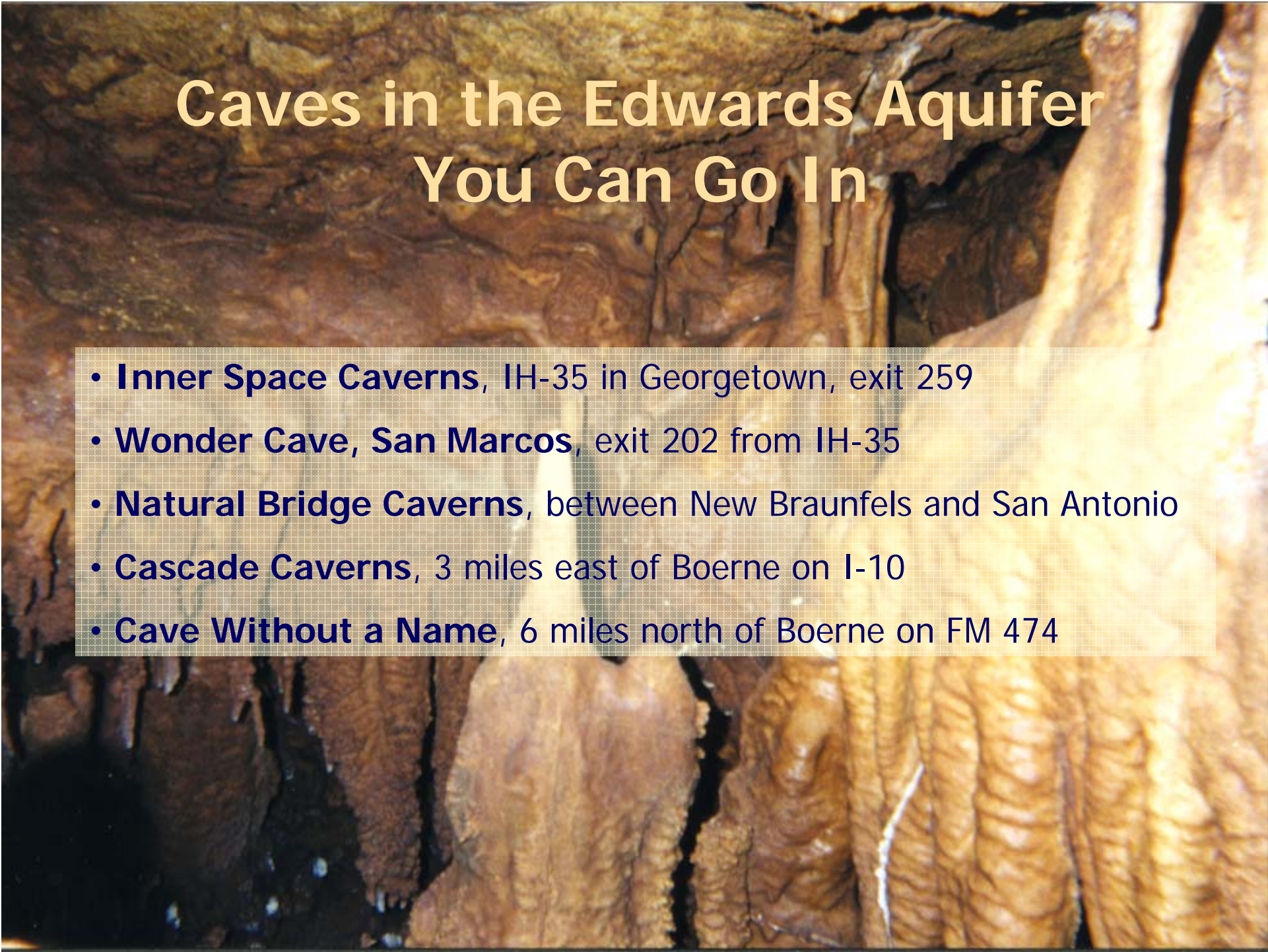


**YOUR STREET DRAINS
TO YOUR CREEK.**

Wash your car on your
lawn or at a carwash.

 Watershed Protection

499-2550



Caves in the Edwards Aquifer You Can Go In

- **Inner Space Caverns**, IH-35 in Georgetown, exit 259
- **Wonder Cave, San Marcos**, exit 202 from IH-35
- **Natural Bridge Caverns**, between New Braunfels and San Antonio
- **Cascade Caverns**, 3 miles east of Boerne on I-10
- **Cave Without a Name**, 6 miles north of Boerne on FM 474