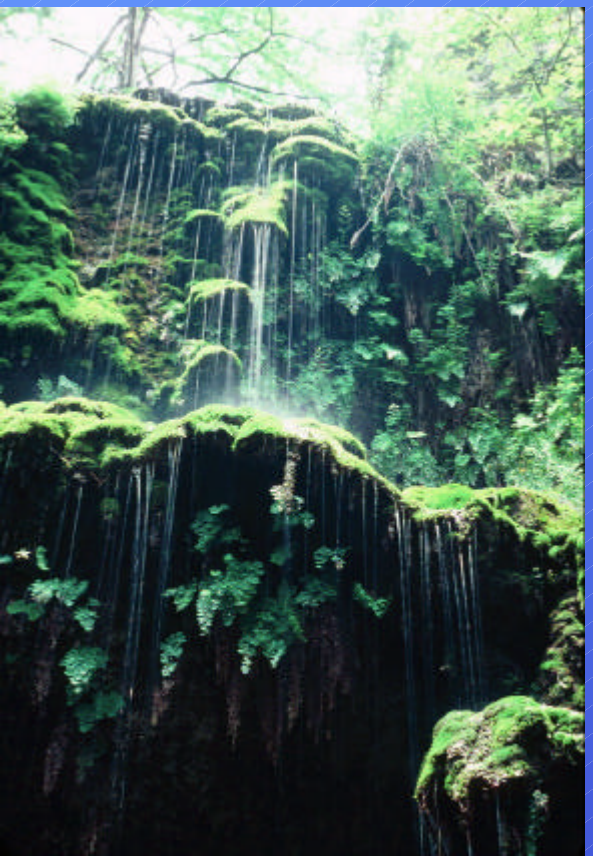
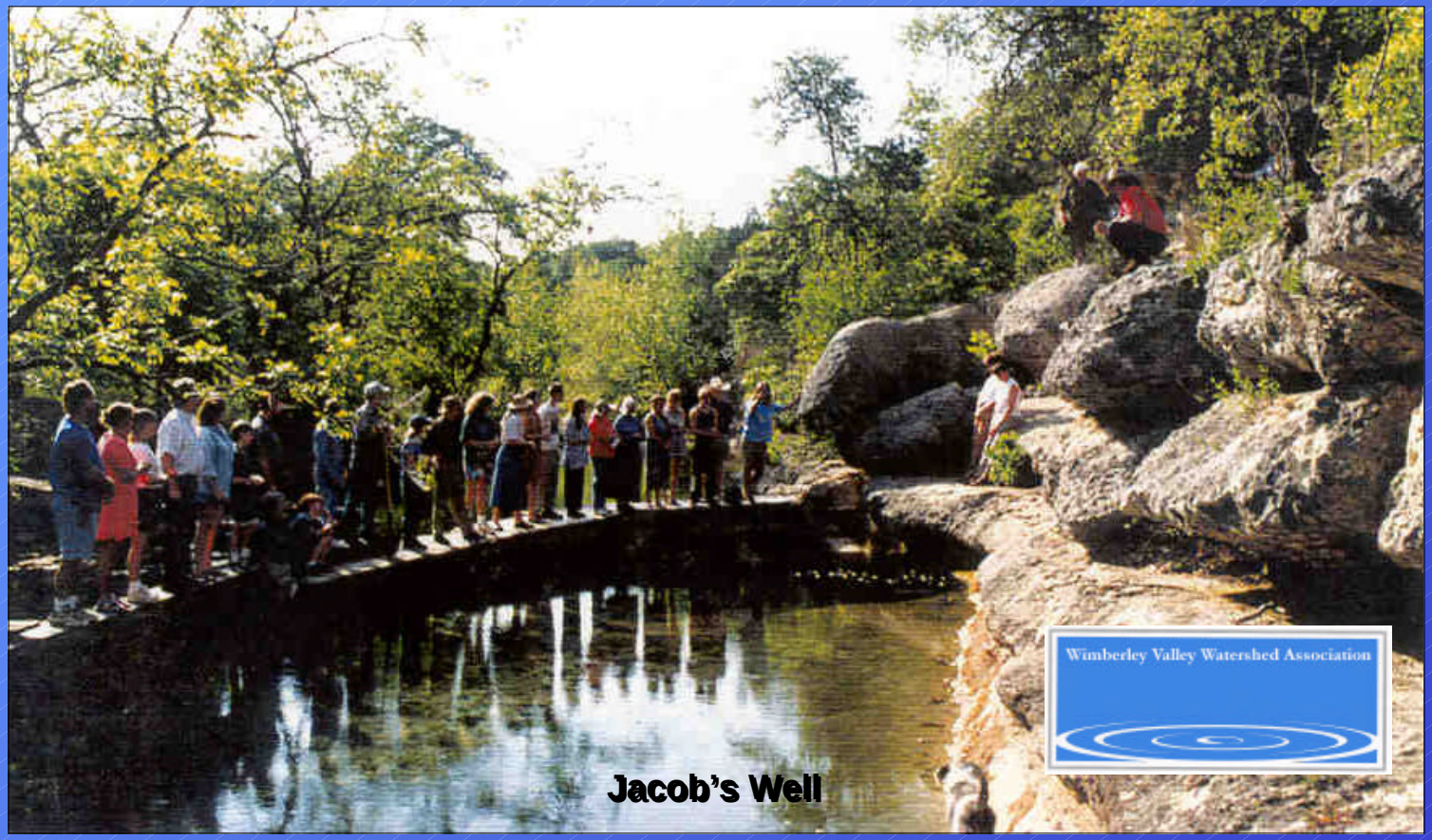


Wimberley Valley Watershed Association

Saving Our Land & Water… Leaving a Legacy

Mission Statement



Wimberley Valley Watershed Association
Mission
To give permanent protection to the water quality and quantity of the Wimberley Valley.

Wimberley Valley Watershed Association

Flood Clean up and Restoration Americorp Program

Watershed Education

Field Trips for local Schools

Water Quality Monitoring

Jacob's Well Today

Landowner Workshops/Field Studies

Scienctific Tools to Manage Water Resources

Hydrology
- Rainfall
- Streamflow
- Springflow
- Evapotranspiration
- Water Levels * (Mt. Baldy Well, Lions Funded)
- Water Quality (special study-VOW,GBRA)
- Biological Assessment

Hydrogeology
Geology
Faults and Fractures
Porosity and Permeability
Karst Features

Hydraulic Properties
- Aquifer Test
- Tracer Test

Data Analysis
Statistics
Surface Water Models
Groundwater Models
Geochemical Models

Blanco River Cypress Creek Water Quality Monitoring Study

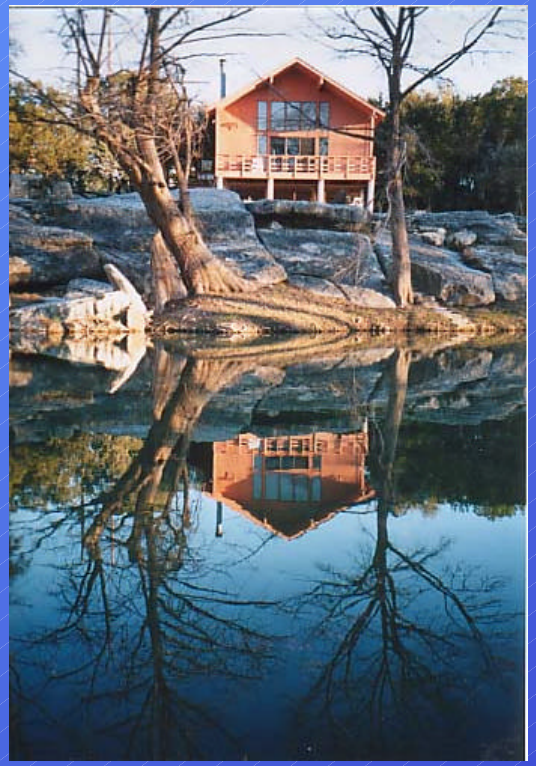
Special Study Partners

The Village of Wimberley

Guadalupe Blanco River Authority

Wimberley Valley Watershed Association

Wimberley's natural beauty and attractiveness for both tourism and residential development is centered on the Cypress Creek and the Blanco River.

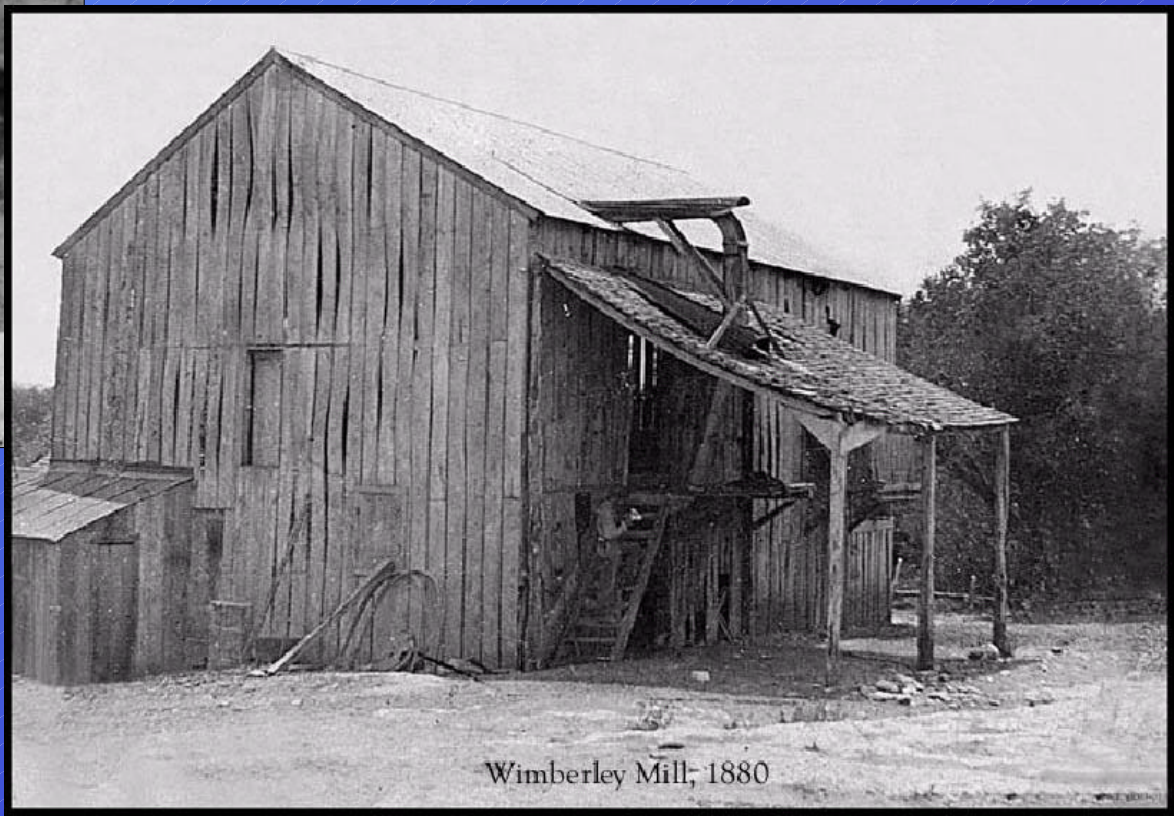


Both of these waterways and the wildlife habitat in the area are supported by spring flow from the Trinity Aquifer. All base flow to these important waterways comes from local groundwater aquifers.

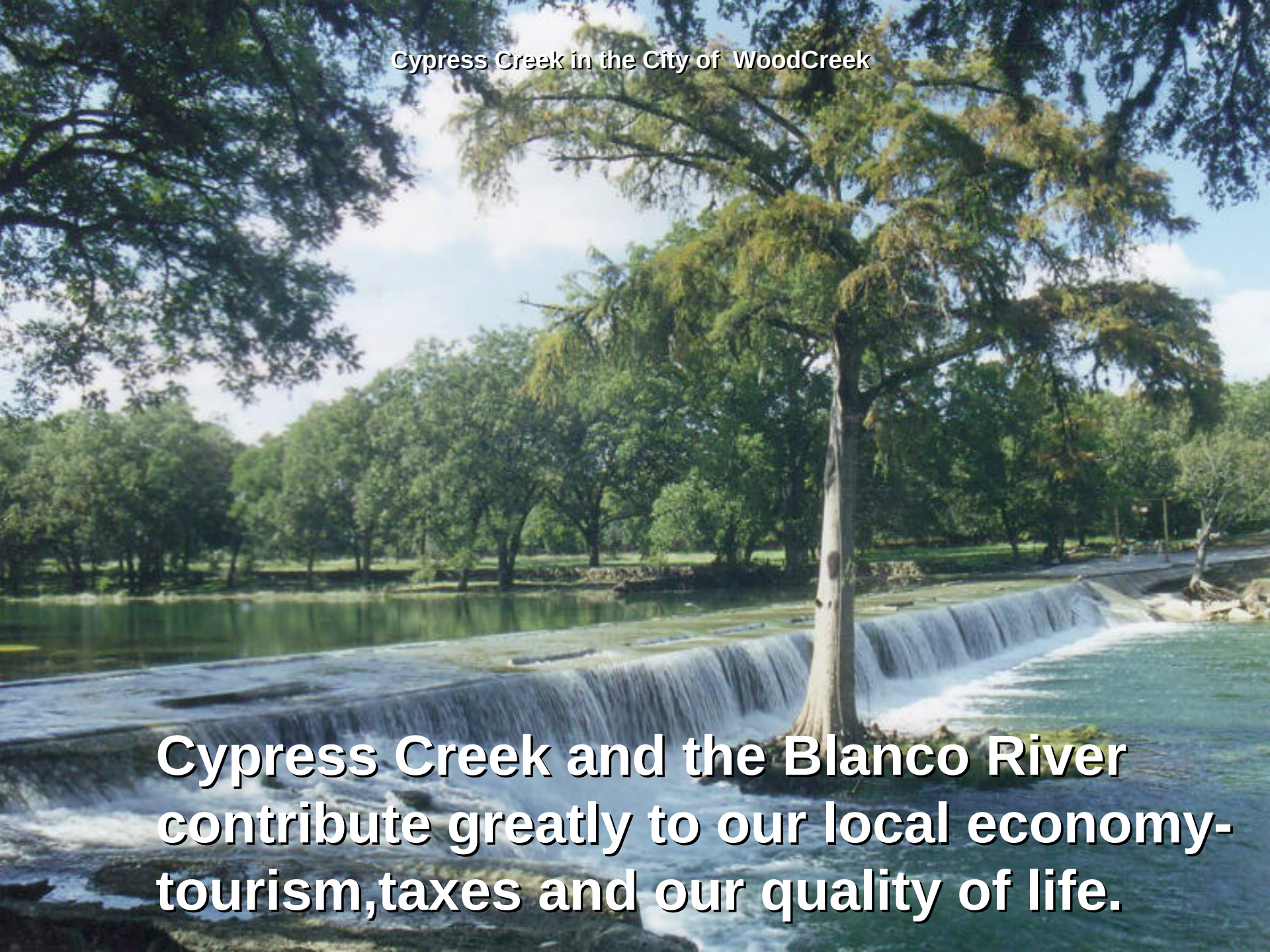
Local Legacy

Jacob's Well Circa 1926 Photo Courtesy Wimberley Institute of Cultures

William Winters built his home and the Wimberley Mill because of the consistent flow of water from Jacob's Well spring into Cypress Creek.

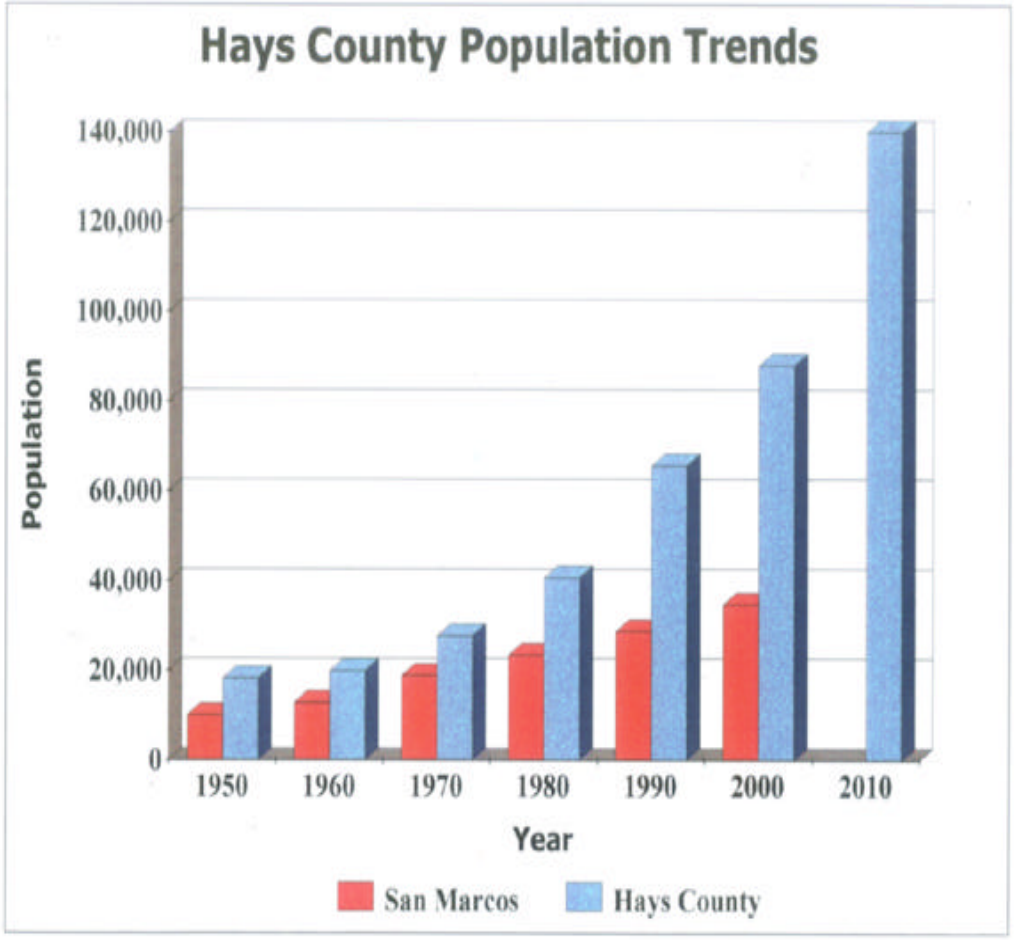


Wimberley Valley Watershed Association


Cypress Creek in the City of WoodCreek
Cypress Creek and the Blanco River contribute greatly to our local economy- tourism,taxes and our quality of life.

Cypress Creek @ Wimberley Square

The Challenges Facing the Wimberley Valley



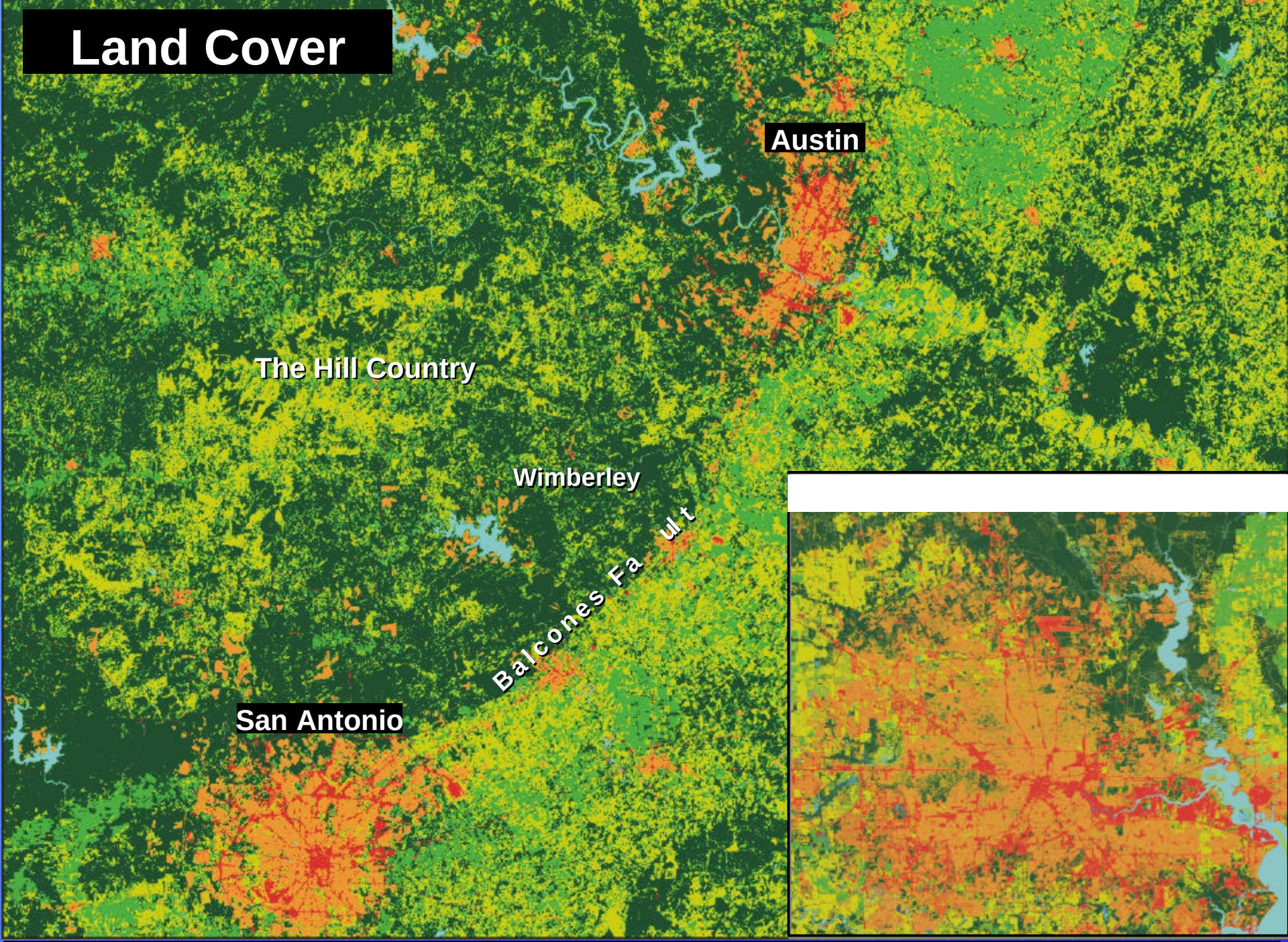
Source: U.S. Census

Hays Counties Population has doubled since 1990 and is projected to rise from 100,000 now to 375,000 by 2025

The Hill Country is one of the fastest growing regions in America

We are losing our streams, wildlife habitat and scenic vistas to urban sprawl

Land Cover

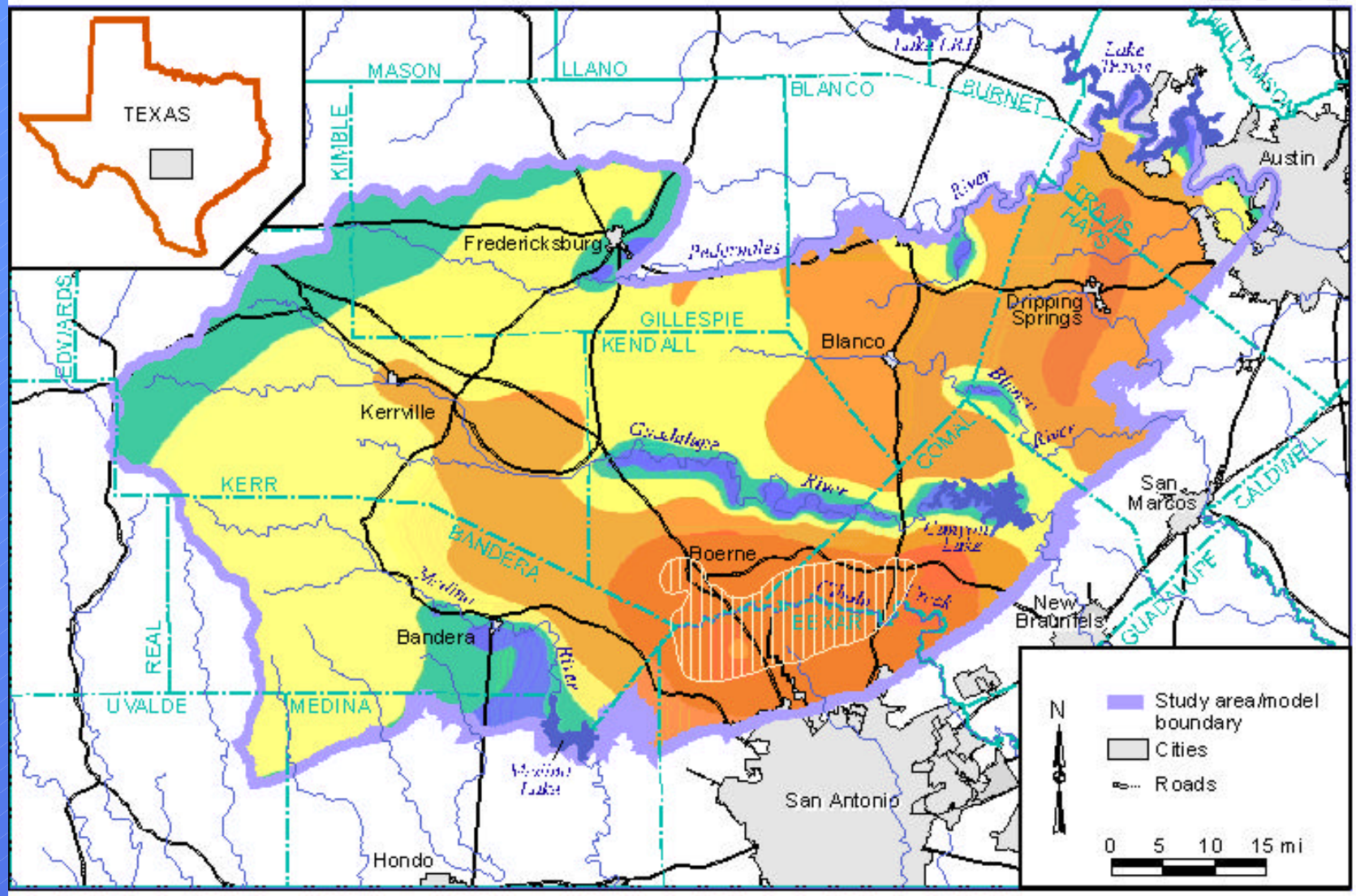

Austin
The Hill Country
Wimberley
Balcones Fa ult
San Antonio
Forests
Grasslands & Shrublands
Farmlands & Pastures
akes, Waterways
w& High Intensity Residential
mercial, Industrial & Transportation

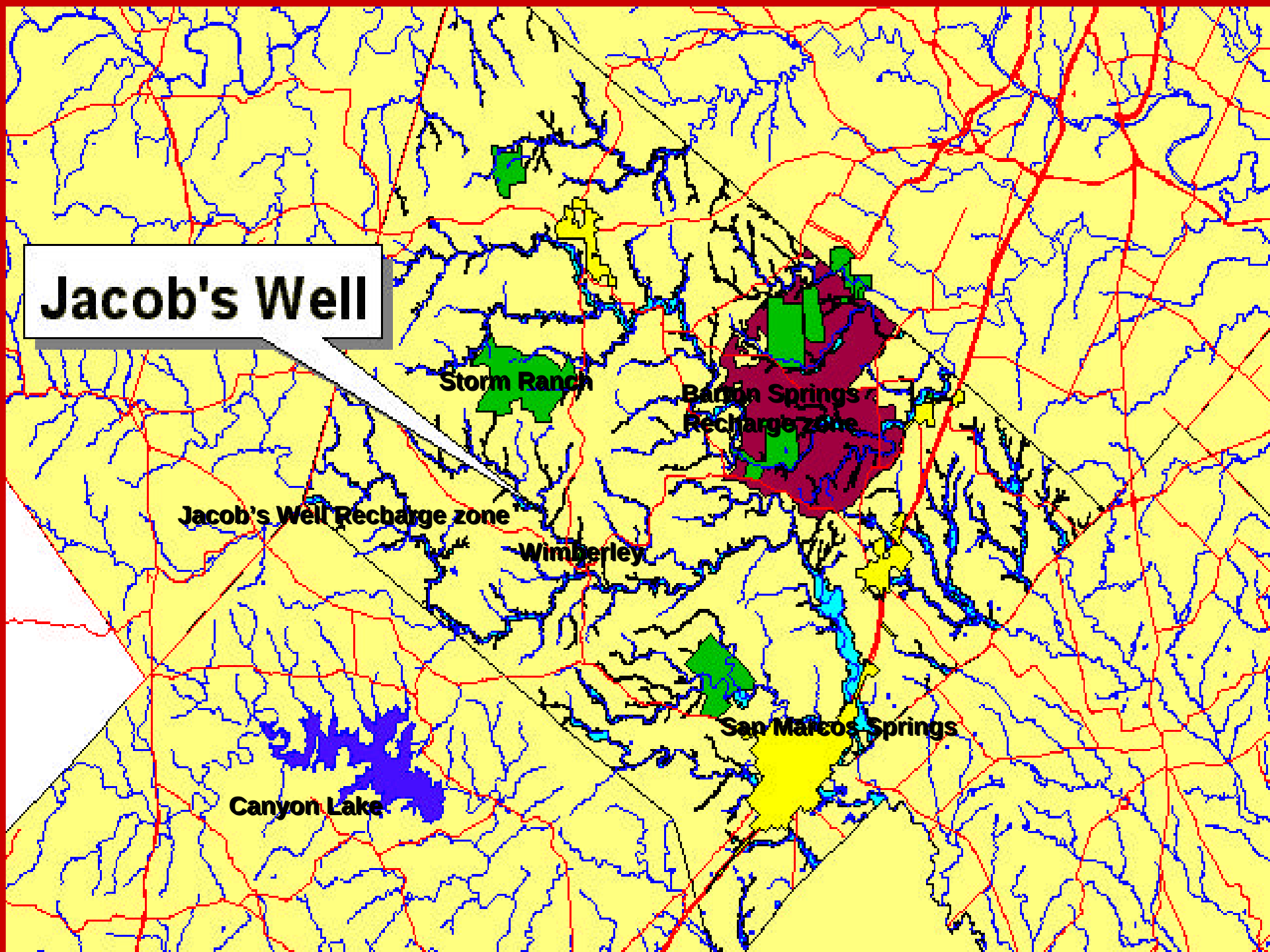
Texas leads all other states in loss of rural farming and ranch lands.

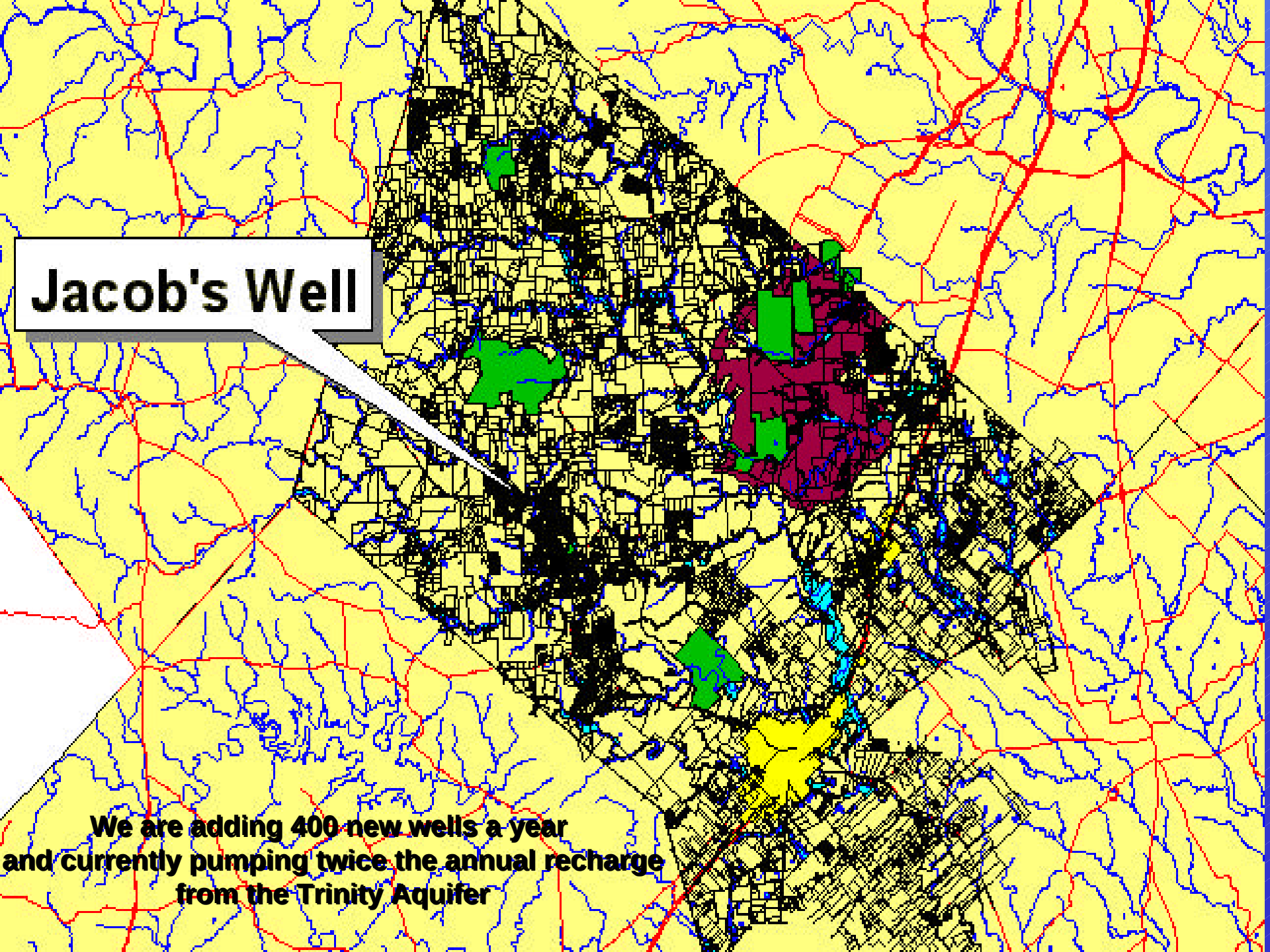
From 1990-2000 we lost almost 5 million acres to urban uses.

Predicted Water-Level Declines

2050




Jacob's Well
Storm Ranch
Barton Springs
Recharge zone
Jacob's Well Recharge zone
Wimberley
San Marcos Springs
Canyon Lake


Jacob's Well
We are adding 400 new wells a year
and currently pumping twice the annual recharge
from the Trinity Aquifer

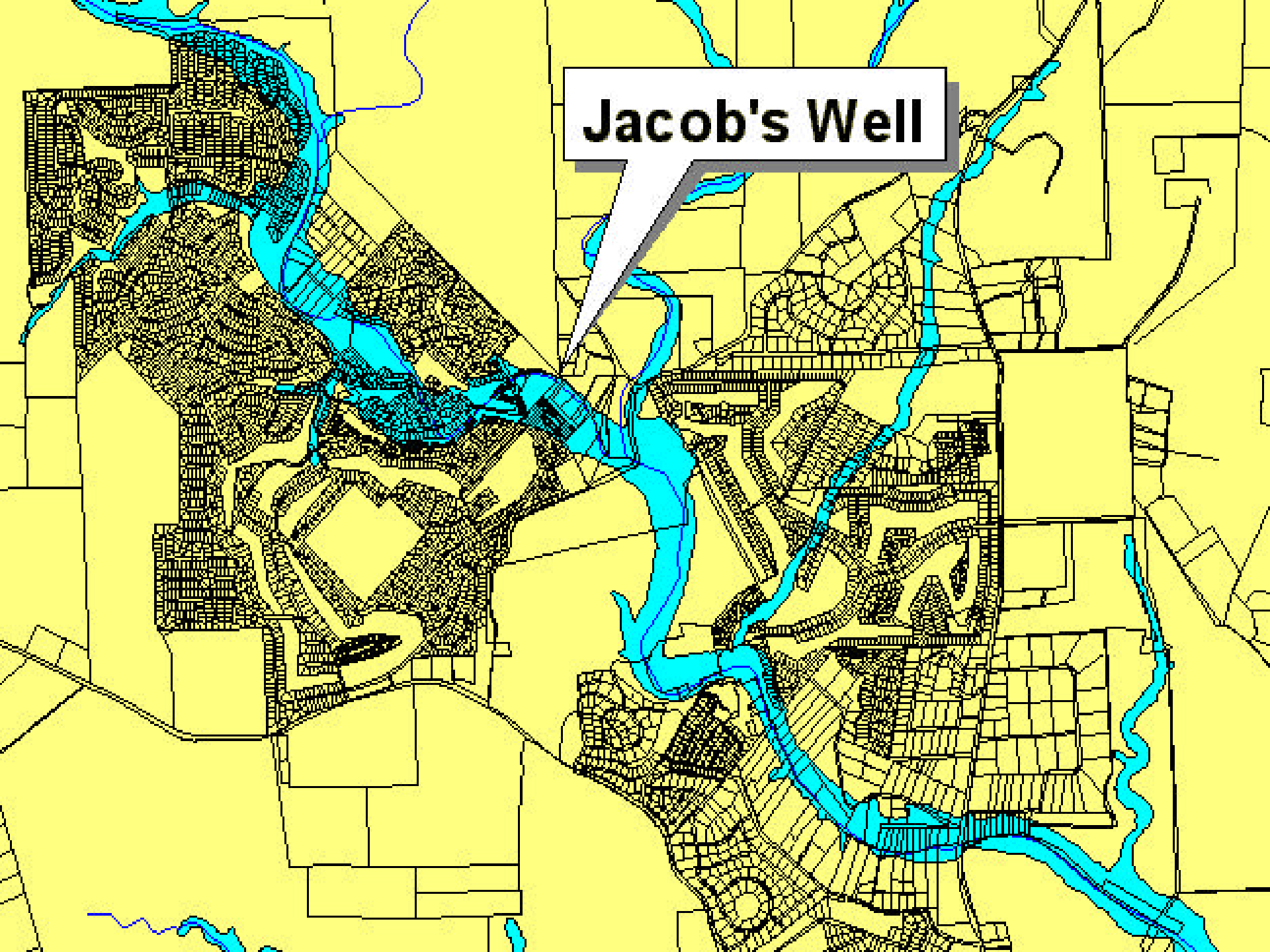
Blanco River 2000

Jacob's Well 2000

June of 2000, Jacob's Well and Cypress Creek stopped flowing for the first time in recorded History.

Listed 303d for D.O.

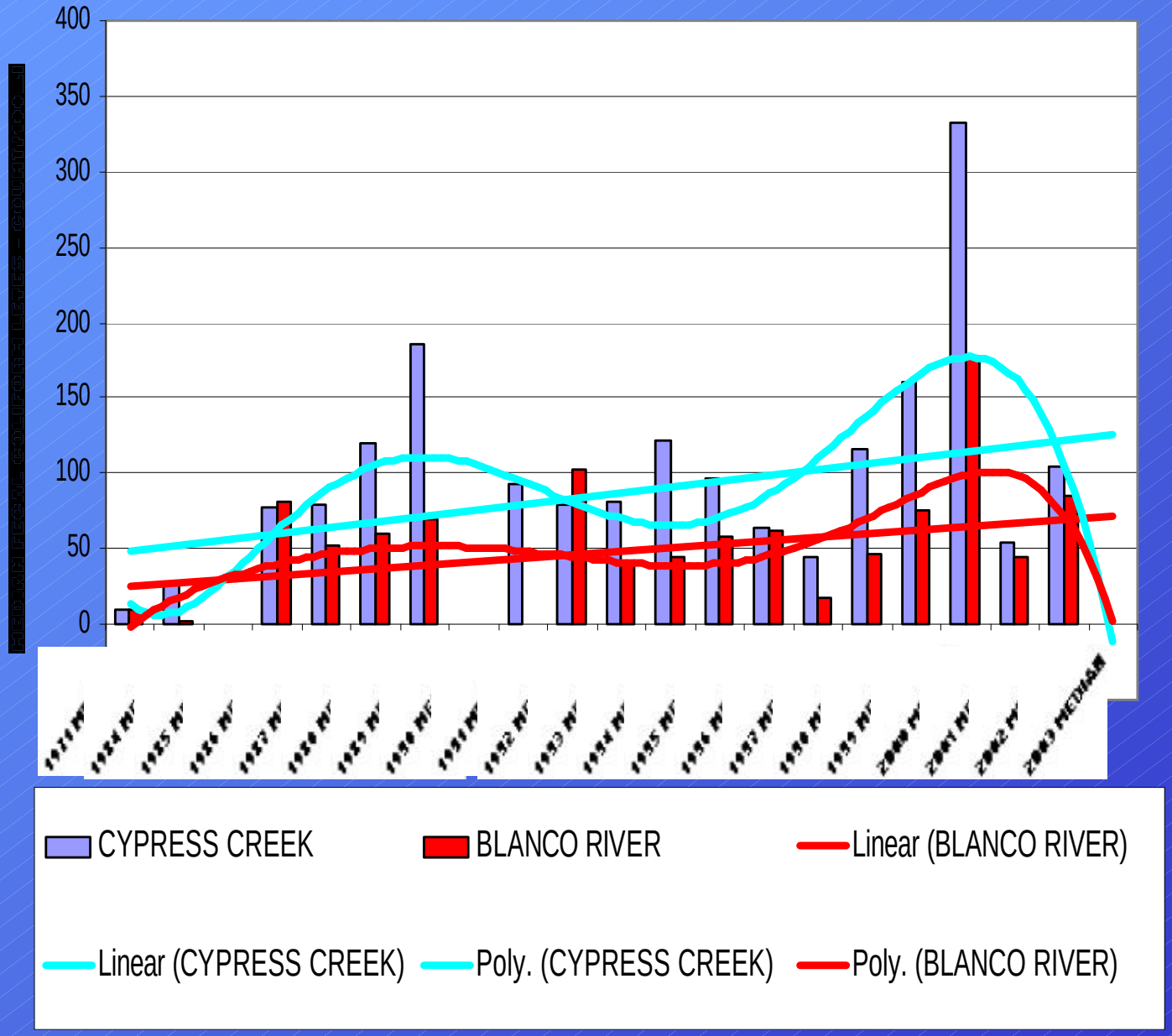
Cypress Creek at the Square


Jacob's Well

1.2 Million new residents are projected to Move to the Texas Hill Country Region in the next 20 years

WoodCreek Phase Two could look like this when fully built out

BLANCO RIVER AND CYPRESS CREEK
FECAL COLIFORM LEVELS
MEDIANS OF ALL SAMPLE POINTS



OBJECTIVE:

The purpose of the Blanco River-Cypress Creek Water Quality Monitoring Study is to establish a baseline of water quality data to further assess potential threats to the water quality and quantity of Cypress Creek and the Blanco River watersheds.

Through collecting water quality data and analyzing pollution threats the VOW , GBRA and WVWA will develop an informed position to establish specific long-term strategies for protection of water quality in the Cypress Creek and the Blanco River and assess potential pollution threats to surface water and local groundwater aquifers that supply drinking water to local residents.

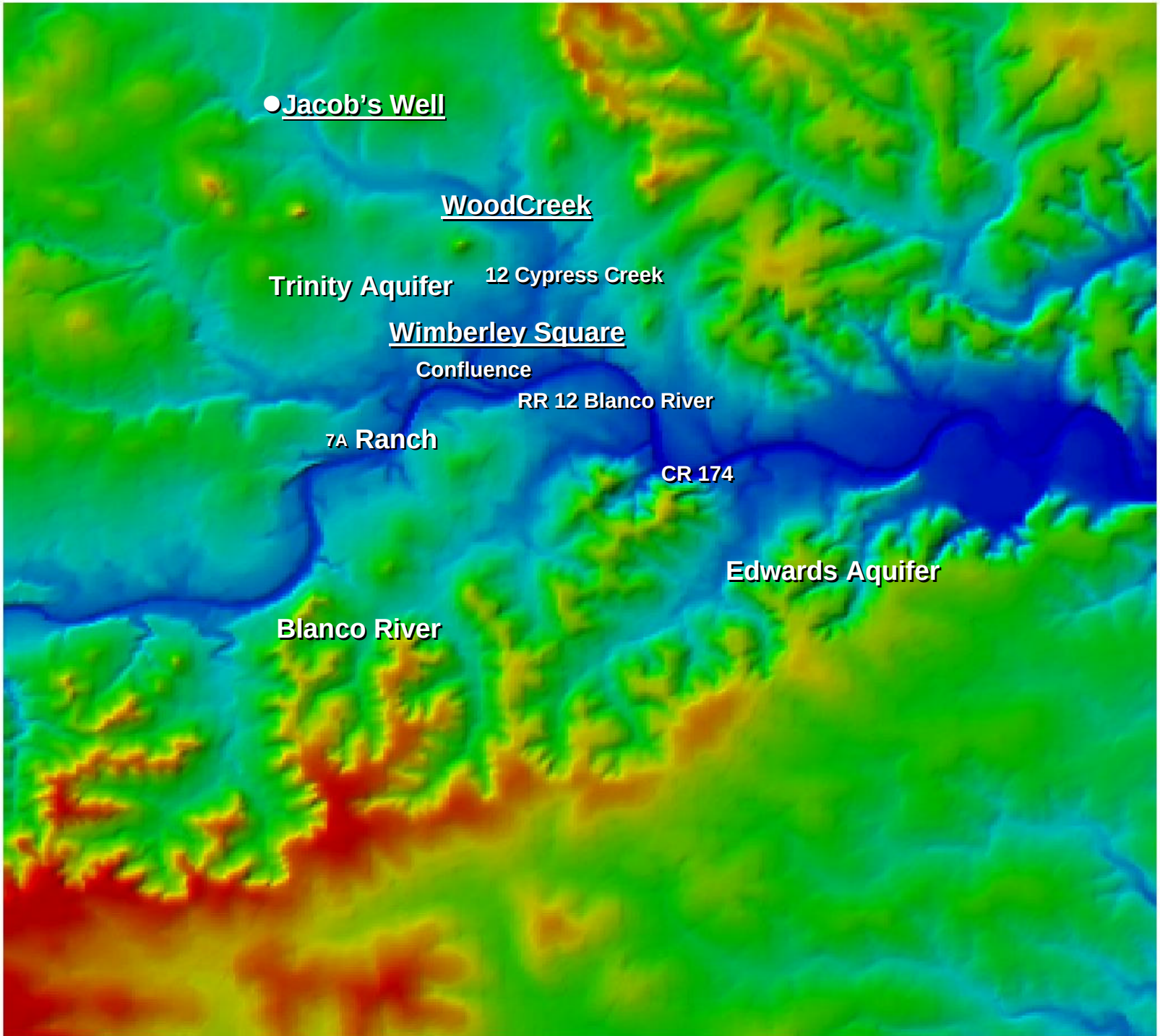
GOALS OF ONE YEAR MONITORING STUDY:

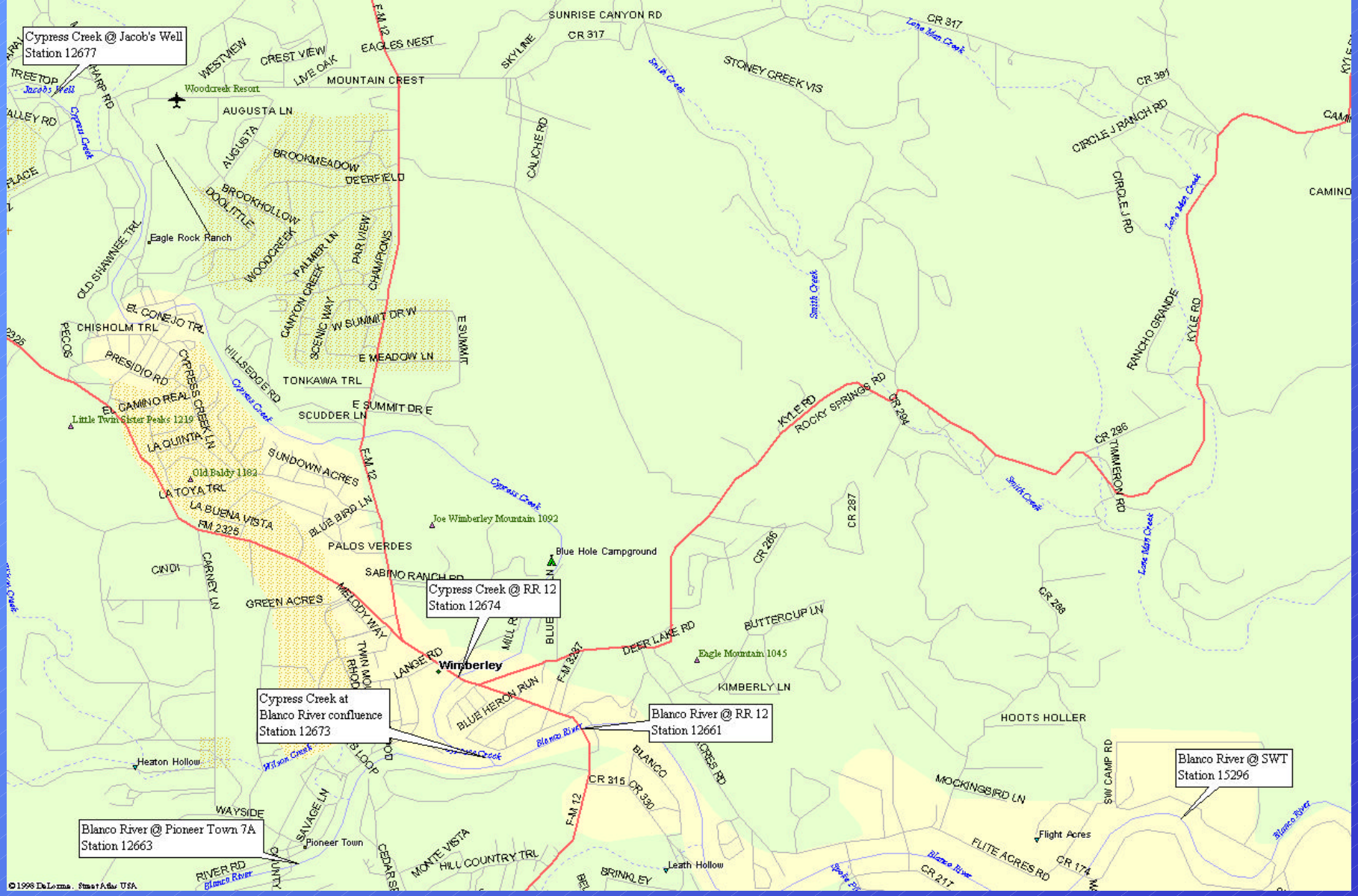
- Establishing a baseline of the water quality data for the Cypress Creek and the Blanco River.

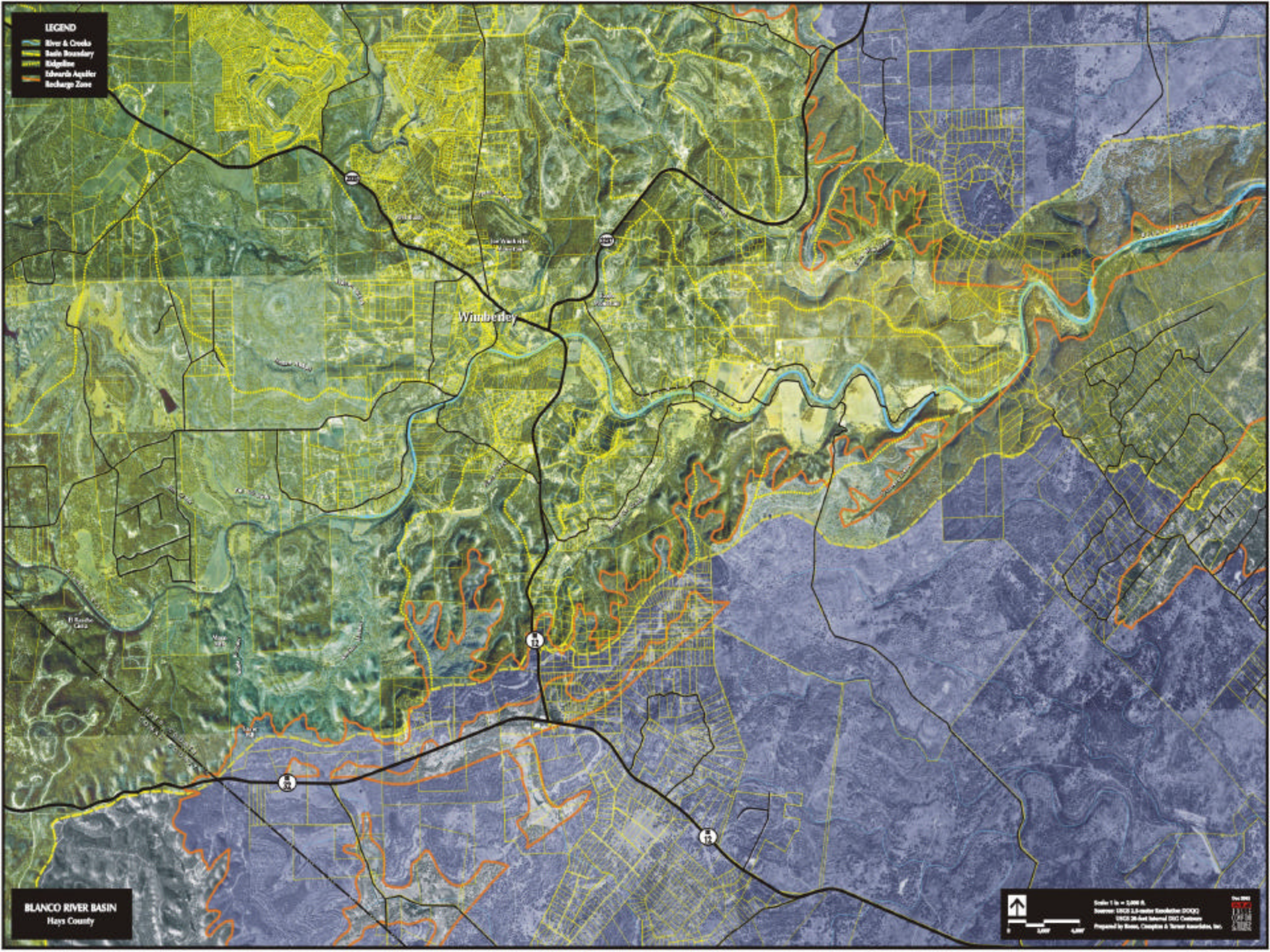
- Identify any specific pollution problems that may be a threat to native aquatic species of concern, contact recreation and human health.

- Detect and describe the spatial and temporal changes, determine impacts of point and non-point source pollution, and assess compliance with established water quality standards for Cypress Creek and Blanco River and the impacts on fish and wildlife populations and habitat.

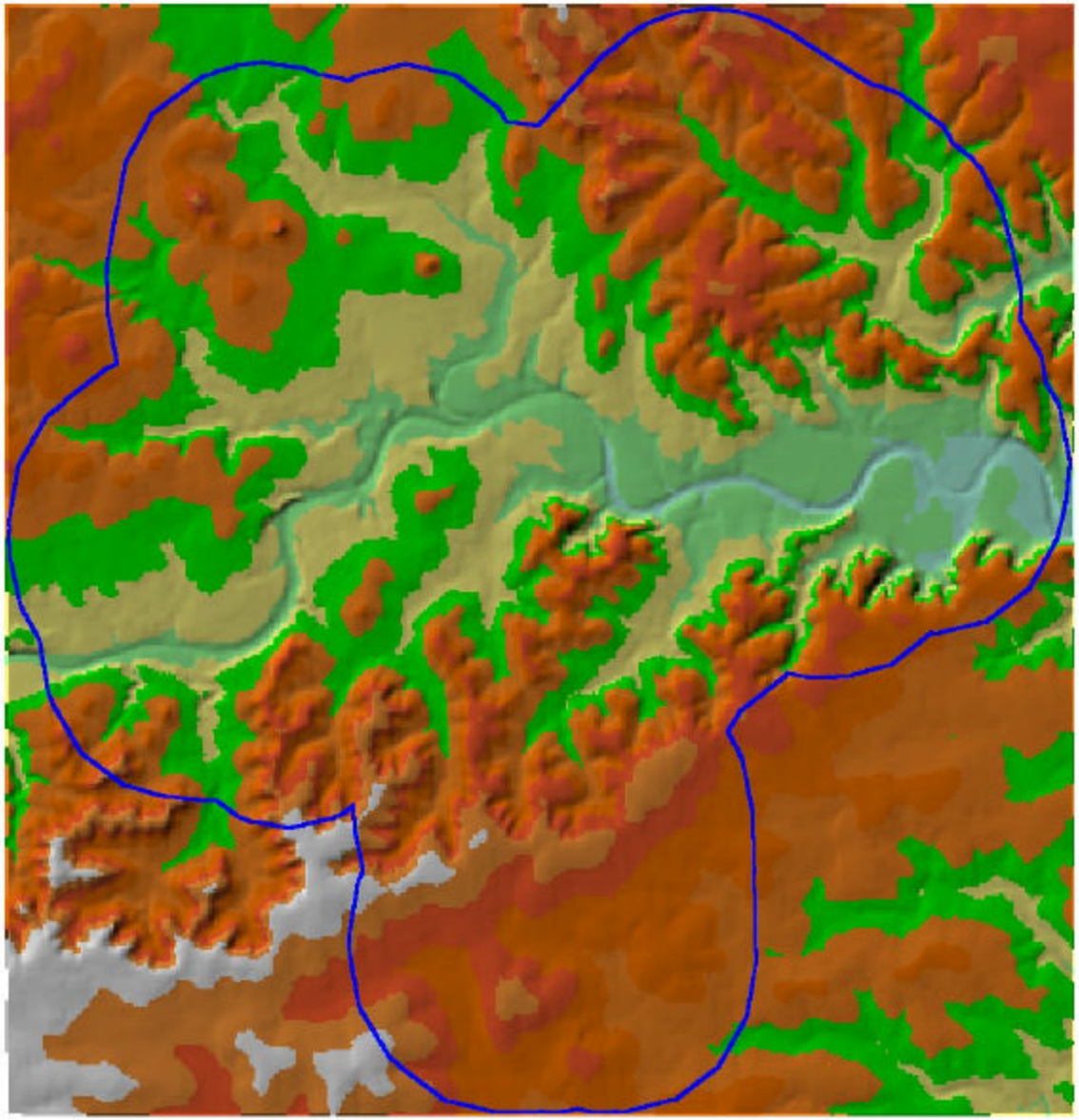
- Educate the Water and Wastewater Advisory Board the Village of Wimberley Council and the local community about the findings of the study and provide recommendations for local planing efforts to protect water quality.


Jacob's Well
WoodCreek
Trinity Aquifer
12 Cypress Creek
Wimberley Square
Confluence
RR 12 Blanco River
7A Ranch
CR 174
Edwards Aquifer
Blanco River


Cypress Creek @ Jacob's Well
Station 12677
Cypress Creek @ RR 12
Station 12674
Cypress Creek at
Blanco River confluence
Station 12673
Blanco River @ RR 12
Station 12661
Blanco River @ SWT
Station 15296
Blanco River @ Pioneer Town 7A
Station 12663
Wimberley
Blue Hole Campground
Joe Wimberley Mountain 1092
Eagle Mountain 1045
Little Twin Sister Peaks 1219
Old Baldy 1182
Eagle Rock Ranch
Woodcreek Resort
Heaton Hollow
Pioneer Town
Leath Hollow
Flight Acres
SUNRISE CANYON RD
CR 317
STONEY CREEK VIS
CIRCLE J RANCH RD
CIRCLE J RD
RANCHO GRANDE
KYLE RD
ROCKY SPRINGS RD
CR 294
CR 296
TIMMERON RD
CR 287
CR 286
CR 288
BUTTERCUP LN
DEER LAKE RD
KIMBERLY LN
HOOTS HOLLER
MOCKINGBIRD LN
SW CAMP RD
FLITE ACRES RD
CR 174
CR 217
CR 315
CR 330
BLANCO
F-M 12
F-M 3287
LANGE RD
BLUE HERON RUN
MELODY WAY
SABINO RANCH RD
PALOS VERDES
BLUE BIRD LN
SUNDOWN ACRES
LA BUENA VISTA
LA TOYA TRL
LA QUINTA
EL CAMINO REAL
CYPRESS CREEK LN
PRESIDIO RD
CHISHOLM TRL
EL CONEJO TRL
OLD SHAWNEE TRL
WOODCREEK
PALMER LN
PAR VIEW
CHAMPIONS
CANYON CREEK
SCENIC WAY
W SUMMIT DR W
E MEADOW LN
E SUMMIT
TONKAWA TRL
E SUMMIT DR E
SCUDDER LN
HILLSEDGE RD
BROOKMEADOW
DEERFIELD
BROOKHOLLOW
DOOLITTLE
AUGUSTA LN
MOUNTAIN CREST
EAGLES NEST
CREST VIEW
LIVE OAK
WESTVIEW
TREETOP
HARP RD
CALICHE RD
SKYLINE
CARNEY LN
CINDI
GREEN ACRES
WAYSIDE
SAVAGE LN
MONTE VISTA
HILL COUNTRY TRL
BRINKLEY
RIVER RD
Cypress Creek
Smith Creek
Lone Man Creek
Blanco River
Wilson Creek
Jacob's Well
© 1998 DeLorme. Street Atlas USA


LEGEND
River & Creeks
Basin Boundary
Ridgeline
Edwards Aquifer Recharge Zone
Wimberley
BLANCO RIVER BASIN
Hays County

DEM Model with Hillshade

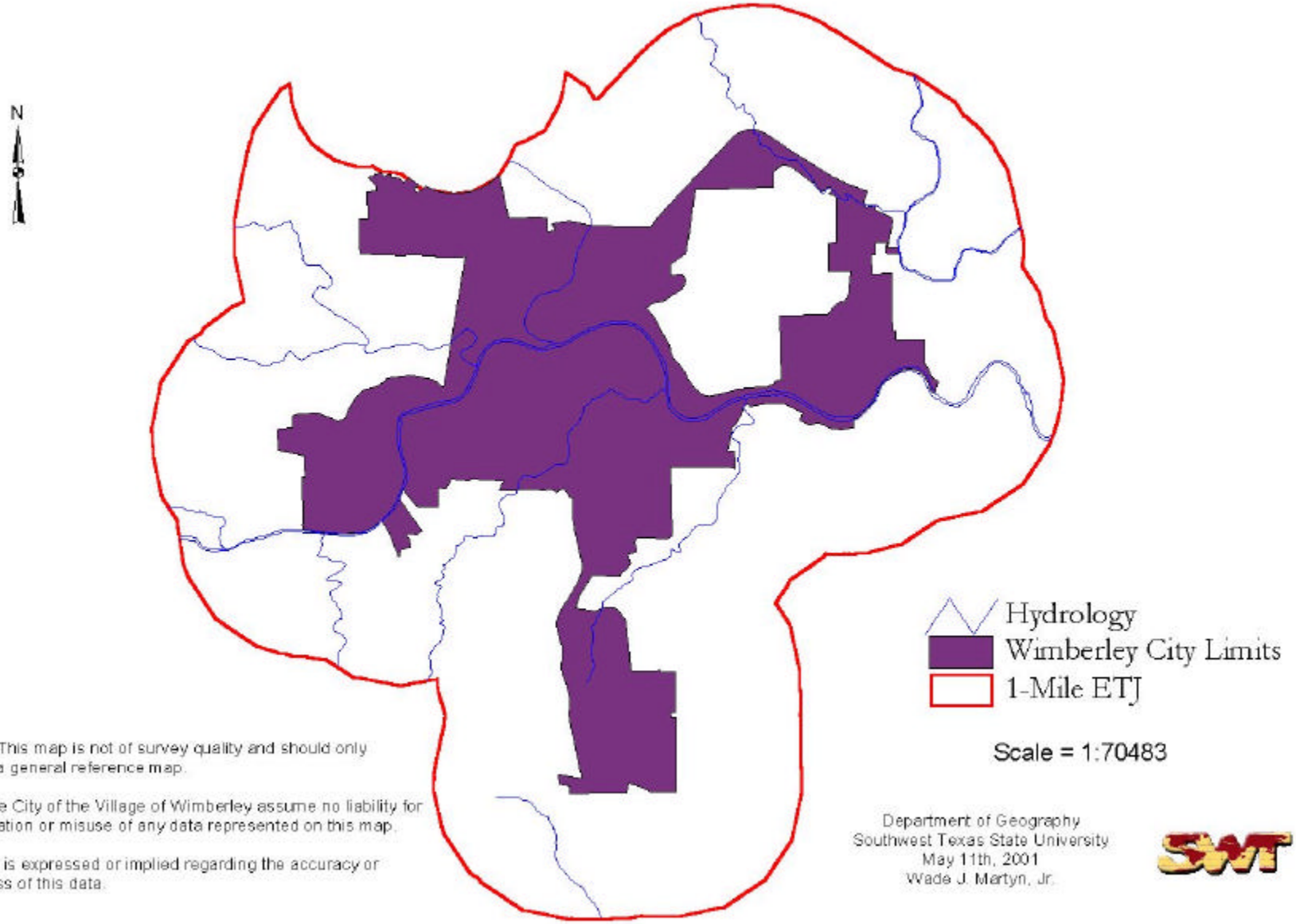


1 Mile Buffer

DEM Model (in meters)

- 226 - 243.8
- 243.8 - 261.6
- 261.6 - 279.4
- 279.4 - 297.2
- 297.2 - 315
- 315 - 332.8
- 332.8 - 350.6
- 350.6 - 368.4
- 368.4 - 386.2
- 386.2 - 404
- No Data

Wimberley Hydrology

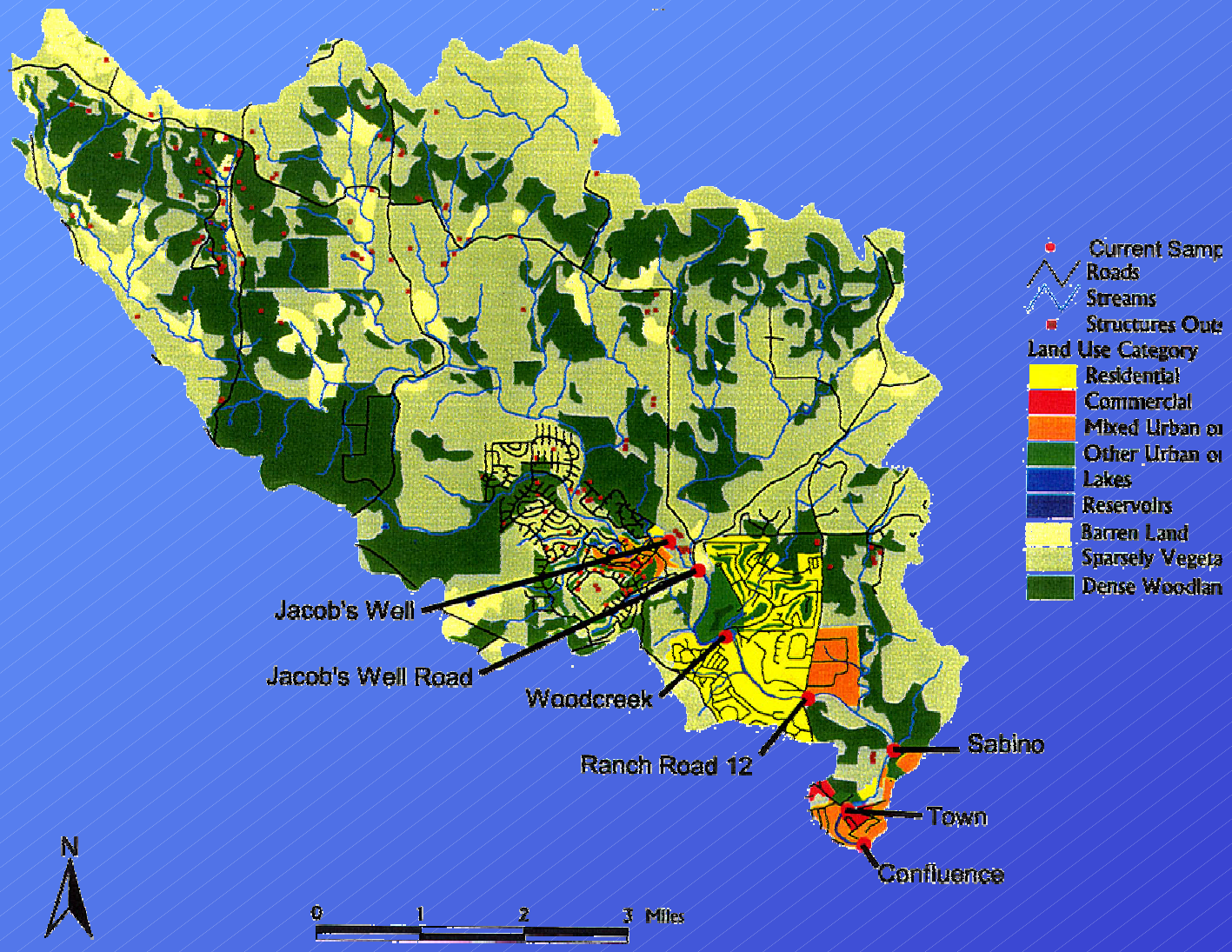


Disclaimer: This map is not of survey quality and should only be used as a general reference map.

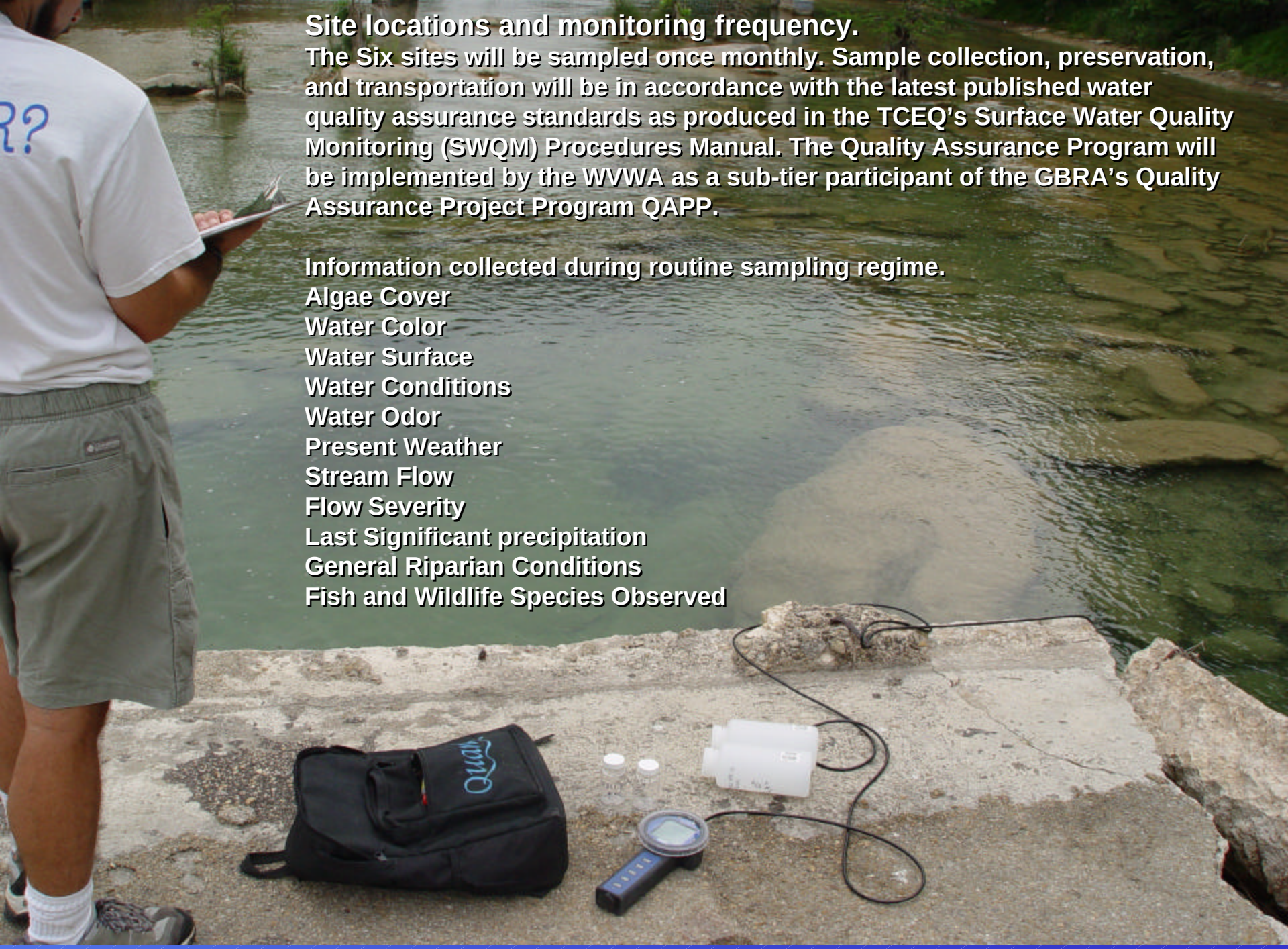
SWT and the City of the Village of Wimberley assume no liability for misinterpretation or misuse of any data represented on this map.

No warranty is expressed or implied regarding the accuracy or completeness of this data.

Department of Geography
Southwest Texas State University
May 11th, 2001
Wade J. Martyn, Jr.



Land Cover – Cypress Creek Watershed



Site locations and monitoring frequency.

The Six sites will be sampled once monthly. Sample collection, preservation, and transportation will be in accordance with the latest published water quality assurance standards as produced in the TCEQ's Surface Water Quality Monitoring (SWQM) Procedures Manual. The Quality Assurance Program will be implemented by the WVWA as a sub-tier participant of the GBRA's Quality Assurance Project Program QAPP.

Information collected during routine sampling regime.

Algae Cover
Water Color
Water Surface
Water Conditions
Water Odor
Present Weather
Stream Flow
Flow Severity
Last Significant precipitation
General Riparian Conditions
Fish and Wildlife Species Observed

Water Chemistry (GBRA Lab)
Ammonia Nitrogen
Nitrate Nitrogen
Othophosphorus
Total Dissolved Solids
Total Suspended Solids
E-Coli

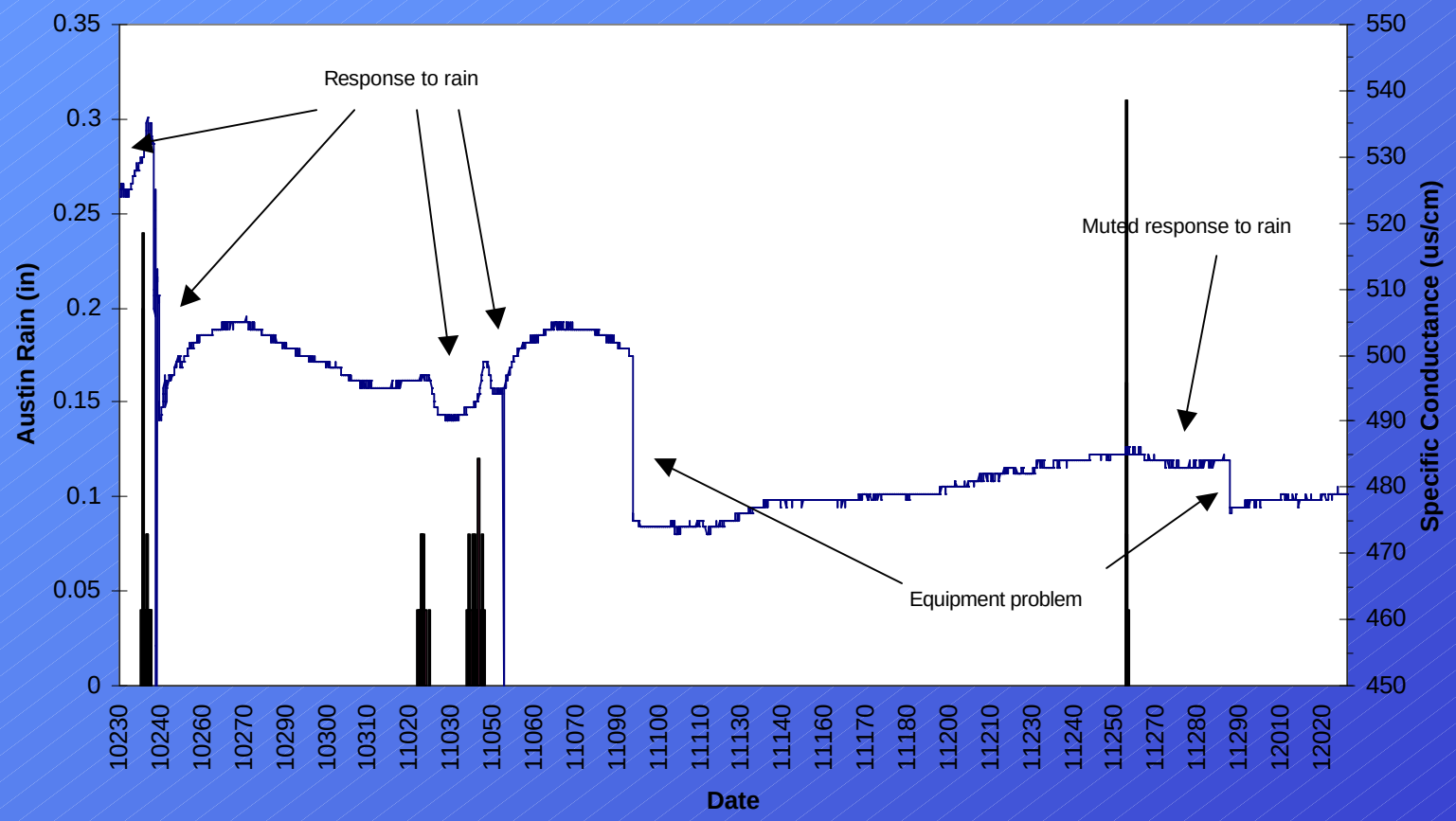
FM - Field measurements (water temperature, pH, dissolved oxygen, specific conductance, and secchi disk depth) will be collected by field personnel utilizing approved Hydro-Lab probes.

FP – Field personnel will collect field observations in accordance within established SWQM guidance.

Gage Station - Stream flow information from the USGS Blanco River gage station 08171000 will be compiled and analyzed monthly.

Two Hydrolabs- will be used to collect Temperature, PH, Dissolved Oxygen, Conductivity. These labs will be rotated every two weeks in the Spring Jacob's Well,
These labs take samples every 15 minutes and will be operated under the GBRA's Quality Assurance Program.

JACOBS WELL
Rain and Specific Conductance 11/02



Specific Conductance

A very reliable sensor and quite useful. SC responds to changes in the dissolved mineral content of the water and the longer water is in contact with rock, the more mineralized it becomes and the greater the SC. SC ranged from about 535 us/cm early during deployment to 475 us/cm in the second half. The two sharp drops in SC look like sensor problems so the final SC is questionable without spot readings from an independent sensor. Very clear drops evident following 10/24 and 11/2-4 rains with a large magnitude change after 10/24 indicating rapid recharge and migration of lots of surface water. SC is less than at Barton Springs (around 600 us/cm versus around 500 us/cm in Jacobs Well) so water may be moving through the aquifer system feeding the Well faster than the BSEA. Additional readings will be very useful to see how SC changes as discharge changes. SC and discharge are inversely related in Barton Springs, higher during low flows (older water – months-years-decades?) and lower during high flows (younger water – hours-days-weeks).

PROJECT SUMMARY:

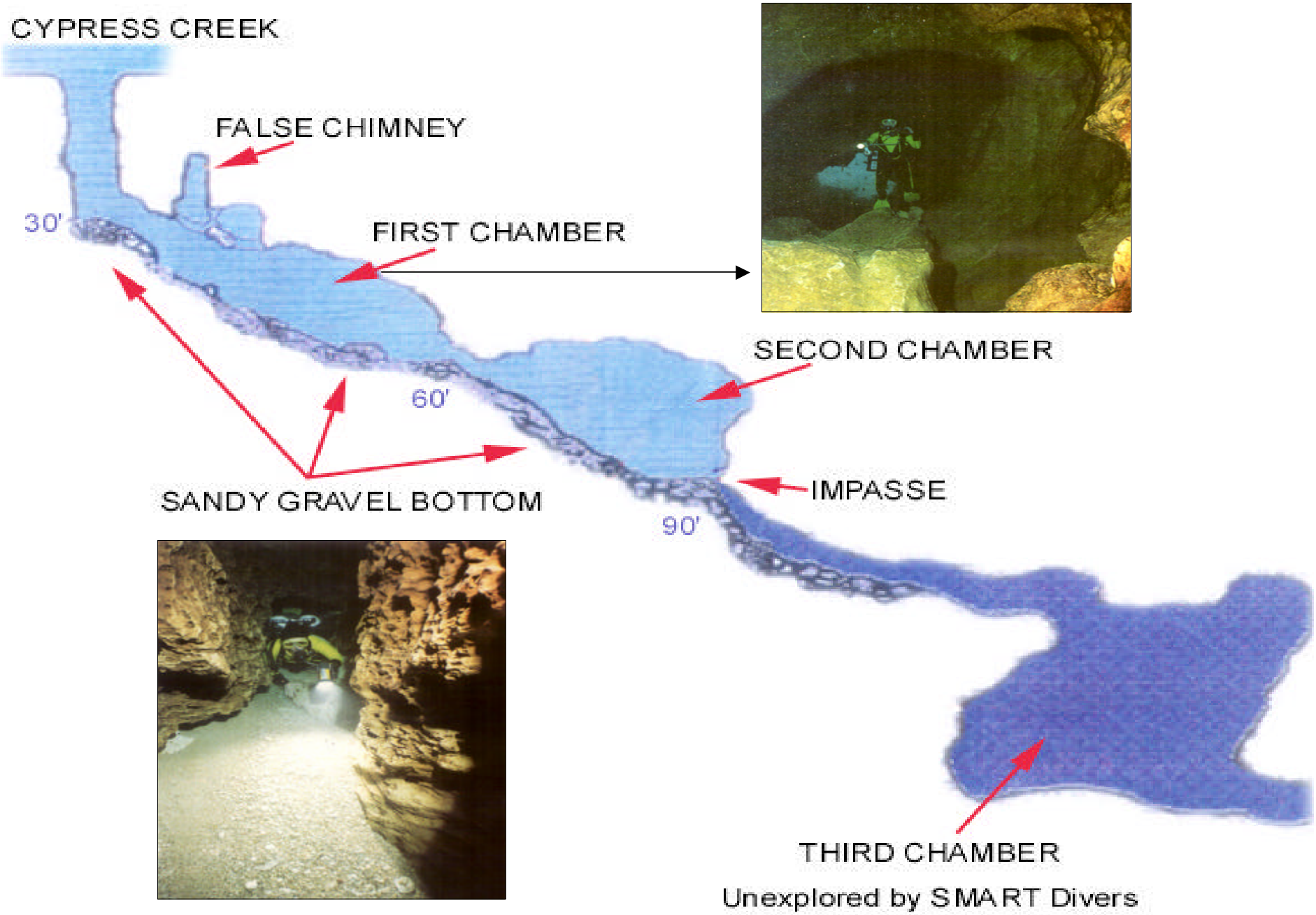
The Blanco River Cypress Creek Water Quality Monitoring Study will establish a baseline of water quality data, identify potential pollution problems, and assess 303D listing status and potential impacts on fish & wildlife populations and contact recreation. This innovative program will also serve to educate policy makers and the general public with a comprehensive set of baseline data to assess implementation of best management practices to protect water quality.

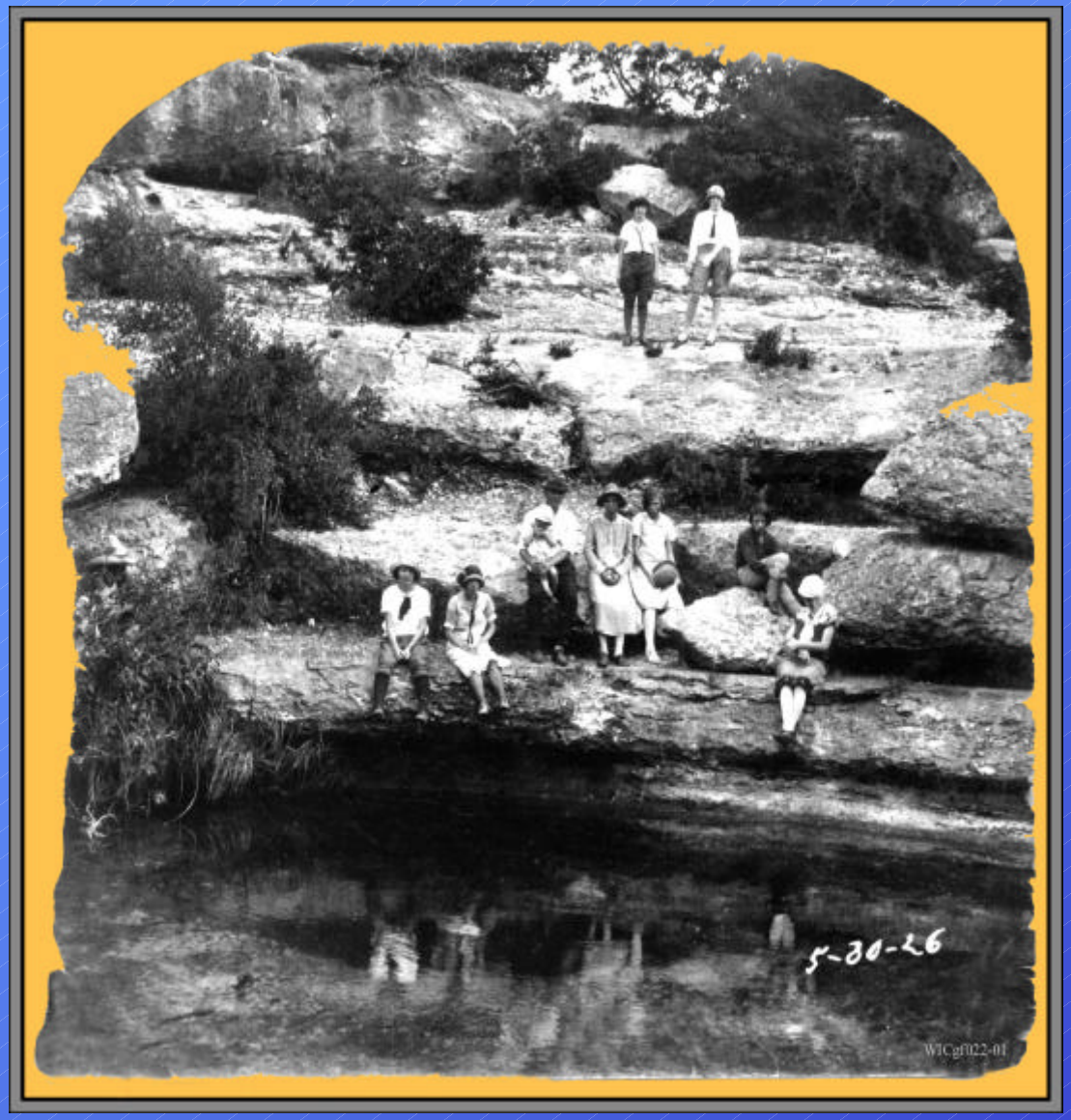
The Guadalupe Blanco River Authority is overseeing the project with technical assistance as well as providing lab analysis and quality assurance oversight to the study. Other partners committed to this project consist of volunteers and staff support from the WVWA, Texas Watch Program, City of Austin's Watershed Protection Department and the United States Geological Survey. Staff from these organizations have helped advise WVWA in the development of this study and will continue to volunteer and perform contract services for project implementation, staff training and technical support.

Wimberley Valley Watershed Association

Special Thanks from Wimberley to Debbie Magin and GBRA staff.

JACOB'S WELL MAPPED BY S.M.A.R.T. DIVERS, 1995





Board of Directors

Patrick Cox Ph.D.
Jack Hollon
Scott Storm
Bev Allen
Dr. Phillip Zbylot

Staff

David Baker
Jennifer Clovin

Legal Council
David Braun & Associates

Sponsors

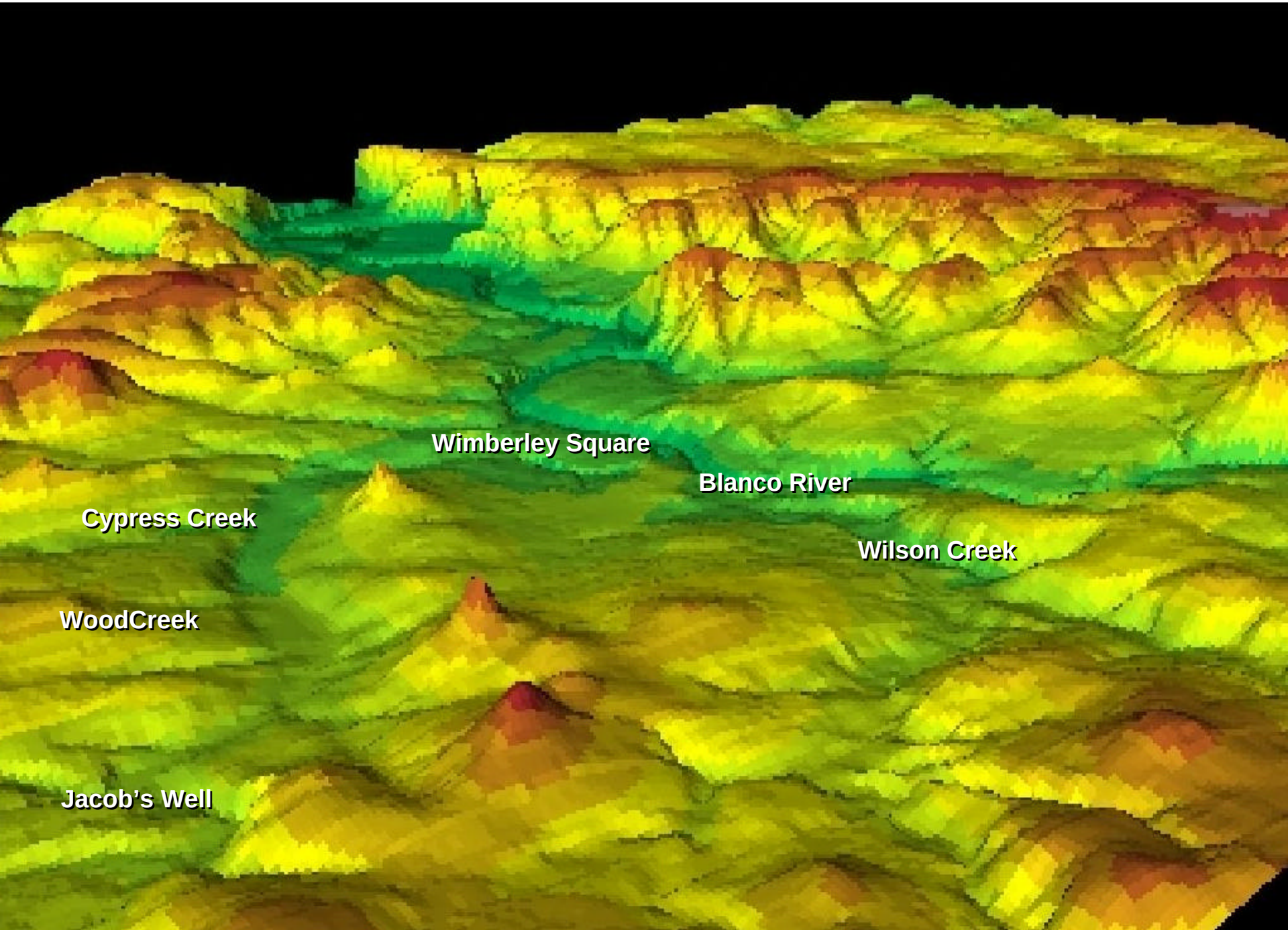
Wimberley Lions Club
James Lee & Annanette Harper Family Foundation
Wimberley Civic Club
Magnolia Trust
McCormick Trust
Aurora Foundation
Texas Commission for the Arts

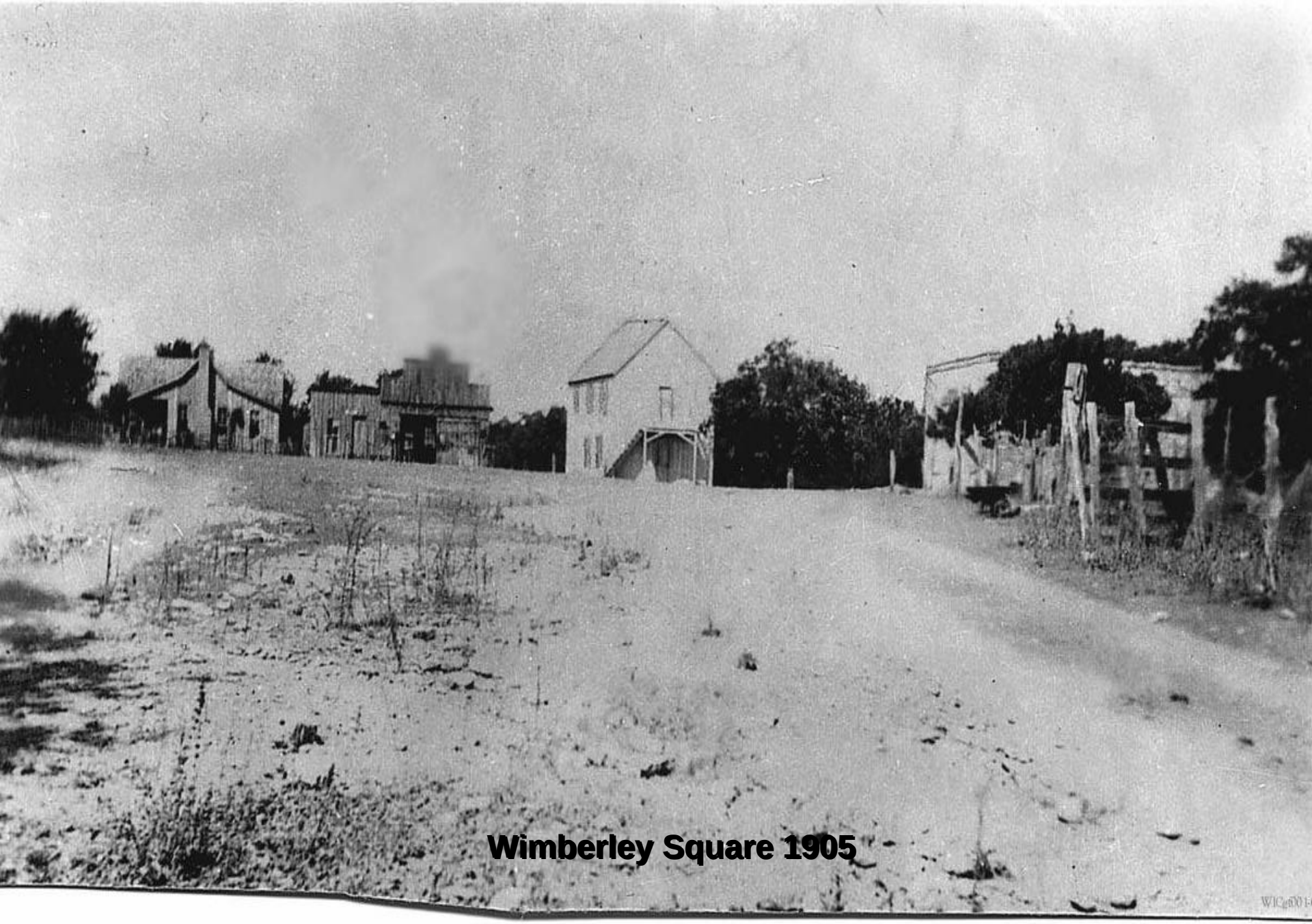
Sponsor Members

Cypress Creek Café
Rancho Delux
IdleWild Deli
Jim’s Rental
Plateau Integrated Land Management
Braun & Associates
Media Cottage
Wimberley View
Hill Country Sun
Visitwimberley.com
A Studio Z
Poco Rio
Loomis Austin
Flick Report
Scott & Cooner
Structures Consulting
Red Corral Ranch
Brenda & Patrick Cox
United Graphic Technology
GBRA
LCRA
BSEACD
Land Design Studios

Sponsor Members

Leo Club
Merrill Gardens
Englehart Printing
Bev & Lee Allen
Hays County Abstract
Dunn & Burnette Construction
Storm Ranch
Longcope & Gumbert Investments
Johanna Smith Eagle Rock Ranch
Bruce & Amy Fredrick
Hill Country Conservancy
Mike & Barbara Stephens
Green Guy Recyclying
Hill Country Natural Foods
Lori Nation
Toe Nail Moon B&B
Val Roessling
Tamara Swindol
Emily Anne Theater
Ann & Norm Rollings
Bob Arnett
Wimberley Pharmacy
The News Dispatch


Wimberley Square
Blanco River
Cypress Creek
Wilson Creek
WoodCreek
Jacob’s Well


Wimberley Square 1905