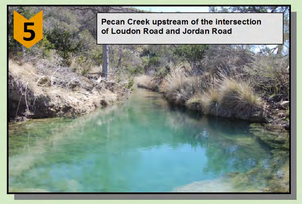
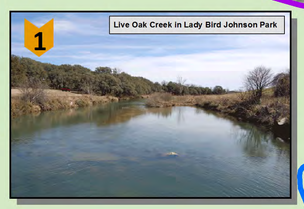
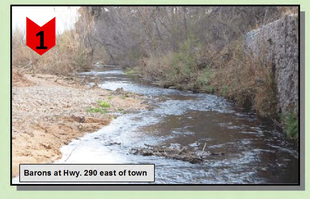
Barons Creek and Live Oak Creek Watersheds







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Barons Creek Watershed Facts

Drainage area:
20,643 acres
Stream length:
14.7 miles
Watershed slopes:
0.1 to 2 percent
Soil types:
Tarrant, Brackett, Doss, Hensley and Purves
Dominant vegetation:
Grasses, oak, ashe-juniper, shrubs

USGS Landcover (2001):

46.7%	Woodland/Shrubland
28.8%	Grasslands
7.8%	Low Intensity Urban
7.1%	Cedar
4.5%	Broad-leaved Deciduous Forest
2.4%	Bare Lands
1.5%	High Intensity Urban

Live Oak Creek Watershed Facts

Drainage area:
29,747 acres
Stream length:
14.78 miles
Watershed slopes:
0.2 to 2 percent
Soil types:
Tarrant, Brackett, Doss, Hensley and Purves
Dominant vegetation:
Grasses, oak, ashe-juniper, shrubs

USGS Landcover (2001):

55.7%	Woodland/Shrubland
27.9%	Grasslands
10.2%	Cedar
4.3%	Broad-leaved Deciduous Forest
1.4%	Bare Lands

Aquatic Biology in Barons and Live Oak Creeks

One way to measure the health of a stream is biological integrity. Using a classification system developed by the Texas Parks and Wildlife Department and the Texas Commission on Environmental Quality, bug and fish populations help biologists determine how suitable water is for aquatic life.

Fish - Biological assessments performed on each of the creeks show that the watersheds support a diverse population of fish and other aquatic life. LCRA surveys found 21 distinct species of fish including Guadalupe bass, the state fish of Texas. Twenty species were found in Live Oak Creek, and 16 were found in Barons Creek.

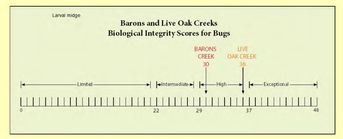
Based on field work by LCRA biologists, the number and diversity of fish species in Barons Creek supports an intermediate aquatic life use. Many of the fish species are tolerant of harsh conditions and can survive periods of drought and low dissolved oxygen levels.

Species diversity of fish populations in Live Oak Creek indicates that the creek supports a high aquatic life use. Species such as greenthroat and dusky darters, which were found in Live Oak Creek, indicate good water quality.

Guadalupe bass (*Micropterus treculi*)

Fishes of Barons and Live Oak Creeks

Common Name	*Scientific Name*
Yellow bullhead	*Ameiurus natalis*
Central stoneroller	*Campostoma anomalum*
River carpsucker	*Carpiodes carpio*
Red shiner	*Cyprinella lutrensis*
Blacktail shiner	*Cyprinella venusta*
Roundnose minnow	*Dionda episcopa*
Gizzard shad	*Dorosoma cepedianum*
Greenthroat darter	*Etheostoma lepidum*
Western mosquitofish	*Gambusia affinis*
Channel catfish	*Ictalurus punctatus*
Redbreast sunfish	*Lepomis auritus*
Green sunfish	*Lepomis cyanellus*
Warmouth	*Lepomis gulosus*
Bluegill	*Lepomis macrochirus*
Longear sunfish	*Lepomis megalotis*
Largemouth bass	*Micropterus salmoides*
Guadalupe bass	*Micropterus treculi*
Texas shiner	*Notropis amabilis*
Texas logperch	*Percina carbonaria*
Dusky darter	*Percina sciera*
Bullhead minnow	*Pimephales vigilax*



Bugs - Sampling showed that a diverse population of bugs inhabits Barons Creek and that the biological diversity and species composition indicates that the creek supports a high aquatic life use. Similarly, bug populations found in Live Oak Creek indicate that the stream supports an exceptional aquatic life use.

Watershed Summary

A watershed is an area of land where all of the water that falls onto that land drains into a water body such as a stream, river, lake or bay. Watersheds can be as small as a few acres or thousands of square miles. Every water body has a watershed and every piece of land is part of a watershed.

Barons Creek

Barons Creek is a tributary of the Pedernales River in south central Gillespie County. The watershed encompasses about 20,000 acres of Texas Hill Country. The upper portion consists of undeveloped land, ranches, pastures and small tracts with homes. The City of Fredericksburg (pop. 10,555) is located in the lower end of the watershed. This historic community was founded in 1846 and attracts thousands of visitors each year.
At the headwaters, Barons Creek is little more than a drainage ditch where water flows only after a storm. Near State Highway 87 and Old Mason Road, springs appear from rock outcrops and provide perennial flow in an otherwise dry landscape. Sixteen species of fish live in the creek and aquatic vegetation such as ferns and bald cypress can be found along the riparian corridor. The watershed's soil types can contribute to flash flooding during storms because they are generally shallow, moderately permeable and drain quickly.

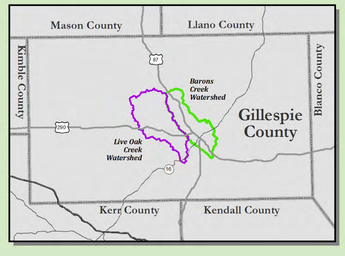
The Texas Commission on Environmental Quality permits the city of Fredericksburg to discharge up to 2.5 million gallons per day of treated wastewater into Barons Creek. The city is also authorized to irrigate with the wastewater. In recent years, the city has improved the wastewater plant to reduce the total phosphorus and other pollutants.

Live Oak Creek

The Live Oak Creek watershed is adjacent to Barons Creek watershed and similar in size and shape. Most of its 29,747 acre drainage area consists of undeveloped land. The Gillespie County airport, fairgrounds and Lady Bird Johnson Municipal Park are located in the lower portion within Fredericksburg's city limits. Live Oak Creek is intermittent upstream of its confluence with Pecan Creek. Downstream, year-round flow and occasional deep pools provide habitat for fish and plants. The watershed's soil types are similar to Barons Creek and can contribute to flash flooding.

Legend

- # Barons Creek Watershed
- # Live Oak Creek Watershed
- Water Quality Monitoring Location
- City Limits



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