

Memo

To: Cypress Creek Stakeholders
From: Jason Pinchback (Cypress Creek Project)
Date: 3/5/2009
Re: Cypress Creek *E.coli* levels

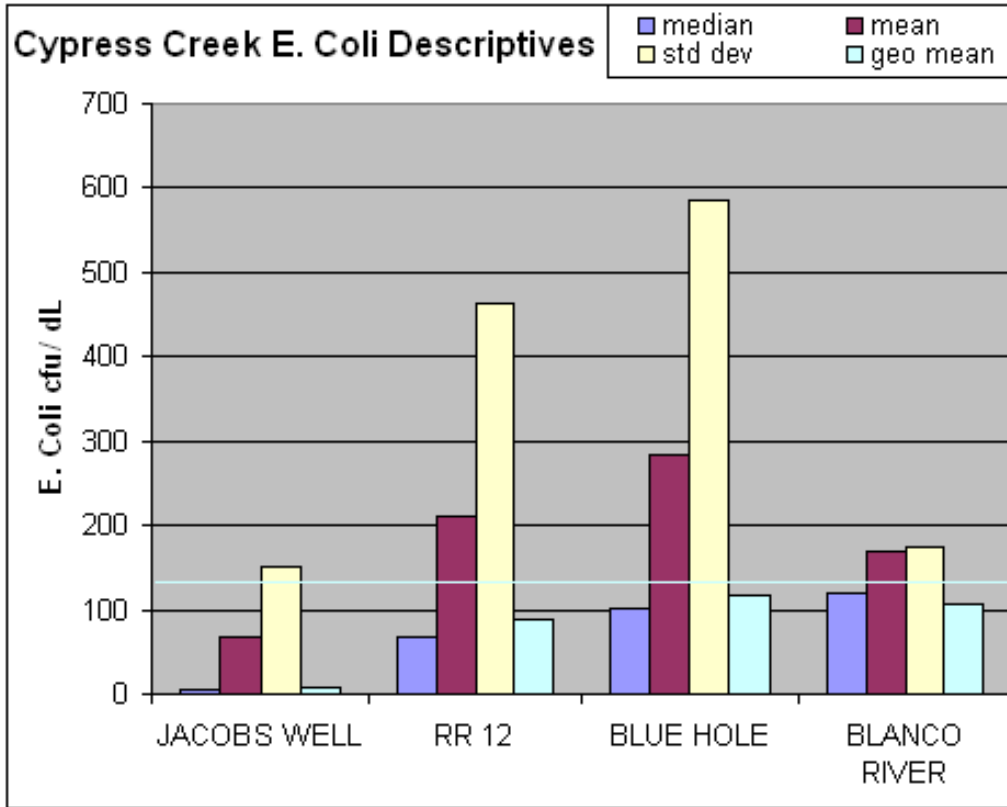
There has been concern about elevated *E.coli* levels in Cypress Creek for some time now. Based on local requests for updated information on Cypress Creek *E.coli* levels, the following information summarizes data collected by the Texas Clean Rivers Program, Guadalupe-Blanco River Authority, and Texas Commission on Environmental Quality (TCEQ). This information is collected monthly or quarterly from four monitoring locations on Cypress Creek. Sampling, analysis, and data management methods utilize the State's Clean Rivers Program quality assurance protocols.

E.coli is the main bacterial indicator used to determine health risks associated with human contact in Texas freshwater streams. Epidemiological data suggest that the presence of *E.coli* indicates the presence of pathogens in a stream. TCEQ water quality standards provide two main mechanisms to assess numeric *E.coli* data.

1) There is a single sample (grab sample) water quality standard of 394 colony forming units per 100 milliliters (394 cfu/100ml). For "swimmable" conditions, TCEQ water quality standards require that less than 25% of all samples have values greater than or equal to 394cfu/100mL. If more than 25% of the samples are greater than or equal to 394cfu/100mL, there could be a water quality concern.

2) There is a geometric mean criterion for *E.coli* levels. For a freshwater stream, the aggregate *E.coli* values for a segment should have a geometric mean of 126cfu/100mL or less. *E.coli* levels above this value indicate there could be a water quality concern.

Based on the data compiled and analyzed at four sites from 2005 to 2008, there are no/limited contact recreation water quality standards concerns on Cypress Creek.



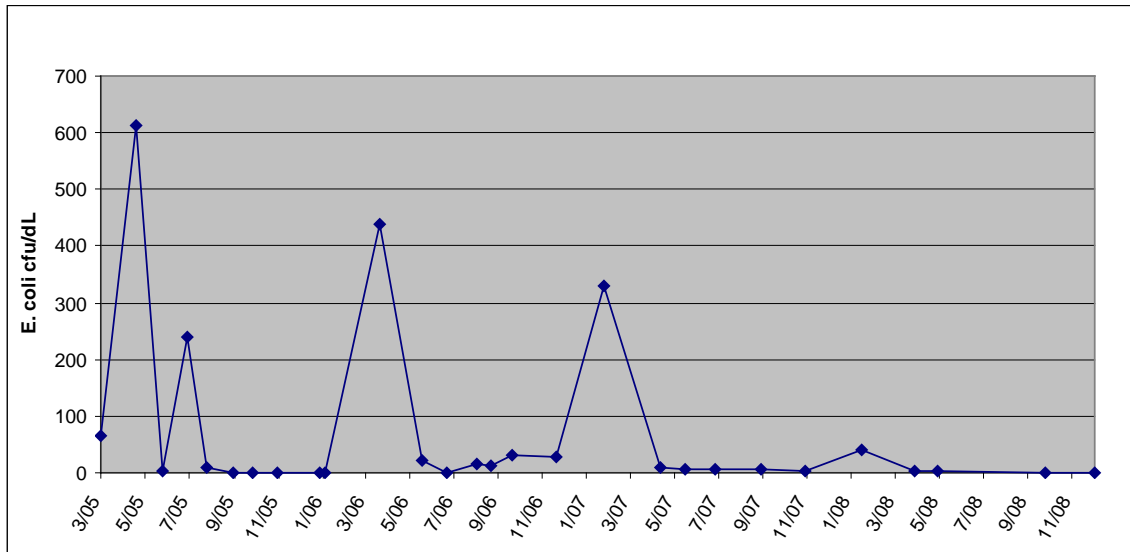
Cypress Creek *E. coli* Descriptions Table

<i>E.coli</i> (cfu/dL)	MEDIAN:	MEAN:	GEO MEAN:	% EXCEDENCE:	MIN:	MAX:	STD DEV:	COUNT:
JACOBS WELL	6	68	9	11%	1	613	151	28
RR 12	68	213	90	16%	19	2400	463	19
BLUE HOLE	103	285	118	11%	19	2400	585	19
BLANCO RIVER	120	169	108	15%	13	650	175	26

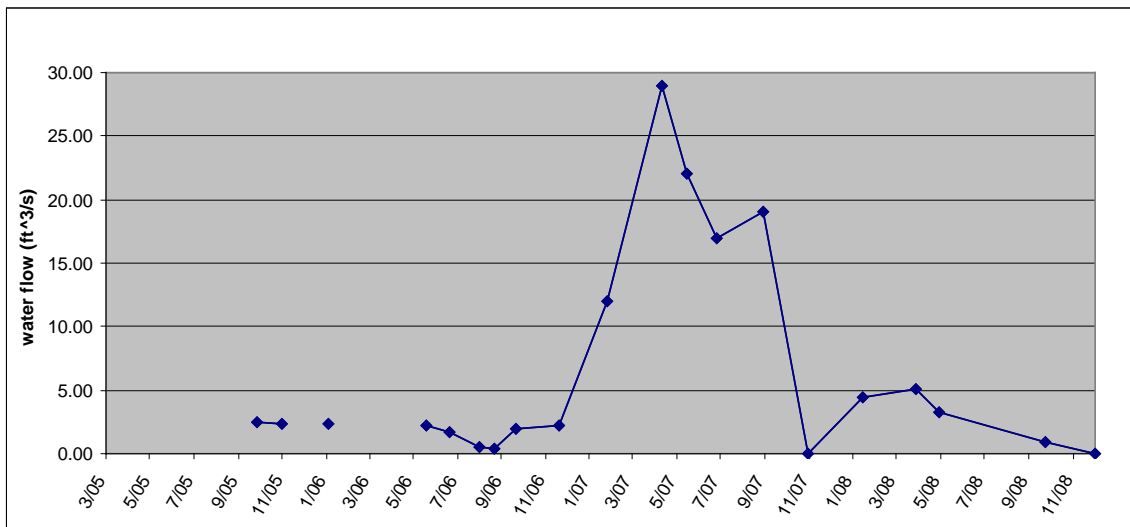
Jacob's Well USGS Flow Gage Station Descriptions Table

Discharge (cfs)	MEDIAN:	MEAN:	GEO MEAN:	MIN:	MAX:	STD DEV:	COUNT:
JACOBS WELL	2	7	4	0	29	9	18
RR 12	2	7	4	0	29	9	16
BLUE HOLE	5	16	7	0	67	19	19
BLANCO RIVER	2	7	4	0	29	9	18

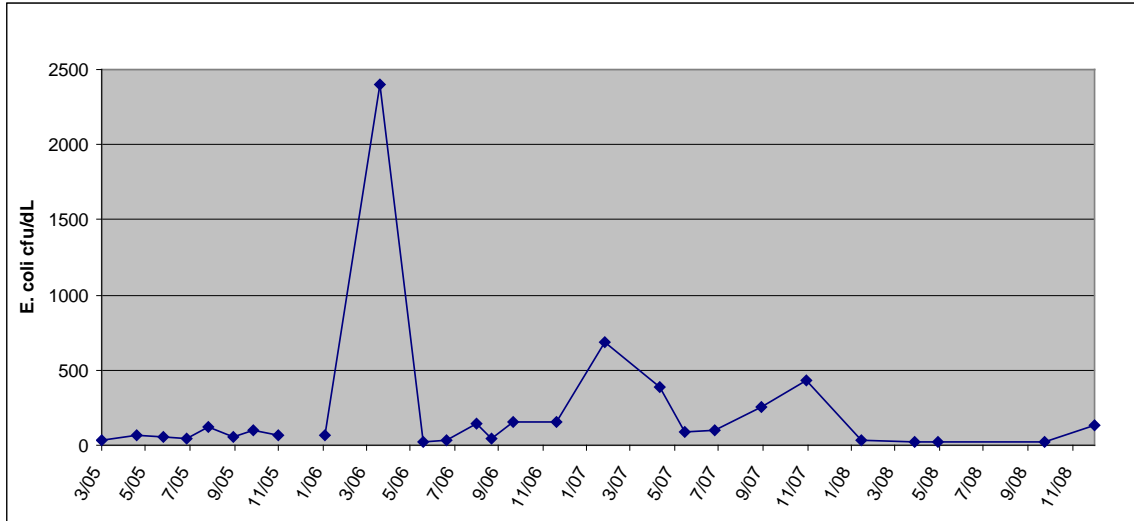
Cypress Creek *E. coli* Levels at Jacob's Well



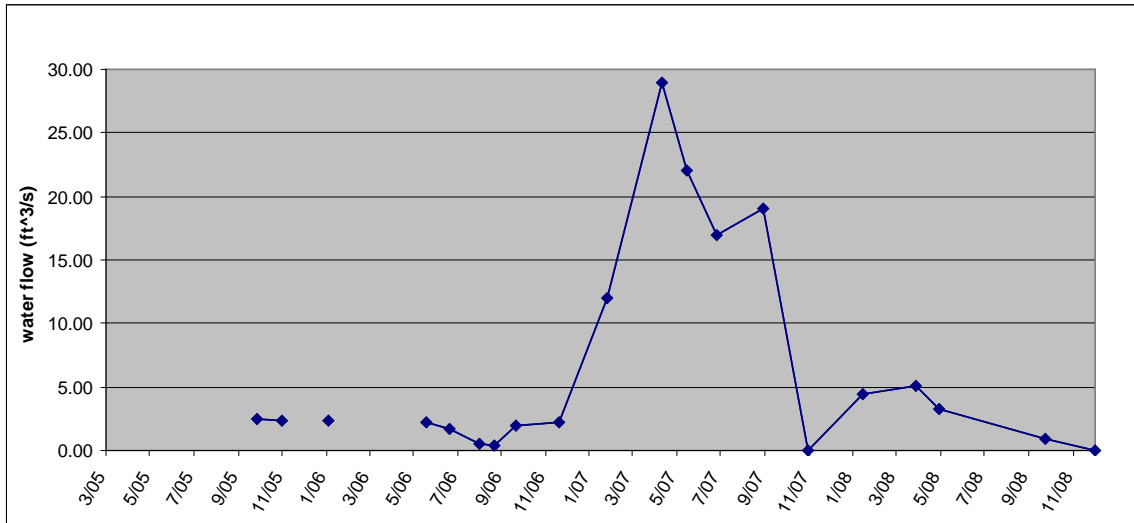
Jacob's Well USGS Flow Gauge Station



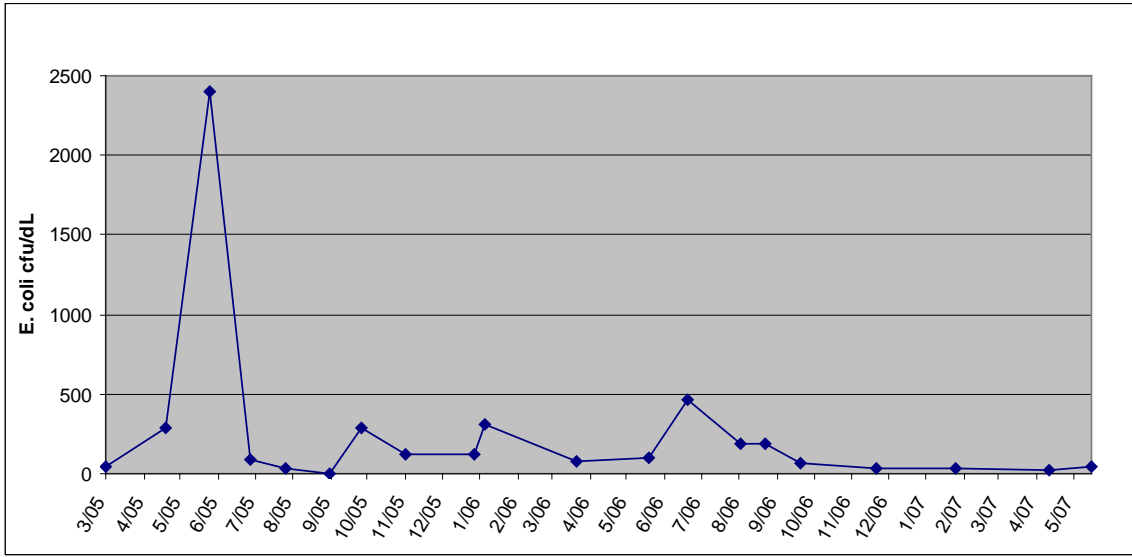
Cypress Creek *E.coli* Levels at Ranch Road 12



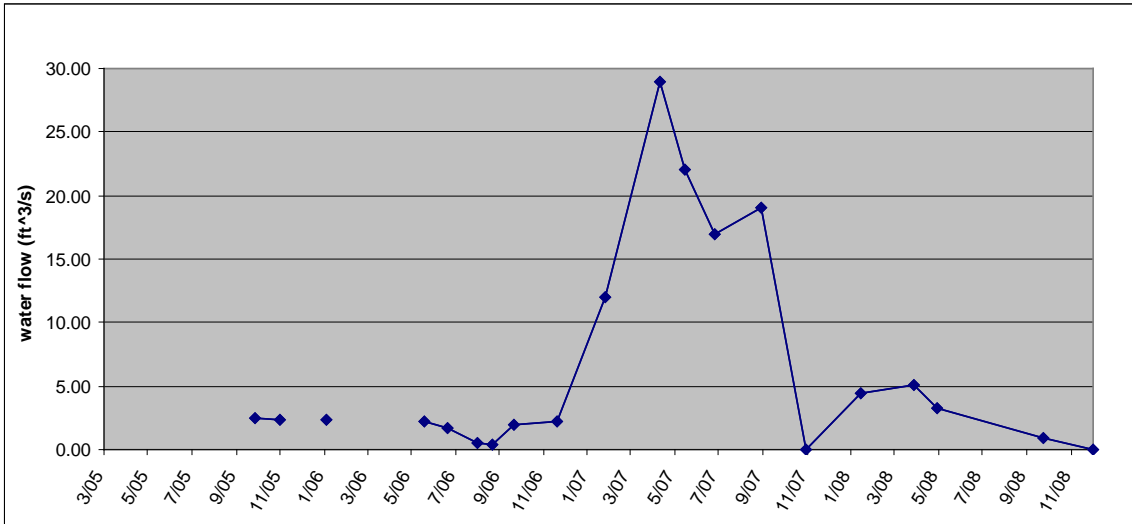
Jacob's Well USGS Flow Gauge Station



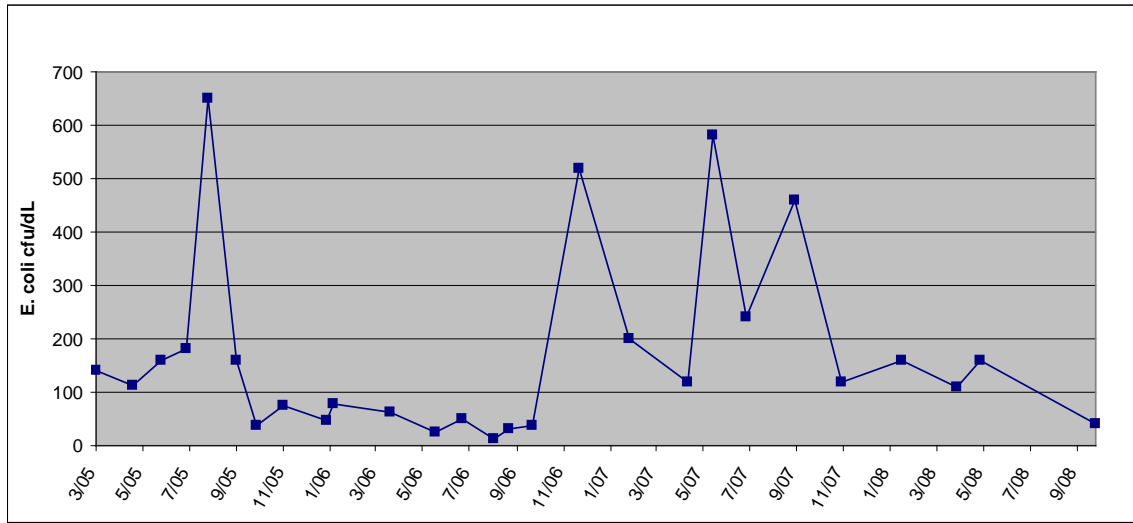
Cypress Creek *E.coli* Levels at Blue Hole



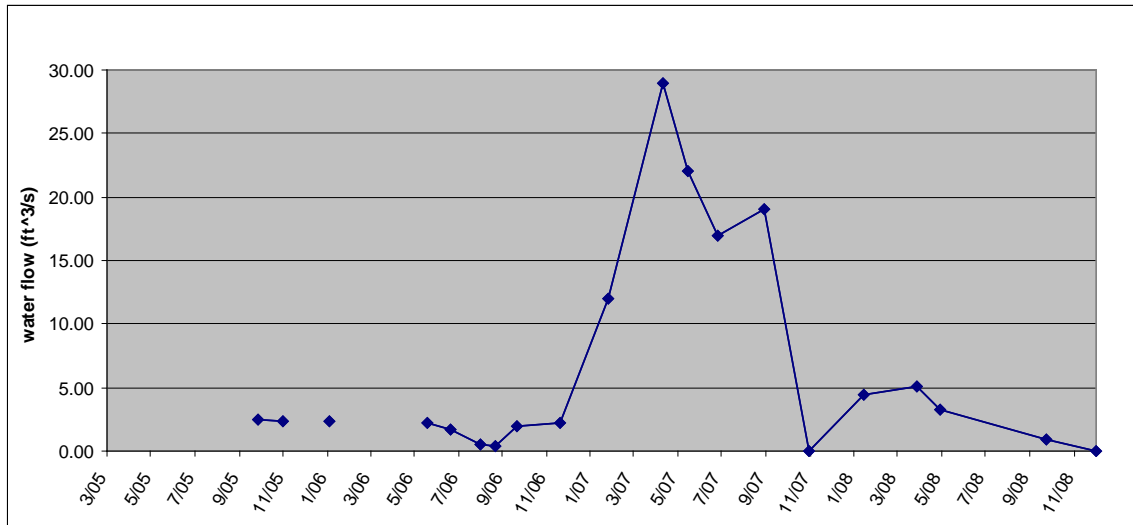
Jacob's Well USGS Flow Gauge Station



Cypress Creek *E.coli* Levels at Blanco River



Jacob's Well USGS Flow Gauge Station



Source: Texas Clean Rivers Program, TCEQ;
Compiled by Texas Stream Team & Cypress Creek Project staff