

Event Sampling Segment 2107 Atascosa River

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Event Based Monitoring

- ▶ To date, one out of three required sampling events has occurred within the watershed.
- ▶ This survey was conducted February 27th through March 1st of this year.
- ▶ Samples were taken approximately every 8 hours during the duration of the event at the pre-determined sampling sites

Event Based Monitoring Sites

2107 Atascosa



Legend

- Impaired Segements
- Rivers
- Major Roads
- Nearby Cities
- Watersheds
- Counties
- Event_Sites

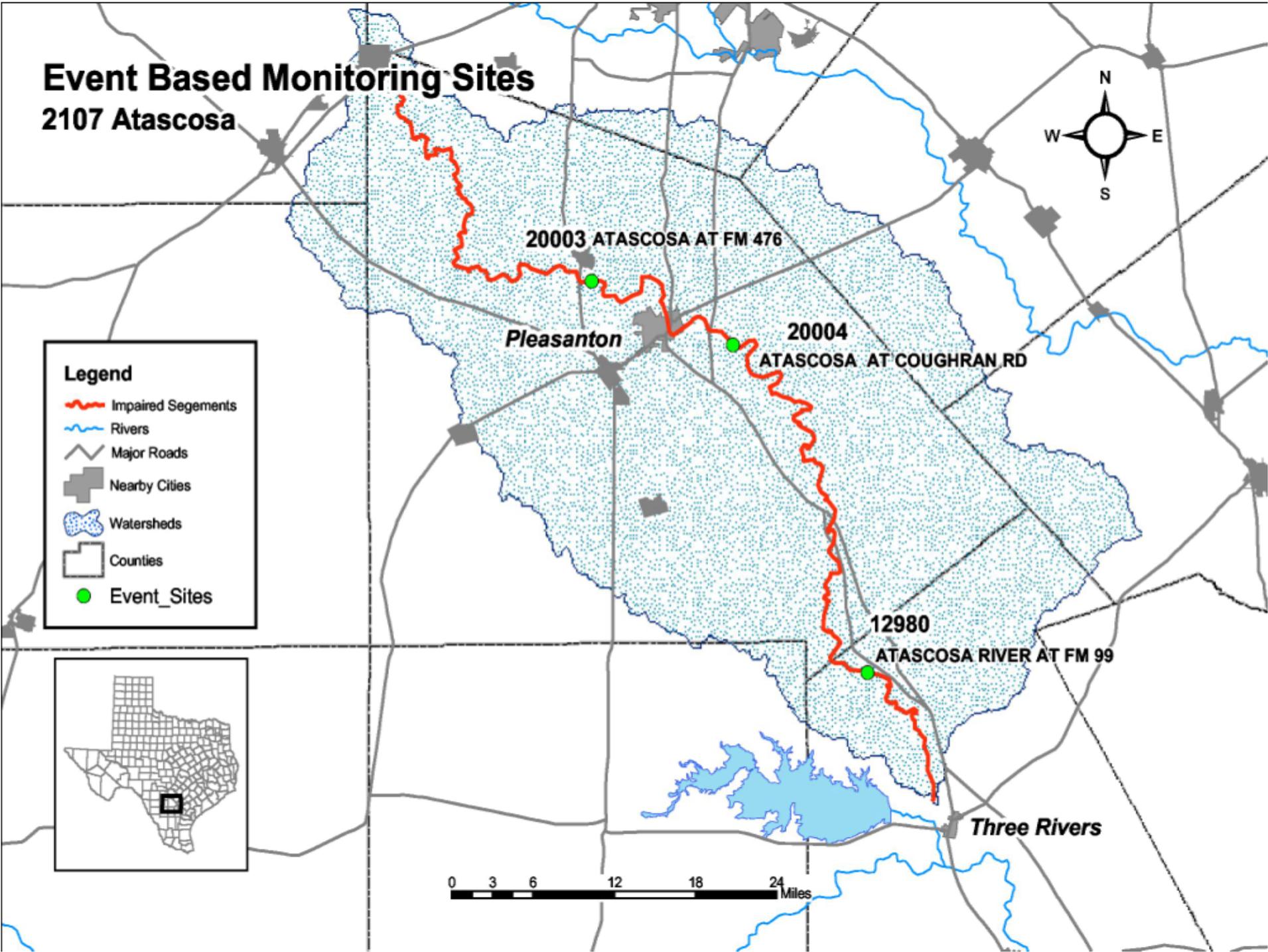
20003 ATASCOSA AT FM 476

Pleasanton

20004 ATASCOSA AT COUGHRAN RD

12980 ATASCOSA RIVER AT FM 99

Three Rivers



Data Collected During the Event

- ▶ Instantaneous dissolved oxygen, temperature, pH, and conductivity using a Hydrolab Datasonde 4a.



Data Collected During the Event

- ▶ Water samples were collected every eight hours.
- ▶ Samples transported to San Antonio Testing Labs and analyzed for: alkalinity, chloride, sulfate, nitrate/nitrite, TKN, total phosphate, orthophosphate, ammonia, TOC, TSS, Chlorophyll-a, and phenophytin-a.

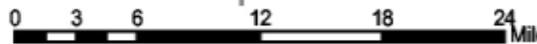
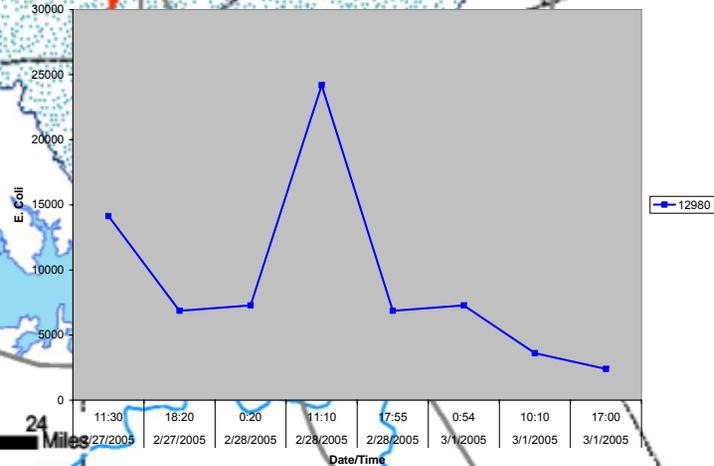
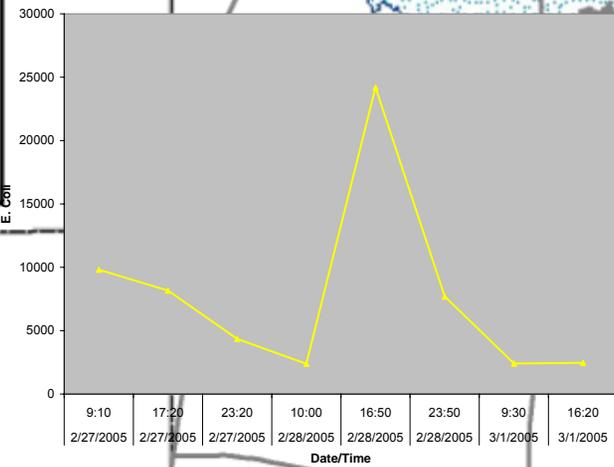
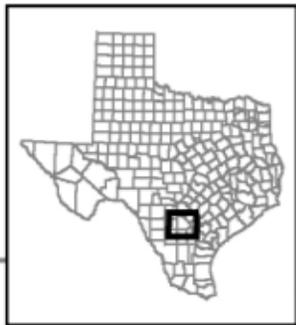
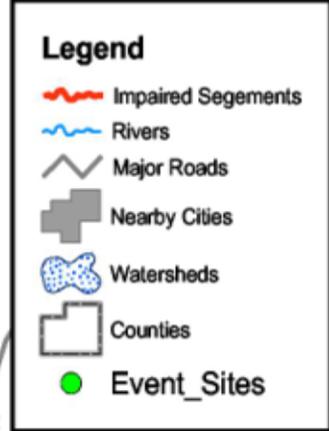
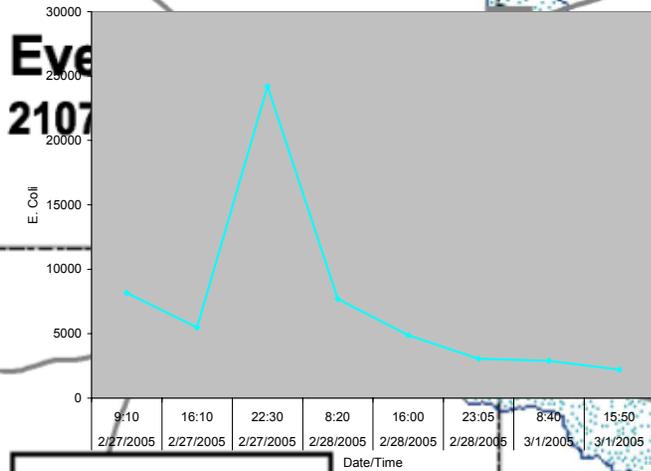


Data Collected During an Event

- ▶ Bacterial samples were collected every eight hours during an Event and analyzed in field for E-coli colony counts using MPN assays.



Event 1 E.coli Data



Future Work

- ▶ Two more events needed on segment 2107
- ▶ Bacterial Source Tracking
- ▶ Stream Cross Sections
- ▶ Time of Travel Study

Bacterial Source Tracking

- ▶ Bacterial Source Tracking (BST) is another form of specialized monitoring that will occur in FY05.
- ▶ BST uses DNA analysis to identify the sources of bacterial indicators.
- ▶ Samples will be taken and transported to SATL for E-coli culture and preservation.
- ▶ Samples will later be compared to a segment specific library of possible bacteria sources.

Stream Cross Sections

- ▶ In order to provide accurate information to the modelers, SERF will perform a survey of the stream bed at each station
- ▶ Benchmarks will be established at each end of the cross section using a differentially corrected GPS
- ▶ The transects will then be measured using a Total Station GPS

Time of Travel

- ▶ SERF will conduct a time of travel study for both Sandies and Elm creek.
- ▶ When related to stream discharge, distance along the channel, and dispersion, time of travel data is useful in determining the amount of time required for a water-soluble contaminant to move between points along the study reach.
- ▶ EPA approved Rhodamine dye will be injected into the stream above the study reach to insure proper mixing of the dye.

Time of Travel

- ▶ Within the reach, sampling sites will be selected for monitoring the leading edge, maximum concentration, and trailing edge of the dye cloud.
- ▶ Equipment used for this monitoring will be a Wet Labs ECO Triplet Fluorometer, SERF Data-logger, and an Marsh McBirney Flow Meter for measurement of flow at each sampling site.
- ▶ Time of travel studies will be initiated during ambient flow conditions.