

Water Quality Programs

Gary Esslinger

Manager

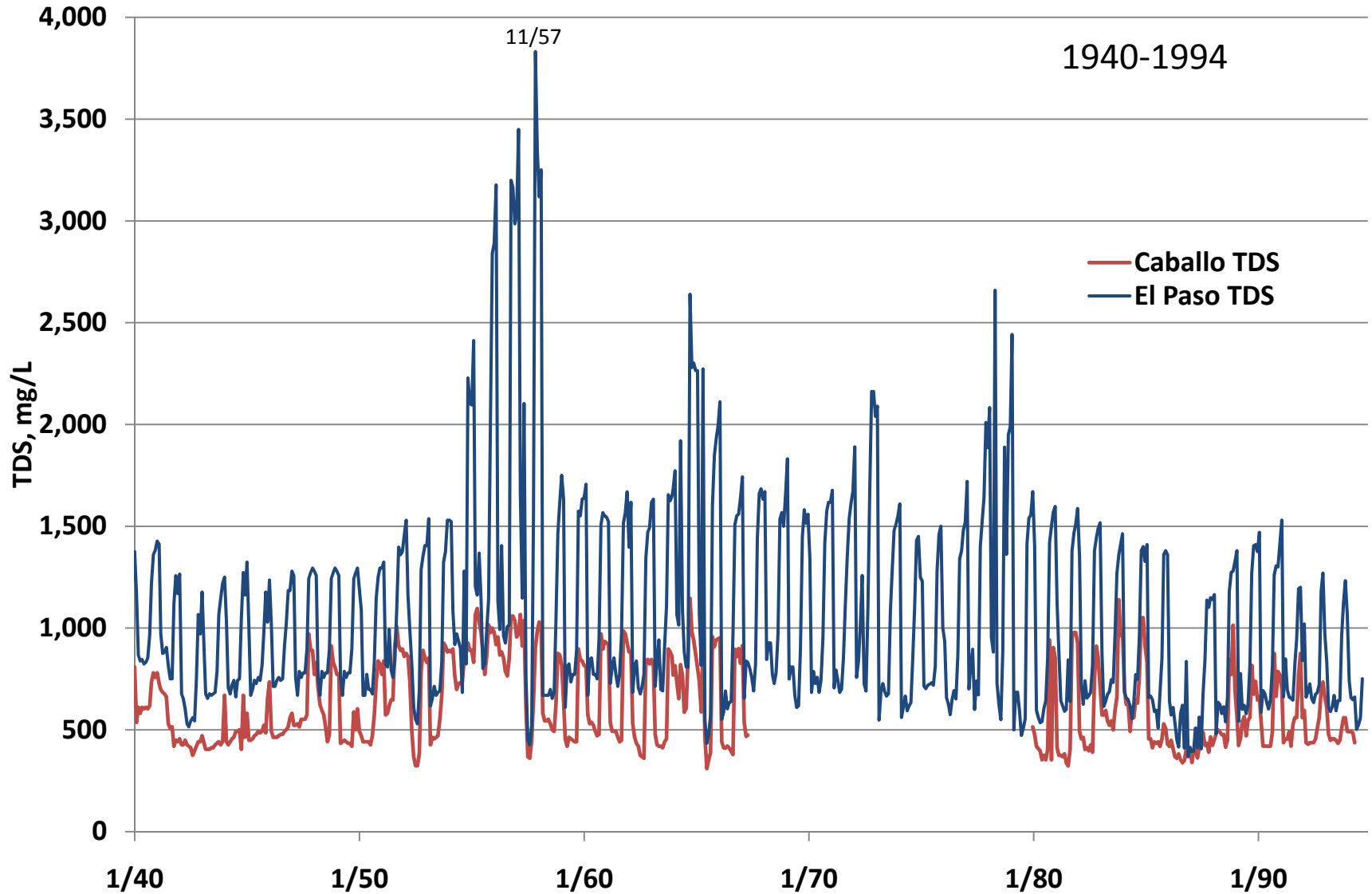
Thursday, December 02, 2010

Key Programs

- Long-term Salinity
- Continuous salinity monitoring
- E. coli – 319 (h)



Long-term Salinity (TDS)



Long-term Salinity (TDS) General Behavior

- Strong intra-year seasonal cycle – High TDS with low winter flow, low TDS with high release flow
- Strong inter-year drought cycle – High TDS in drought, low TDS in wet years, except immediately following drought
- No long-term increase in TDS
- Strong geographic trend – Increasing TDS going downstream

Real-time TDS



- Real-time conductance/temperature meters
- Flow measurement structures
- Del Rio, East La Mesa, Nemexas, West Drains, River at Anthony, EPWU treatment plant (Rio Grande @ American Dam)
- TBA: Montoya Drain, with Acoustic Doppler meter
- Available through EBID web site



Elephant Butte Irrigation District

Water Resource Information System



General Information & Latest News

Farmer Services

Water Resources Information System

WRIS Home

RTU Inventory

River Watch

NOAA Radar

Daily Operations Report

WRIS Overview

Who To Call

Help

Log In

Interactive Data Tool - Site: Nemexas_Drain

[EBID GIS Map](#) | [Satellite Map](#)

Site Info

Description: Nemexas Drain

Latitude: 31.9494438171387

Longitude: -106.632583618164

Unit: 6A

Active: Y

Type: Drain

LRG # :

Latest Polls: This data has been neither reviewed nor certified and is therefore subject to error.

Sensor	Date/Time	Value
Battery Level	11/19/2010 05:30	12.22
Conductivity at Field Temperature	11/19/2010 05:30	1,009.87
Conductivity at 25 Degrees Celsius	11/19/2010 05:30	1,558.02
Flow CFS	11/19/2010 05:30	3.90
Solar Level	11/19/2010 05:30	0.01
Total Dissolved Solids	11/19/2010 05:30	1,012.71
Celsius Temperature	11/19/2010 05:30	6.58
Water Level	11/19/2010 05:30	0.28

Select Options to View or Download Data

Date Range: From:
To:

Available

Sensors:
(for graph only)

Table
Graph

Get Data by Range

OR Select a Period: Last

Available

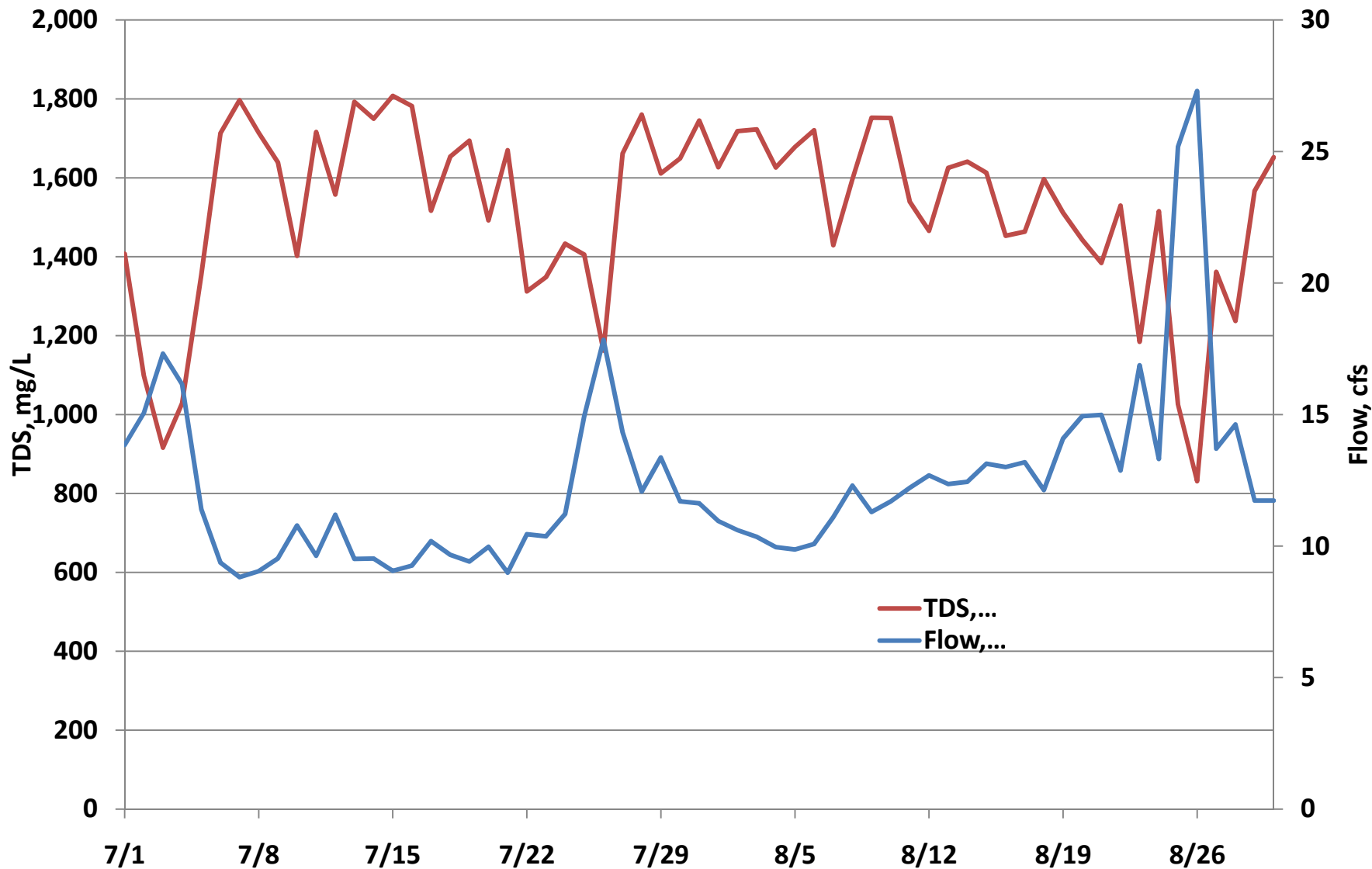
Sensors:
(for graph only)

Table
Graph

Get Data by Period

Website Design and Programming by [RCM Enterprises, LLC](#)

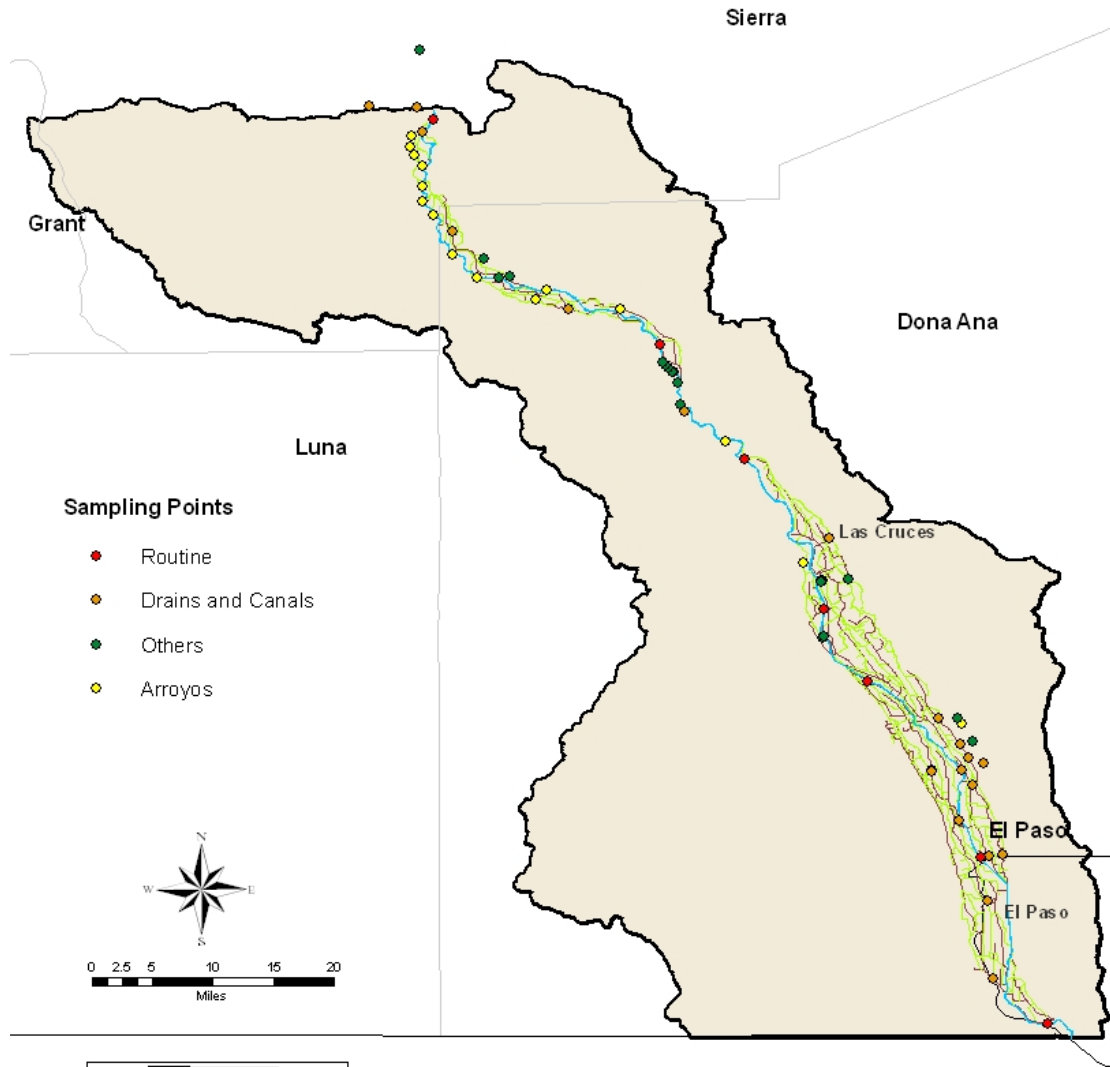
East Drain, July-August 2010



E. Coli – 319 (h)

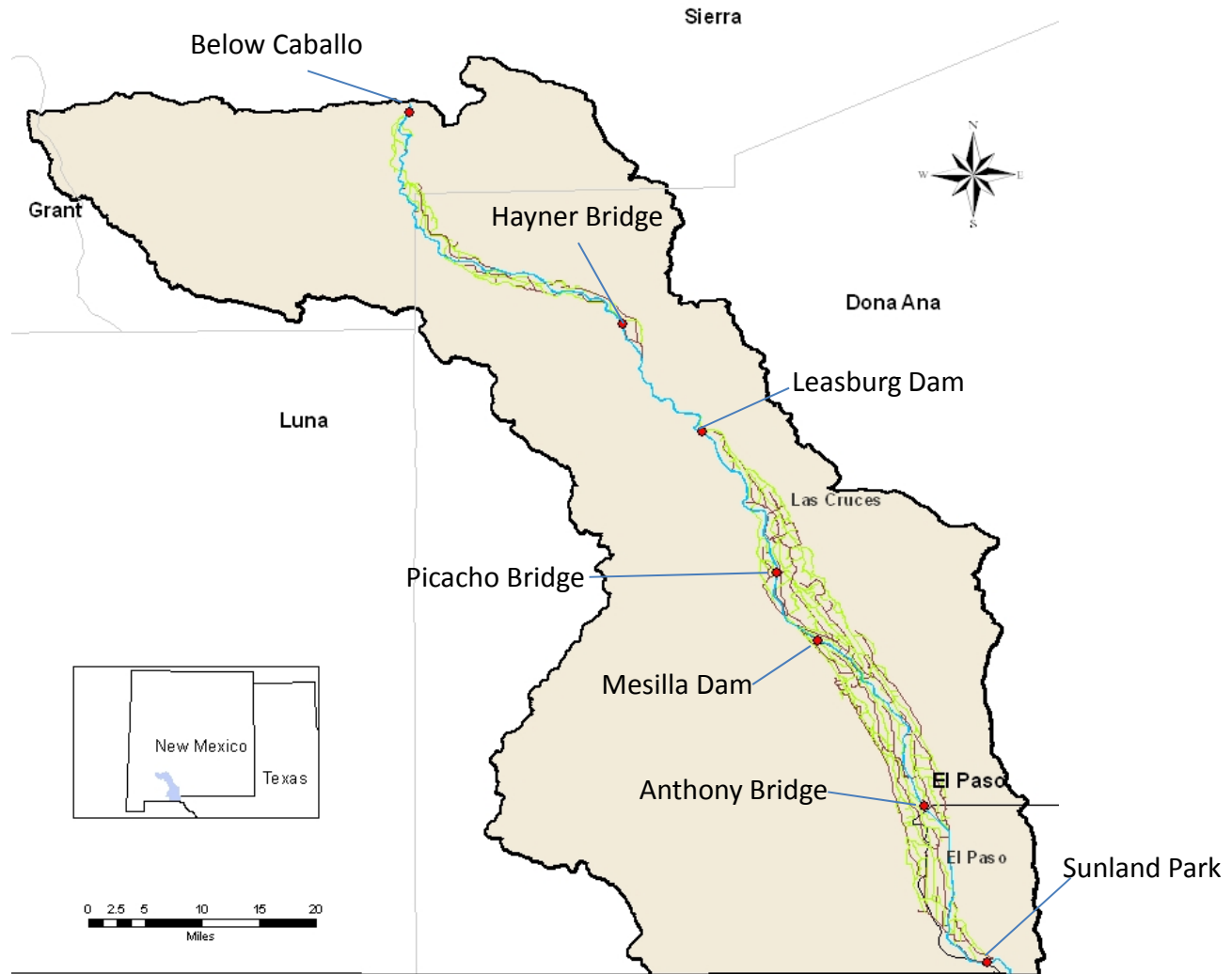
- LRG listed as impaired for E. coli based on 2004 sampling by NMED
- Current study to characterize behavior, identify sources, and recommend Best Management Practices
- PDNWC, NM Dept. of Agriculture

Lower Rio Grande Watershed Sampling Points



Geographic Coordinate System: GCS_North_American_1983
Projected Coordinate System: NAD_1983_UTM_Zone_13N

Lower Rio Grande Watershed Routine Sampling Points

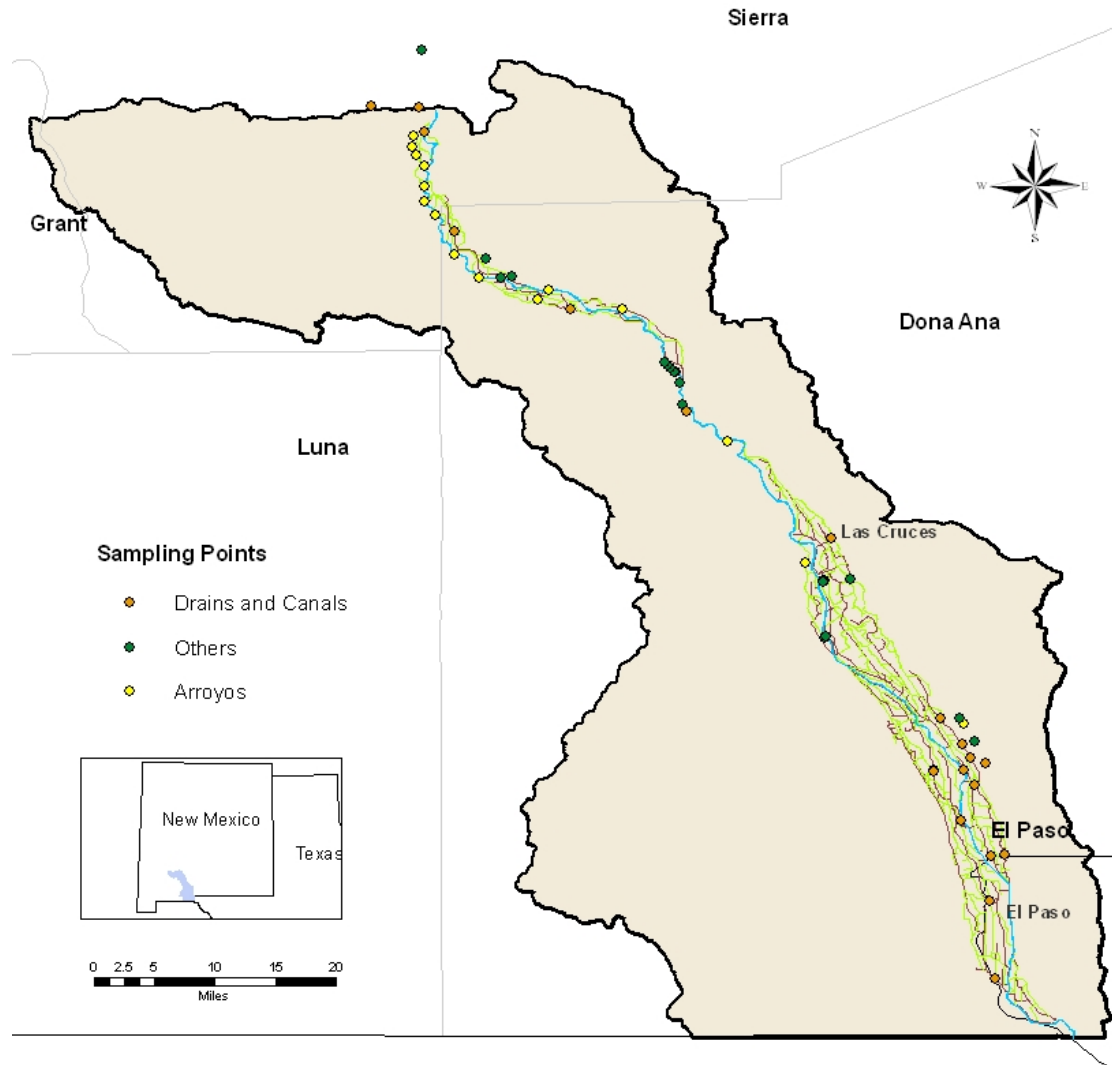


Sampling Points

• Routine

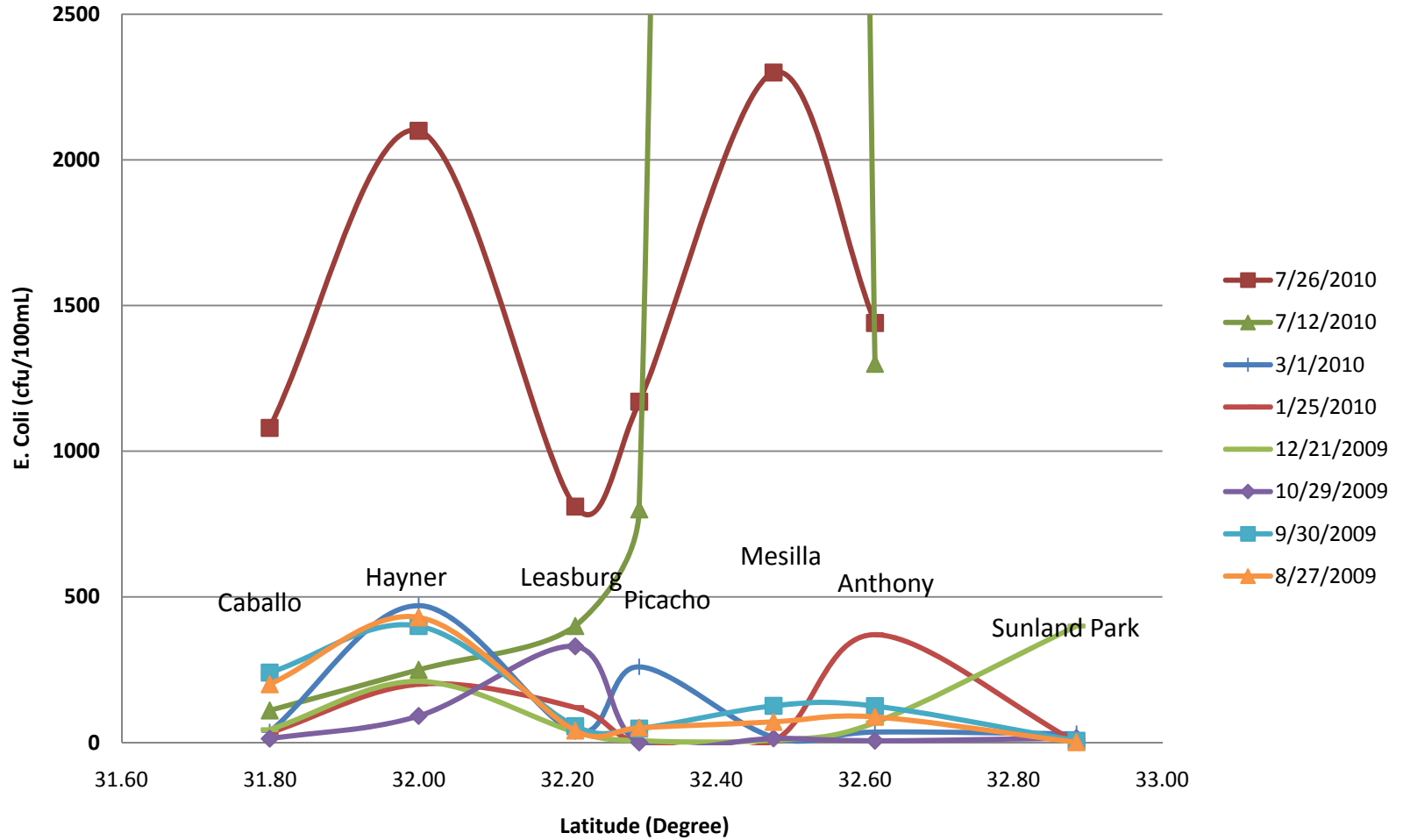
Geographic Coordinate System: GCS_North_American_1983
Projected Coordinate System: NAD_1983_UTM_Zone_13N

Lower Rio Grande Watershed Arroyos, Drains and canals

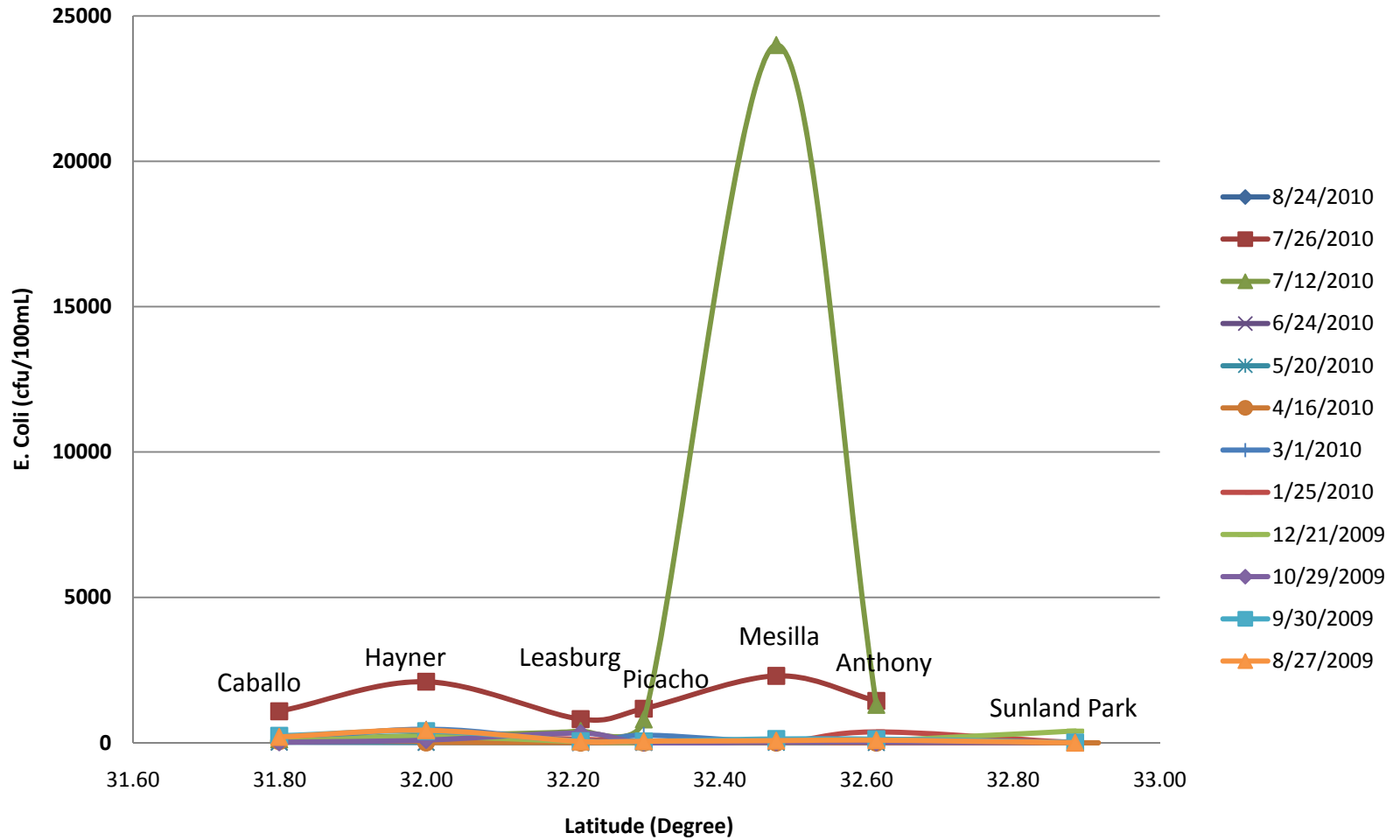


Geographic Coordinate System: GCS_North_American_1983
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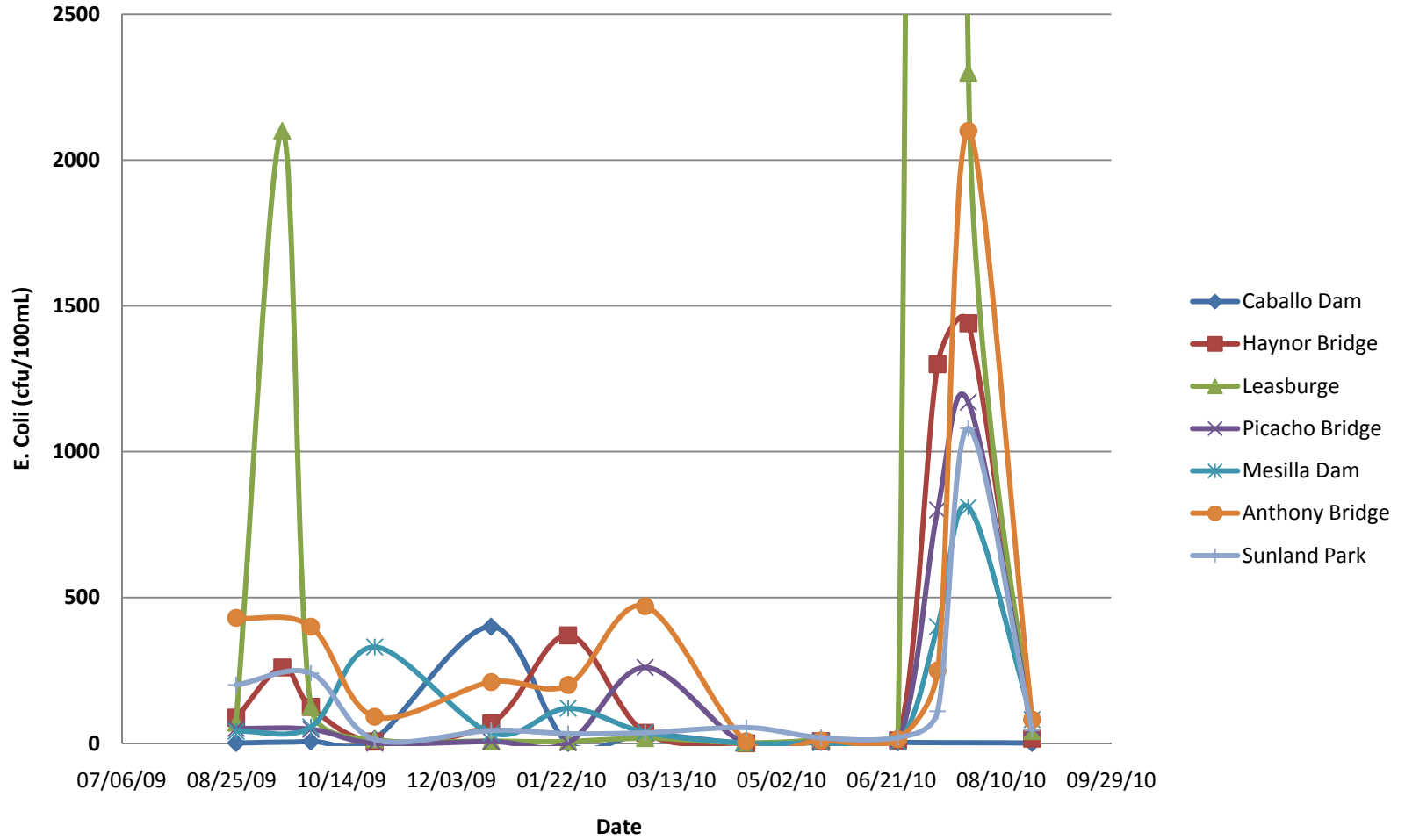
E. coli routine sampling



E. coli routine sampling



E. coli routine sampling



E. coli general behavior

- Base flow generally below regulatory limit
- Spikes strongly associated with rainfall/runoff events
- Elevated E. coli from runoff events appears regardless of land use
- Next phases:
 - Tracking upstream in drains, arroyos during spikes to identify sources
 - Genetic source tracking (Dr. Geoff Smith, NMSU)
 - Develop source-specific BMP recommendations
 - Storm water capture and control

A photograph taken from a bridge, looking down a wide river. The river flows from the foreground towards the background, flanked by green fields and vegetation. In the distance, a range of mountains is visible under a clear blue sky. The bridge's metal railing is visible in the foreground, framing the view.

Questions?