Water Quality Programs
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Key Programs

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

TDS, mg/L

1940-1994

TDS, mg/L

11/57

1/40 1/50 1/60 1/70 1/80 1/90

Caballo TDS

El Paso 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
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 Arroyos, Drains and canals

Sampling Points
- Drains and Canals
- Others
- Arroyos

Geographic Coordinate System: GCS_North_American_1983
Projected Coordinate System: NAD_1992_UTM_Zone_13N
E. coli routine sampling

E. coli (cfu/100mL) vs Date

- Caballo Dam
- Haynor Bridge
- Leasburge
- Picacho Bridge
- Mesilla Dam
- Anthony Bridge
- Sunland Park
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
Questions?