# URGWOM Lower Rio Grande Model

Advisory Committee Meeting

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# Lower Rio Grande Model

- Model Overview
- Model Representations
- Alluvial Aquifer Flows & Surface/Ground Water Interactions
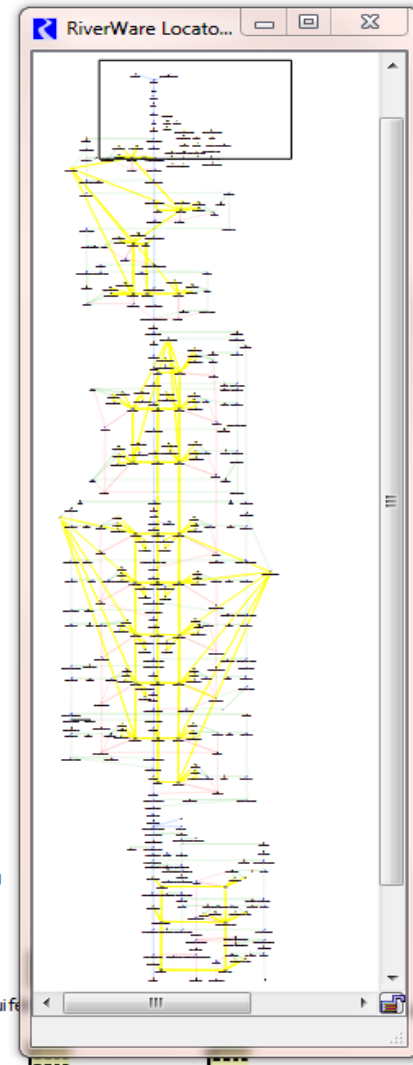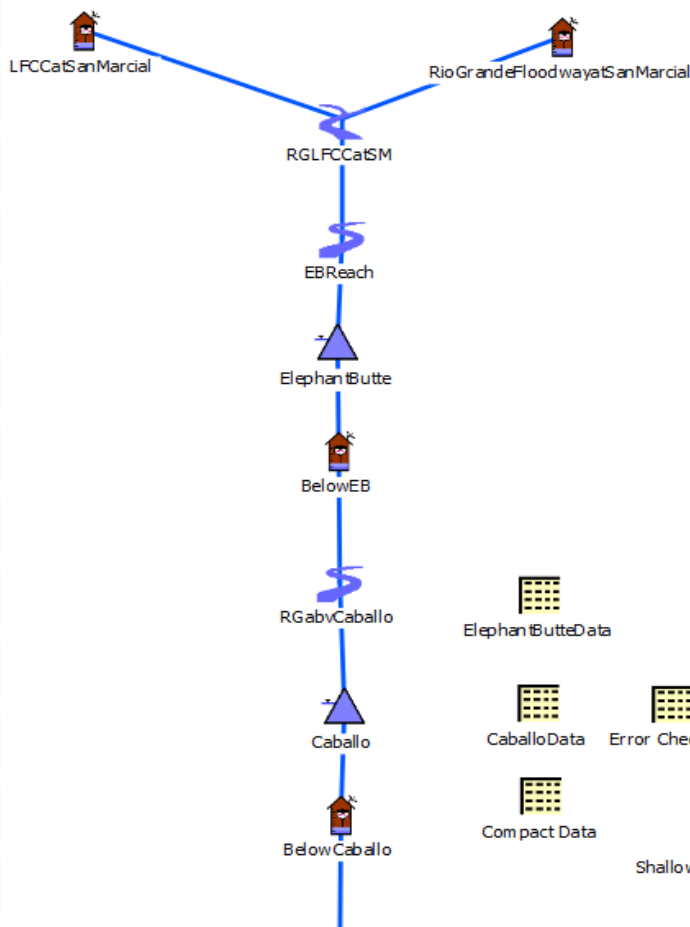- Summary
- Next Steps

# Model Overview

- San Marcial to Hudspeth County
- Eight Reaches
  - San Marcial to below Elephant Butte Dam
  - Below Elephant Butte Dam to Leasburg Dam
  - Leasburg Dam to Mesilla Dam
  - Mesilla Dam to Anthony
  - Anthony to El Paso (Courchesne Bridge)
  - El Paso to American Dam
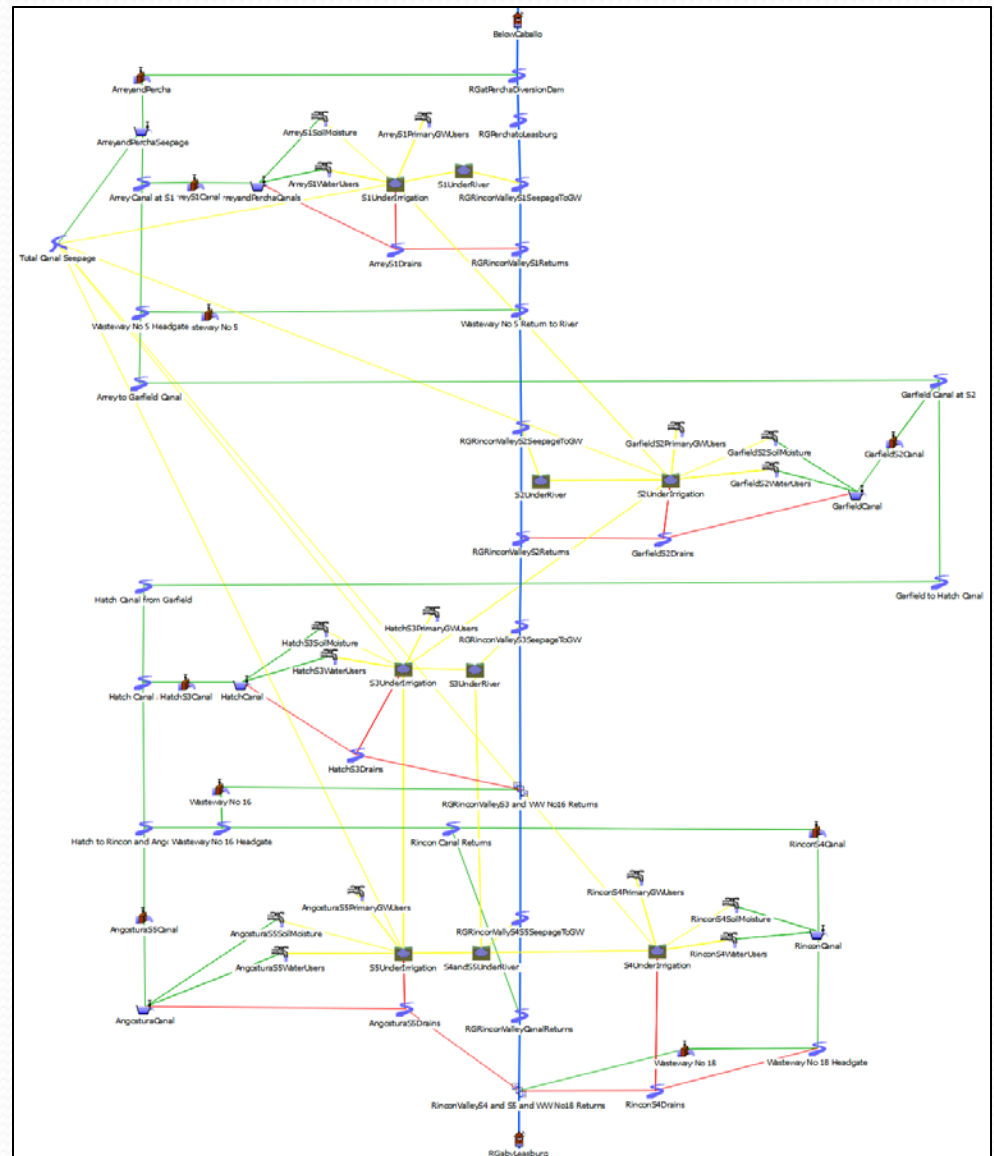  - American Dam to Hudspeth

# Model Overview

- Simulate River and Reservoir Operations using
  - Historical data
  - Historical inflows
- Based on 2008 Operating Agreement
- Historical Hydrology for Period 1975 to 2010
- Elephant Butte & Caballo Reservoirs
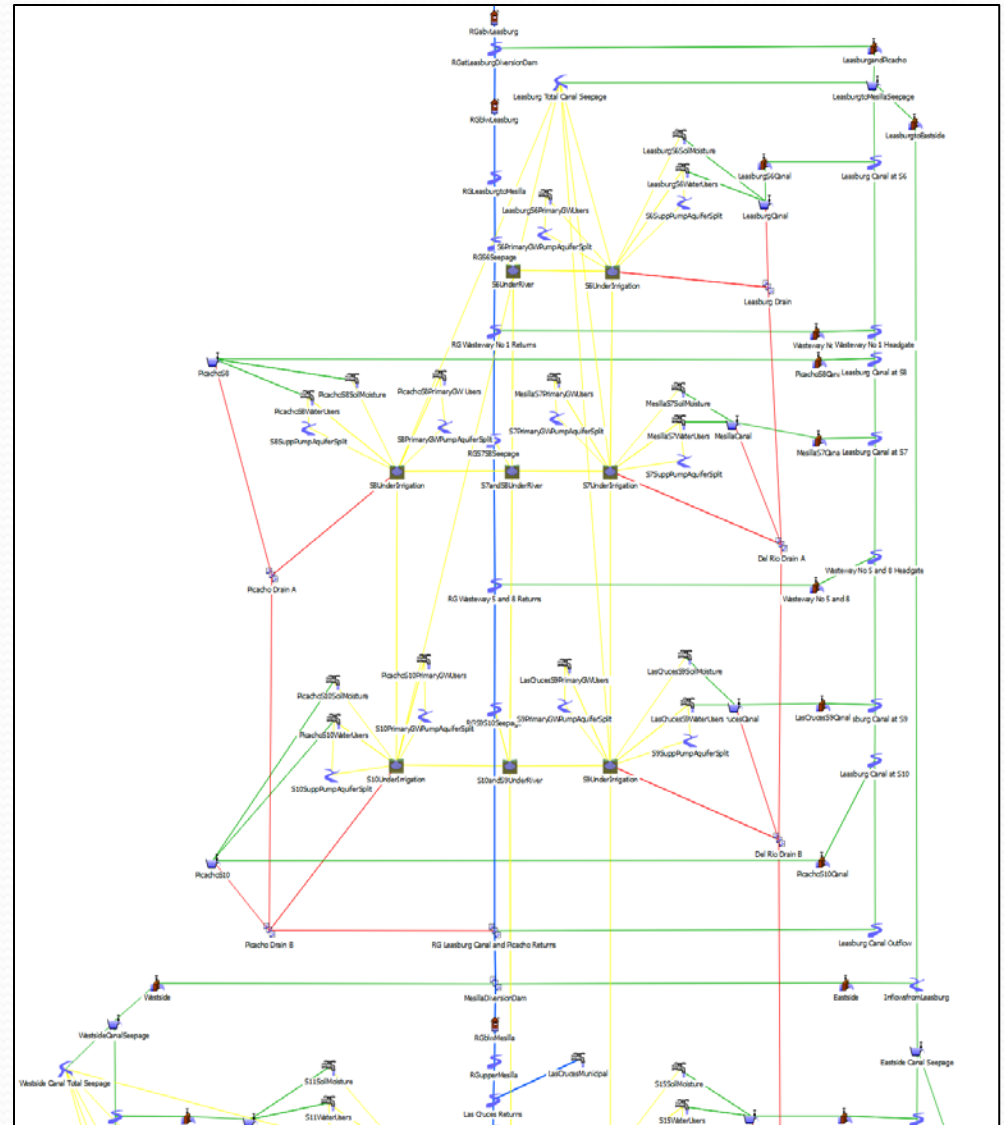- Six Major Diversion Structures
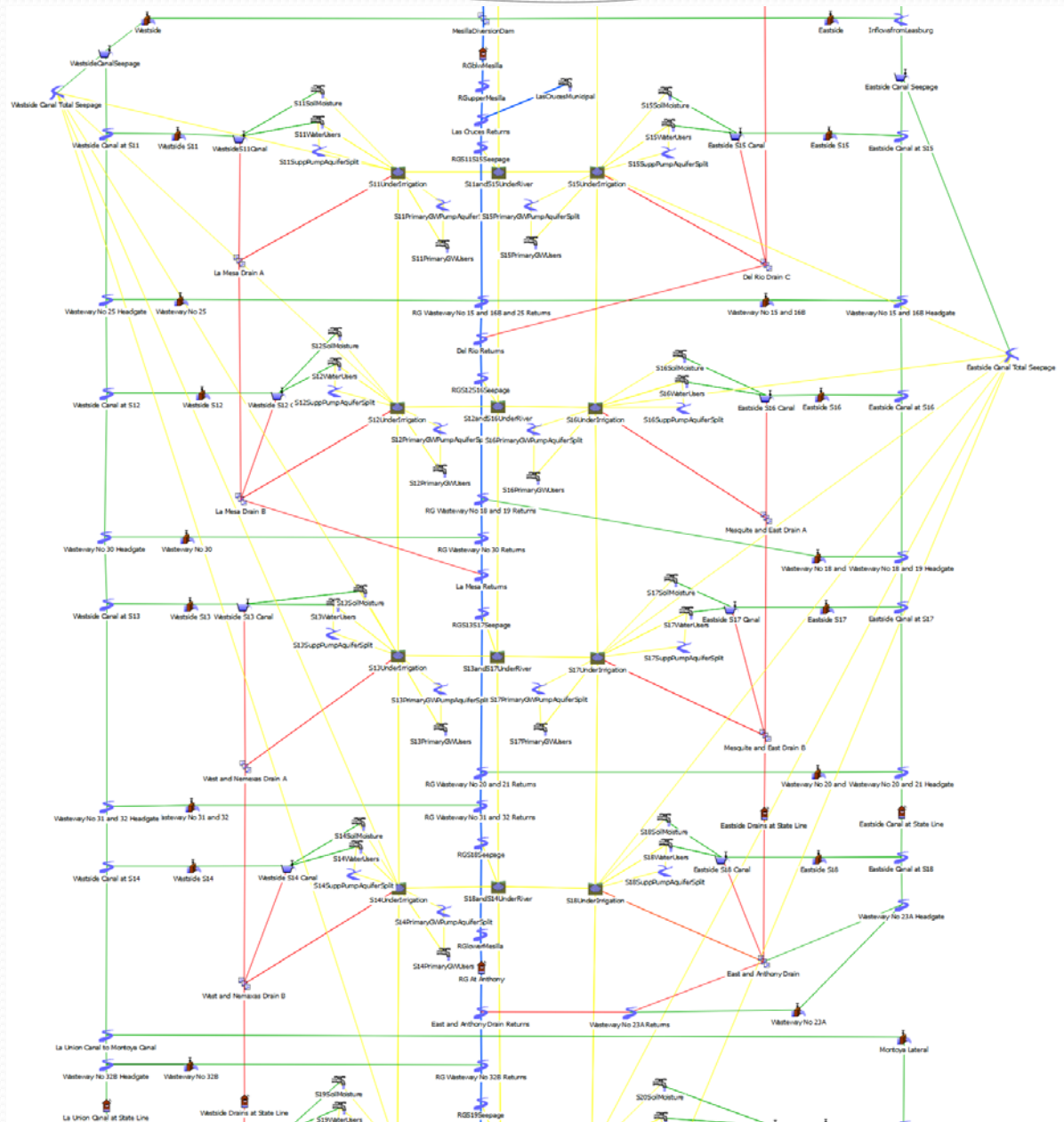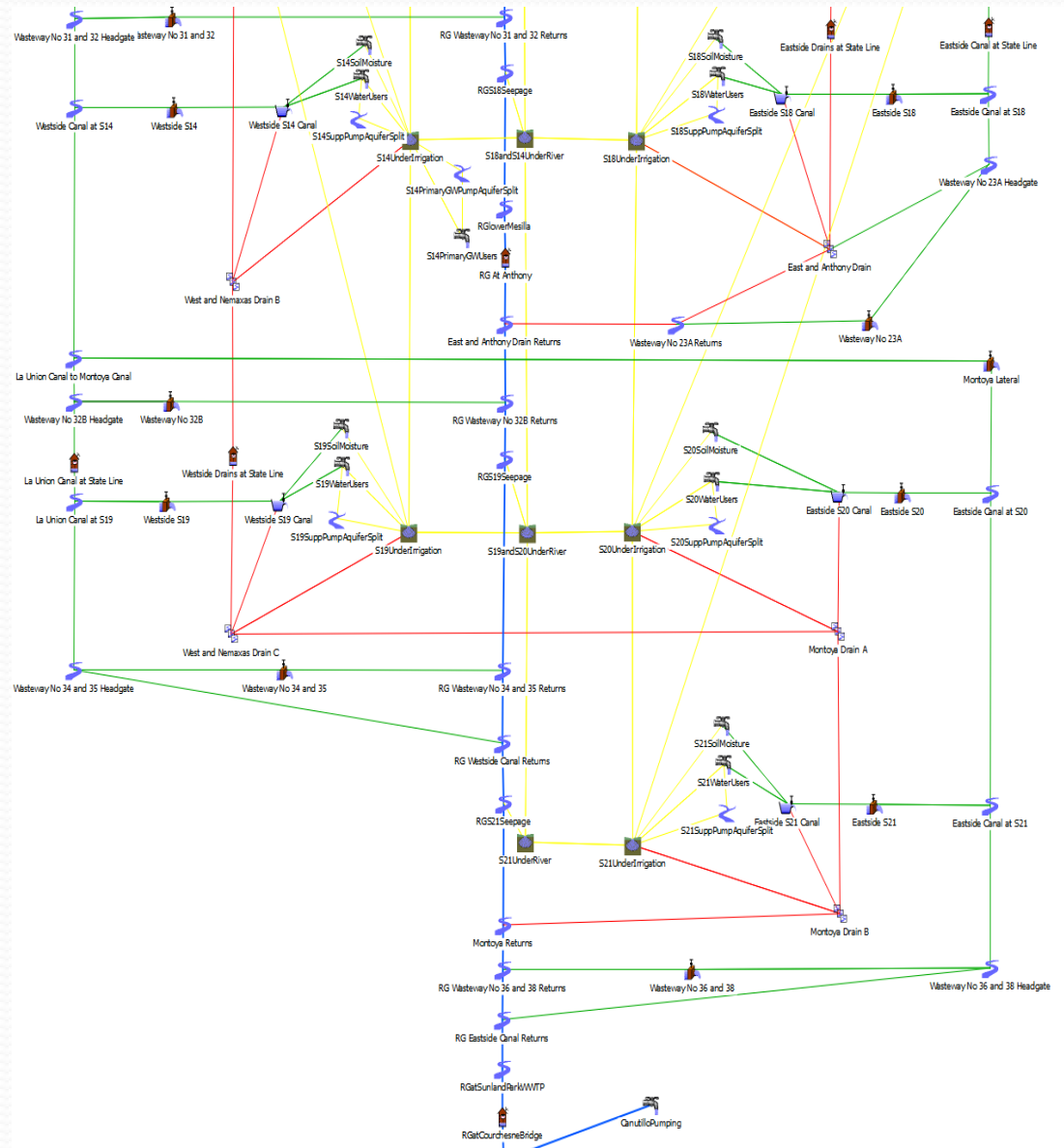
# Elephant Butte & Caballo Reservoirs

# Rincon Valley

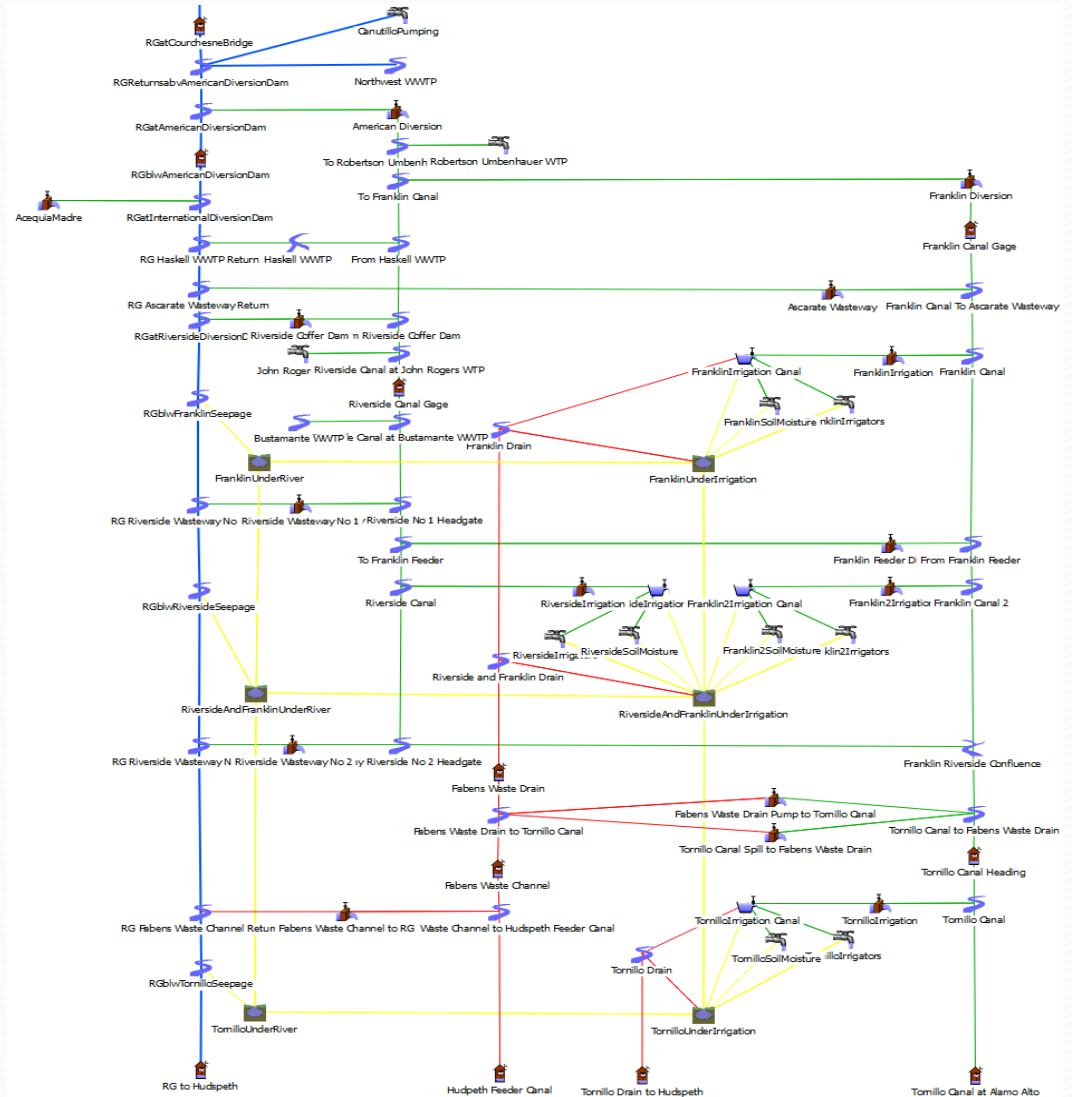# Leasburg Valley & Las Cruces
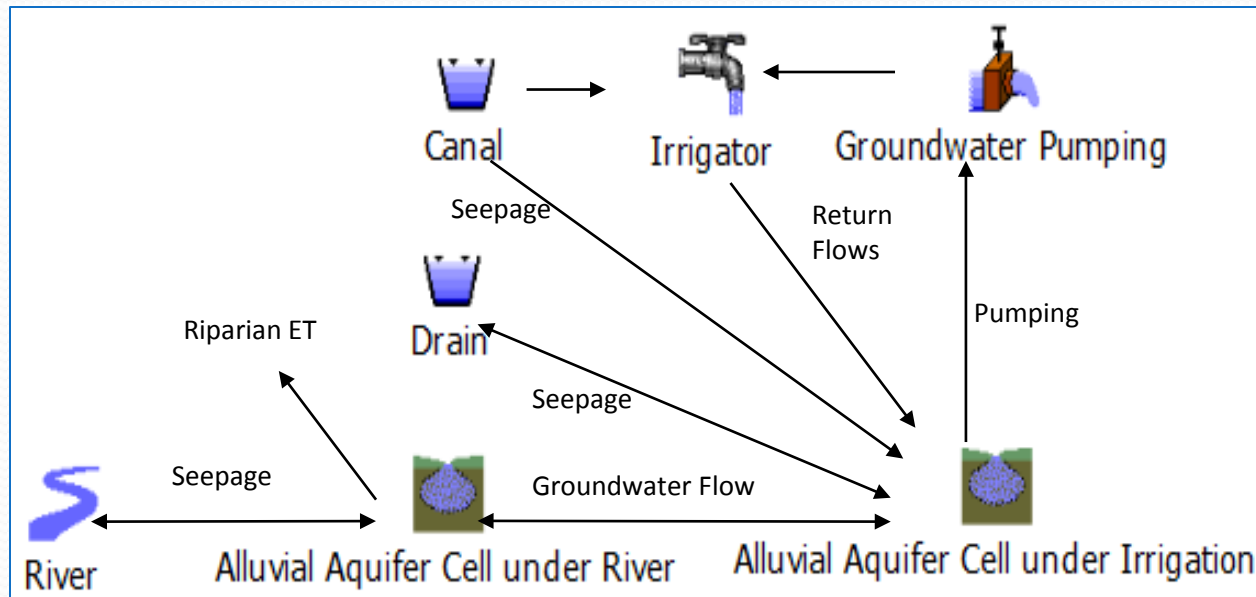
# Upper Mesilla Valley

Lower Mesilla Valley

# EP #1 Service Area Downstream of Courchesne Bridge

# Simulation of Alluvial Aquifer Flows & Surface/Ground Water Interactions

Single ground water object under an irrigated sub-area and an associated groundwater object beneath the adjacent reach object

# Summary

- Discrepancies in drain flows as compared to gaged data
  - Especially Rincon & El Paso Valleys
  - Coarse scale of ground water objects
  - Lack of reliable drain/wasteway/municipal flow data
  - Timing issue of observed river headgate diversions with historical estimated CIR
- Inadequate calibration of alluvial aquifer objects in El Paso
  - Groundwater interaction between Mexico & El Paso is not modeled
  - No groundwater data for Mexico could be found

# Next Steps

- Enhancement of existing Lower Rio Grande model
  - Lag times
  - Daily CIR values
  - Refinement of D3 Policy
  - Addition of alluvial aquifer objects
  - Obtain additional data for EP#1 area
  - Add local inflow points
  - Improvements to ruleset efficiency and model usability
- Calibration
- Merge Lower and Middle Valley portions

# Questions?