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### SLIDES: Intro to Groundwater Law in Colorado

David L. Harrison

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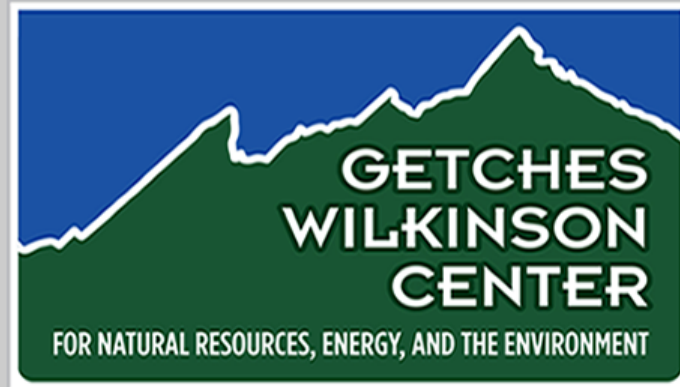
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# **Intro to Groundwater Law In Colorado**

*David L. Harrison*

*June 18, 2004*

# **The Mosaic of Groundwater Law in Colorado**

- Legal framework that has been evolving since 1965**
- Different approaches for different groundwater basins and different problem situations**
- Appears complicated if try to set up a consistent set of groundwater classifications**

# **The Mosaic of Groundwater Law in Colorado**

## **-Classifications:**

**Designated groundwater**

**Tributary Groundwater**

**Non-tributary Groundwater**

**Not Non-tributary Groundwater**

**Exempt Wells**

A topographic map of a region in Colorado, showing terrain contours, rivers, and a grid. The map is the background for the entire slide. A blue rectangular box is overlaid on the top left, containing the title. Another larger blue rectangular box is overlaid on the bottom half, containing the text and list.

## The Mosaic of Groundwater Law in Colorado

General Rules Throughout State (except designated basins and Denver Basin)

- GW tributary if its w/drawal will cause a stream depl'n  $> 1/10^{\text{th}}$ % of pumping rate in 100 years
- Prior Appropriation System for tributary GW
- Well Permit Required
  - Must be unappropriated water and no injury
  - Generally requires an augmentation plan
- Adjudicated in Water Court
- Exemption for Small Wells – presumed no injury if
  - Household only
  - Domestic on 35 acres

## Designated Groundwater Basins

- Designated pursuant to 1965 Act
- All basins designated prior to 1985
- Non-tributary or principal use by wells
- May be non-renewable or renewable
- Regulated rate of depletion
- “Modified Prior Appropriation”
- Generally fully allocated – few new permits
- Groundwater Commission Rules and Regs
- Some exports of water out of Basins to Municipalities
- Decisions reviewable in District Court
- Special rules for small wells

Upper Crow Creek

Lost  
Creek

Camp  
Creek

Kiowa  
Bijou

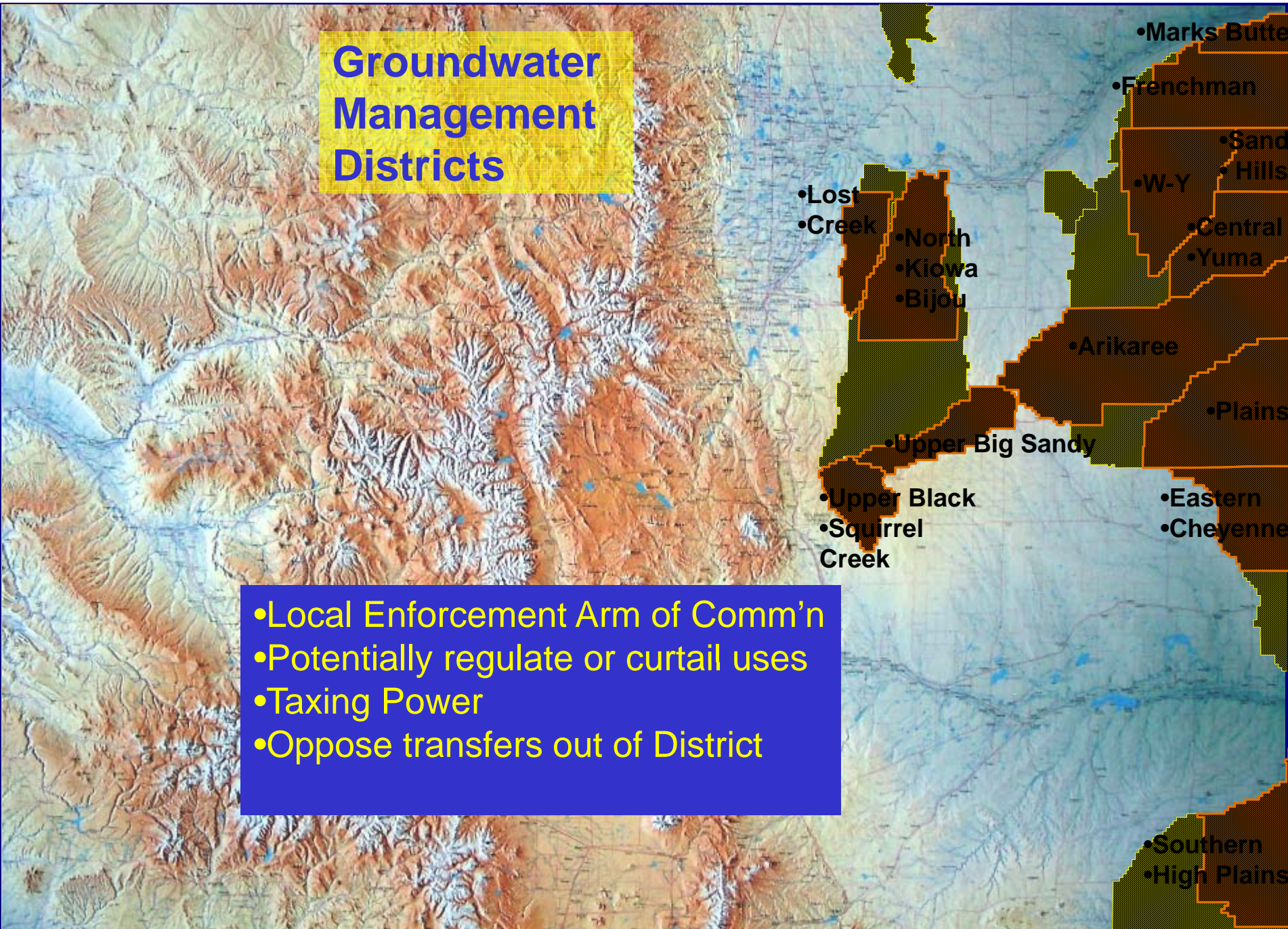
Northern  
High Plains

Upper Big Sandy

Upper Black  
Squirrel Creek

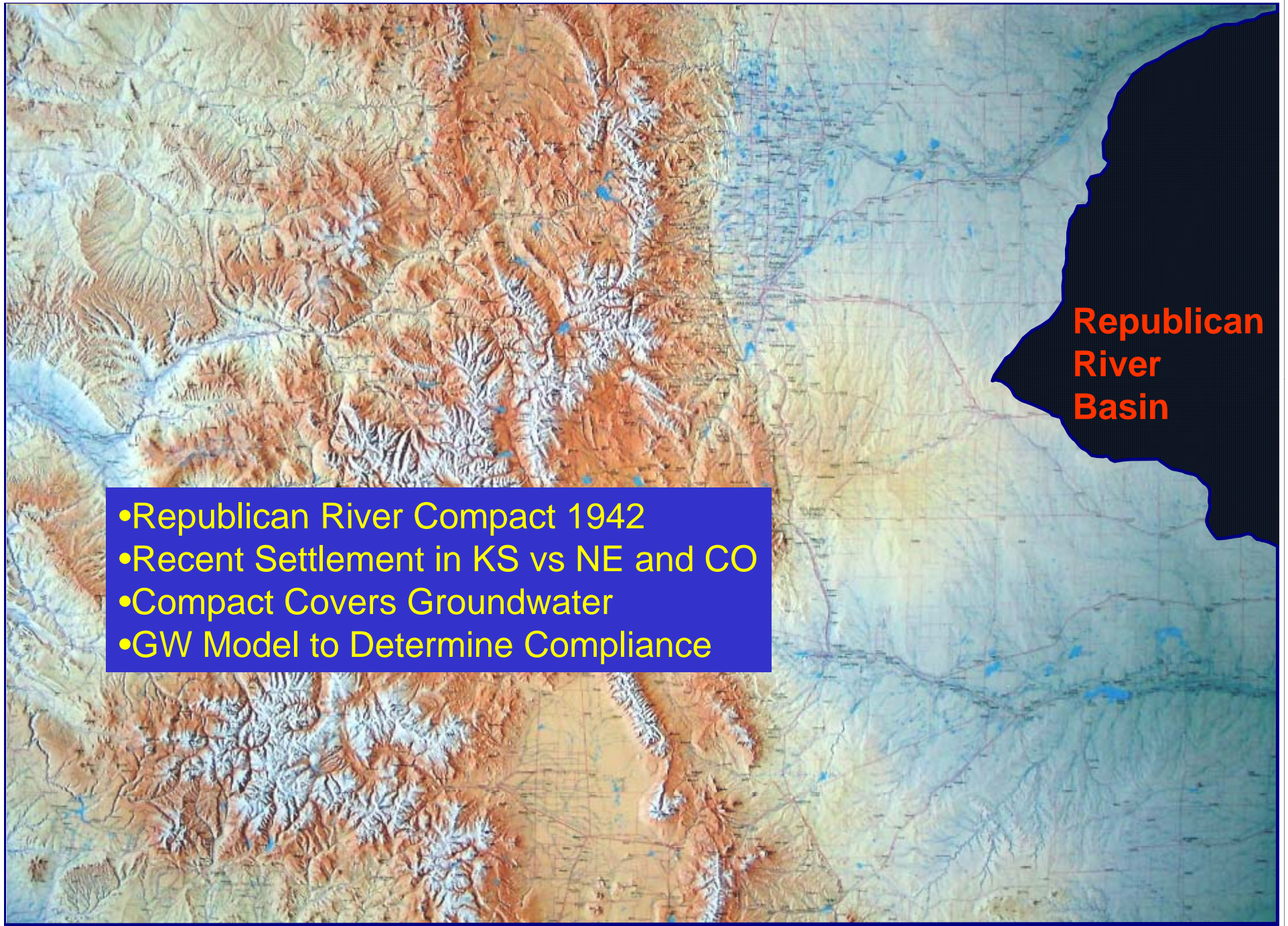
Southern  
High Plains

## Groundwater Management Districts

- 
- A topographic map of Texas showing 10 Groundwater Management Districts (GMDs) outlined in orange. The districts are: Marks Butte, Frenchman, Sand Hills, W-Y, Central Yuma, North Kiowa Bijou, Arikaree, Plains, Upper Big Sandy, Eastern Cheyenne, Upper Black Squirrel Creek, and Southern High Plains. The map uses color to represent elevation, with higher elevations in the west and lower elevations in the east.
- Marks Butte
  - Frenchman
  - Sand Hills
  - W-Y
  - Central Yuma
  - North Kiowa Bijou
  - Arikaree
  - Plains
  - Upper Big Sandy
  - Eastern Cheyenne
  - Upper Black Squirrel Creek
  - Southern High Plains

- Local Enforcement Arm of Comm'n
- Potentially regulate or curtail uses
- Taxing Power
- Oppose transfers out of District





- Republican River Compact 1942
- Recent Settlement in KS vs NE and CO
- Compact Covers Groundwater
- GW Model to Determine Compliance

Republican  
River  
Basin



- Created June 04
- To assist in Compact Compliance
- Taxing Power
- May Have to Buy Back Existing Pumping

Republican  
River  
Water  
Conservation  
District

## Legislation in 1985 – SB 5

- Non-renewable Groundwater
- Allowed to be mined
- No protection of pressure levels
- Allocated on 100 Year Life
- To Over-lying landowners
- Non-tributary water – must relinquish 2% as return flow
- Not Non-tributary – must have aug plan for 4%
- Today concern about rate of pressure decline
- SB 5 not intended as a management act, but simply an allocation – management still needed
- Possibility of conjunctive use with surface water – Patti Wells

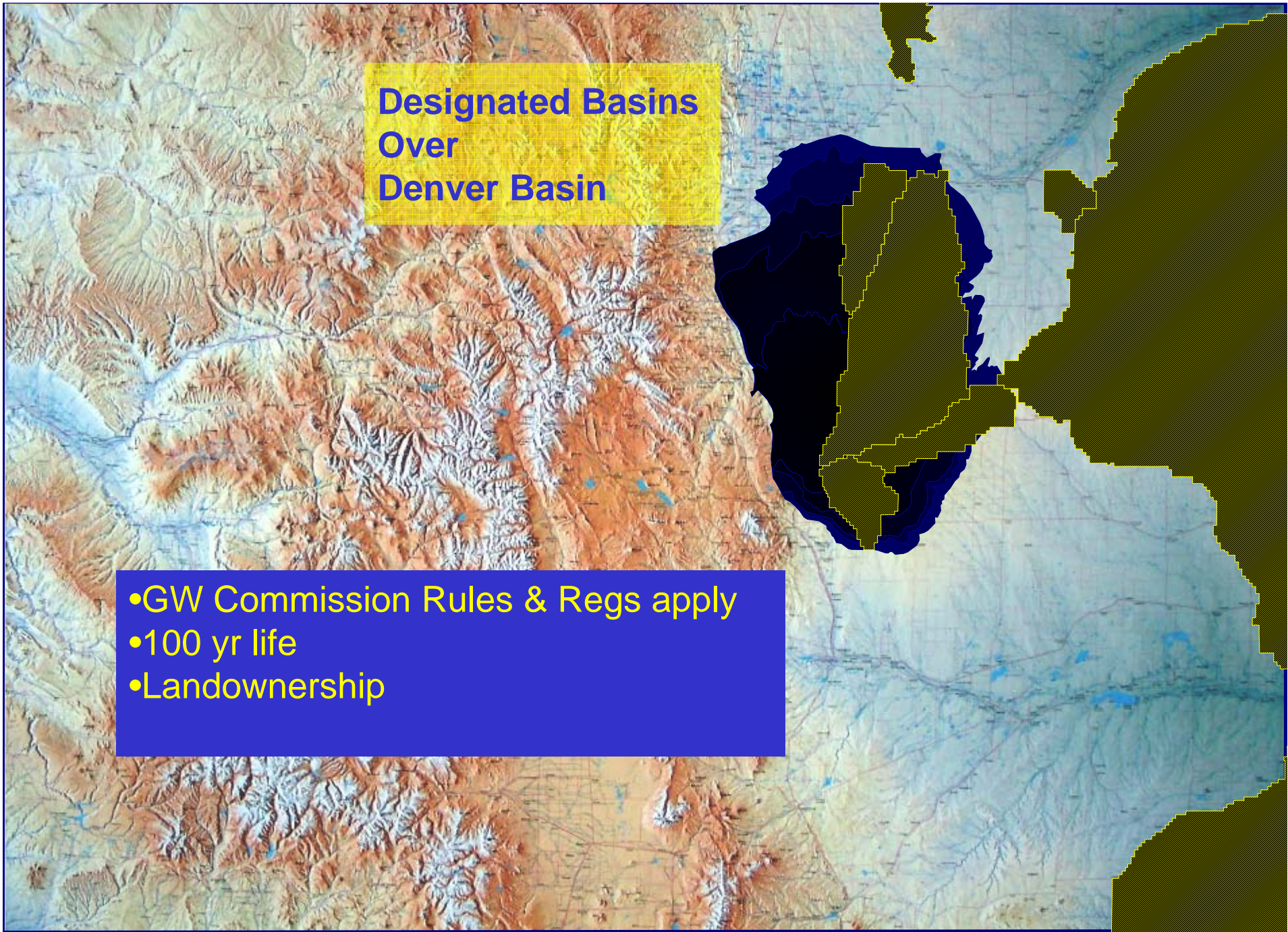
## Denver Basin

Laramie-Fox Hills

Lower Arapahoe

Upper Arapahoe

Denver  
Dawson



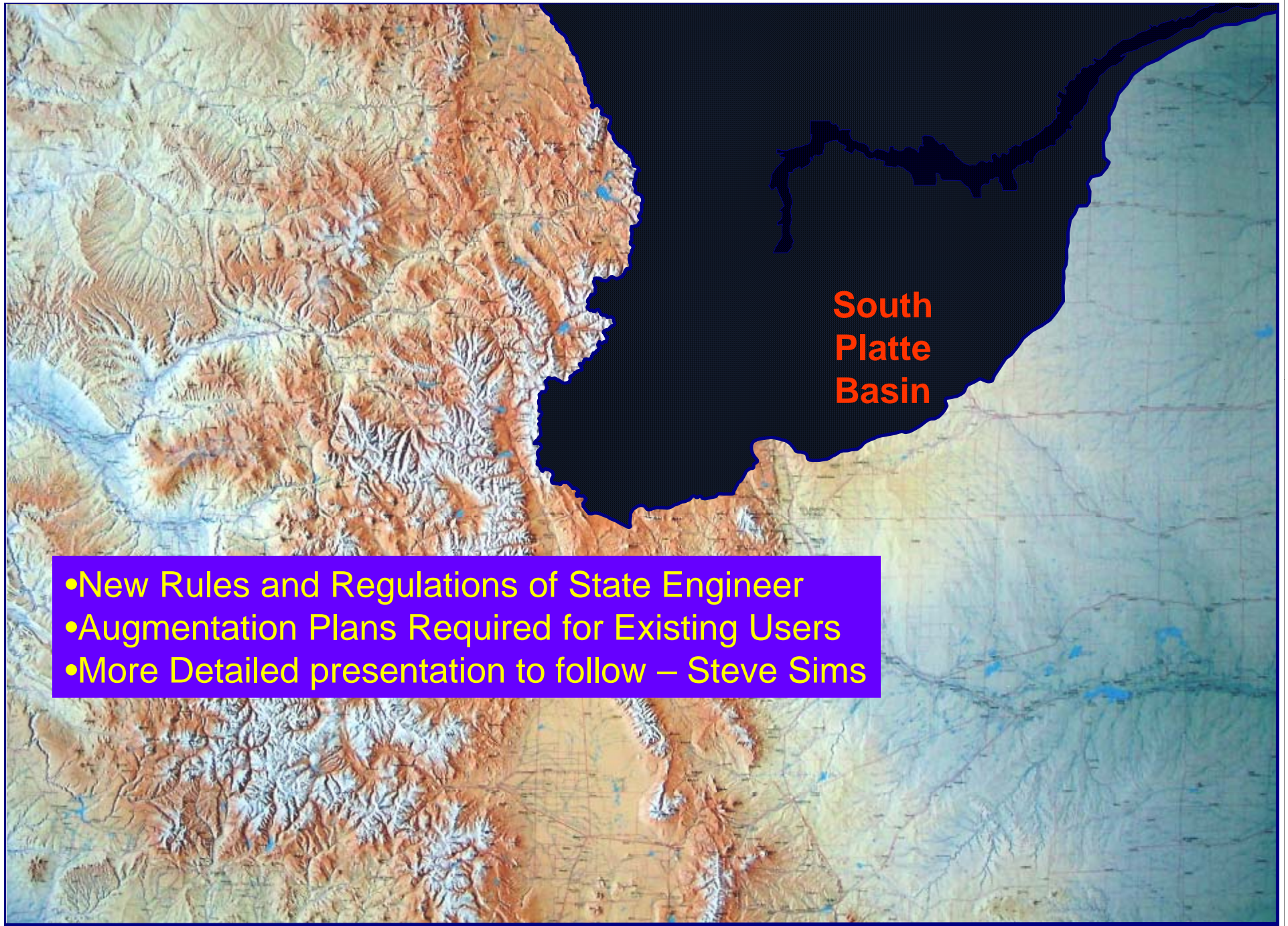
Designated Basins  
Over  
Denver Basin

- GW Commission Rules & Regs apply
- 100 yr life
- Landownership

- KS vs CO – Arkansas River Compact
- Rules and Regs of State Engineer 1996
- Replacement Plans Required
- More detailed presentation to follow – David Robbins

**Arkansas  
River  
Basin**

A topographic map of the Arkansas River Basin, showing the river's course through a mountainous region. The basin is highlighted in black, and the text "Arkansas River Basin" is written in orange. The map uses a color gradient from blue (low elevation) to brown and white (high elevation) to show terrain. The river flows from the west towards the east, eventually emptying into the Gulf of Mexico.



- New Rules and Regulations of State Engineer
- Augmentation Plans Required for Existing Users
- More Detailed presentation to follow – Steve Sims

- Large Amount of Groundwater
- Tributary to the stream system
- Renewable – recharges from streamflow from surrounding mountains
- Unconfined Aquifer (water table) and Confined Aquifer (artesian)
- Basin is fully appropriated
- Rio Grande Compact requires curtailment of even senior rights
- Recent drought years have created crisis in water table and pressure levels as well as stream flows



The image is a topographic map showing the Rio Grande Basin and the San Luis Valley. The Rio Grande Basin is highlighted in purple and labeled "Rio Grande Basin". The San Luis Valley is highlighted in yellow and labeled "San Luis Valley". A black silhouette of the Rio Grande river is overlaid on the map, showing its path through the basin and valley. The map uses color gradients to represent elevation, with brown and orange for higher elevations and blue and green for lower elevations.

**Rio Grande Basin**

**San Luis Valley**

- 1979 Rules and Regs – Alamosa La Jara Water Users case
  - Issues about native ET and salvage
  - And about “reasonable means of diversion” – do surface rights have to construct wells?
- 60/40 Agreement – sharing Closed Basin Project in exchange for waiver of well injury
- 1998 legislation recognizing special conditions in the confined aquifer; water not made available by *reduction* in ET by native plants; called for rules and regulations for *new withdrawals from confined aquifer*
- Those Rules and Regs now expected this month
- New Legislation SB 222 -- Additional authority for Rules and Regs
  - Long term sustainability
  - Requires protection of Surface Water Rights
  - And Protection of Aquifer Water Table and Pressure Levels
  - Subdistricts -- to replace depletions and balance aquifers
  - Ditches not required to drill wells



San Luis  
Valley





The image is a topographic map of the Rio Grande region, showing elevation contours and river networks. A black silhouette of the Rio Grande Basin boundary is overlaid on the map. A purple shaded area is labeled 'Rio Grande Basin' and a yellow shaded area is labeled 'San Luis Valley'. A blue text box with a purple background is positioned in the upper left quadrant of the map, containing a bulleted list of information about Great Sand Dunes National Park.

- Great Sand Dunes National Park

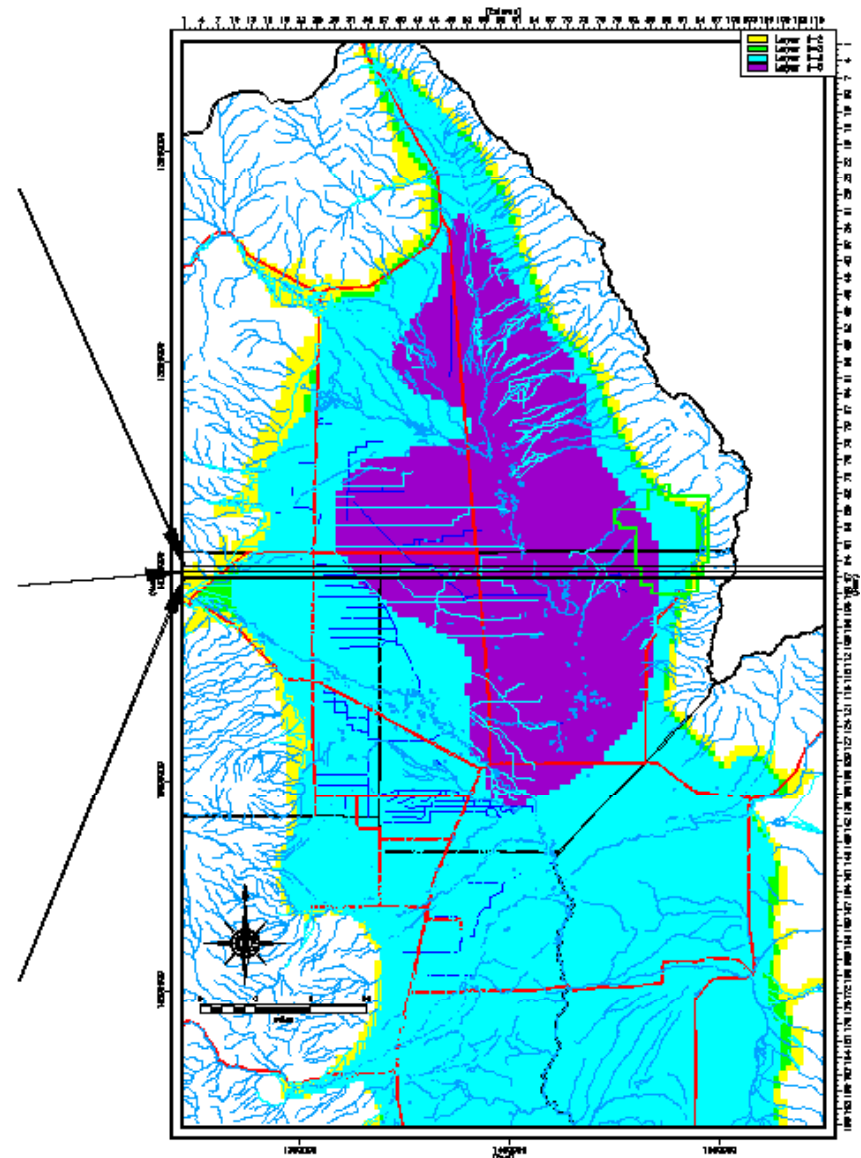
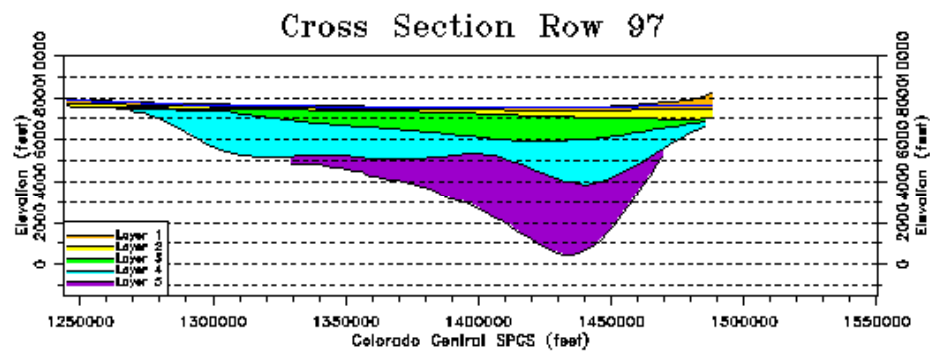
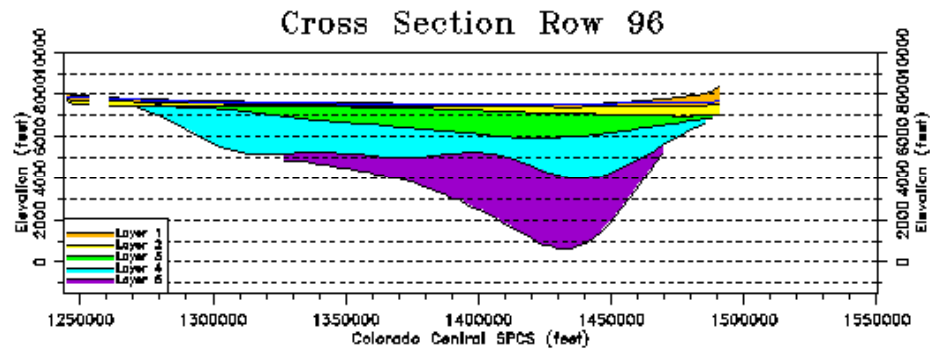
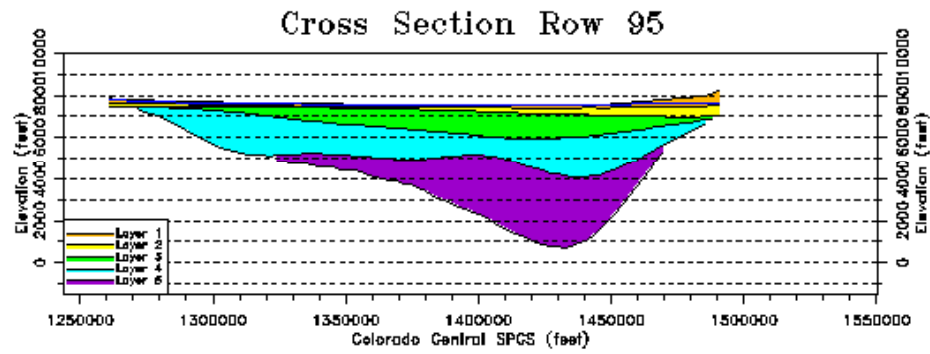
- Express appropriative water right for water table and stream flow for park values – an *in situ water right* – hybrid federal/state
- Date of park legislation 2000
- Leadership from local agricultural community

Rio Grande  
Basin

San Luis  
Valley

# Rio Grande Decision Support System

## Model Cross Sections RGDSS Groundwater Model Phase 4





## The Mosaic of Groundwater Law in Colorado

### The Recurrent Issues:

- Whether and how surface rights are protected
- Whether GW is to be mined  
or managed for sustained yield
- Whether pressure levels are protected