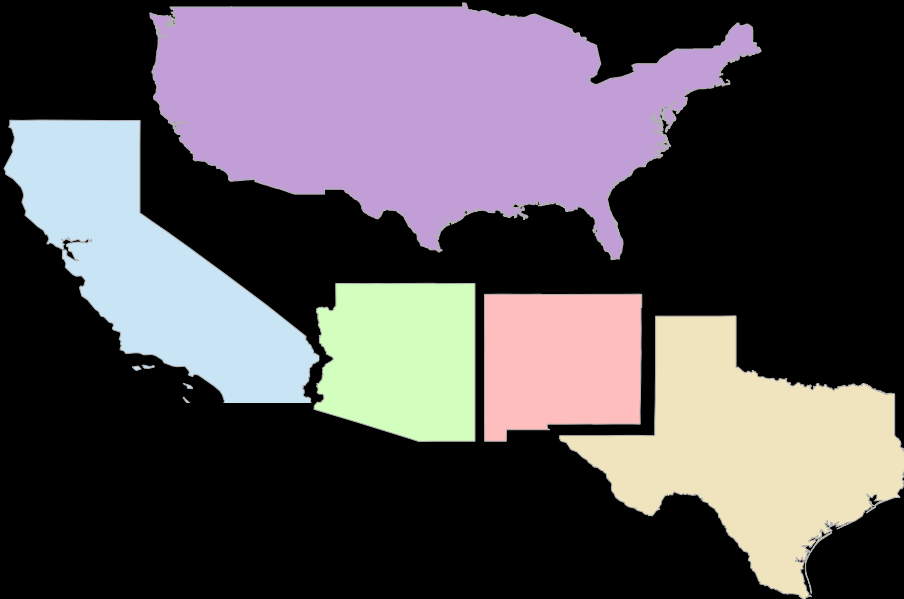


Q1. Factors influencing how surface – ground water interactions are addressed in the Colorado and Rio Grande/Bravo river basins

1. Structure of authority over ground & surface waters

Within the USA

Strongly polycentric



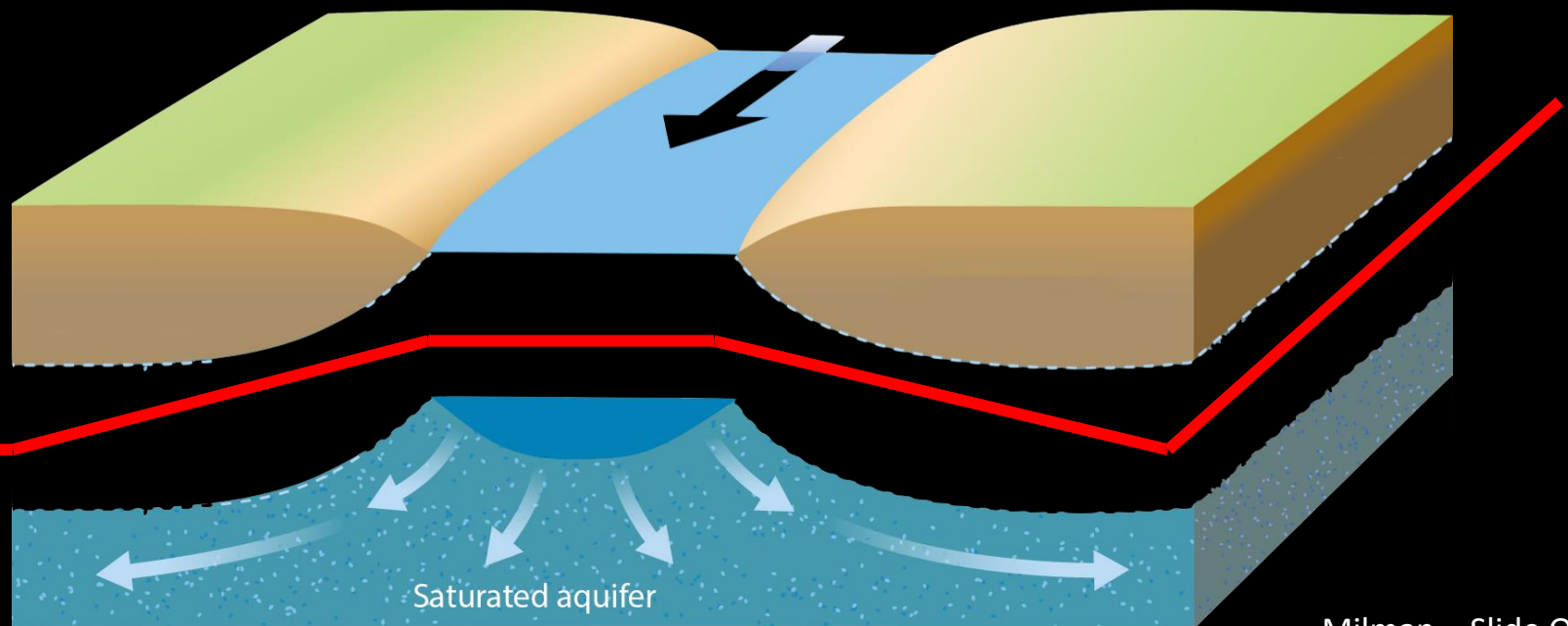
Within Mexico

Centralized, with devolution



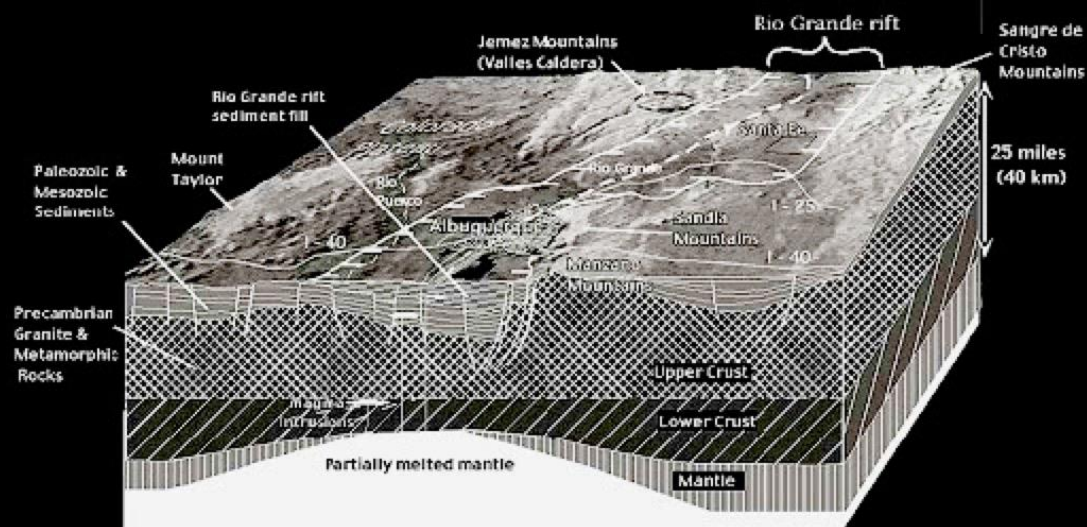
Q1. Factors influencing how surface – ground water interactions are addressed in the Colorado and Rio Grande/Bravo river basins

1. Structure of authority over ground & surface waters
2. The legal distinction between surface and ground water (in many locations)



Q1. Factors influencing how surface – ground water interactions are addressed in the Colorado and Rio Grande/Bravo river basins

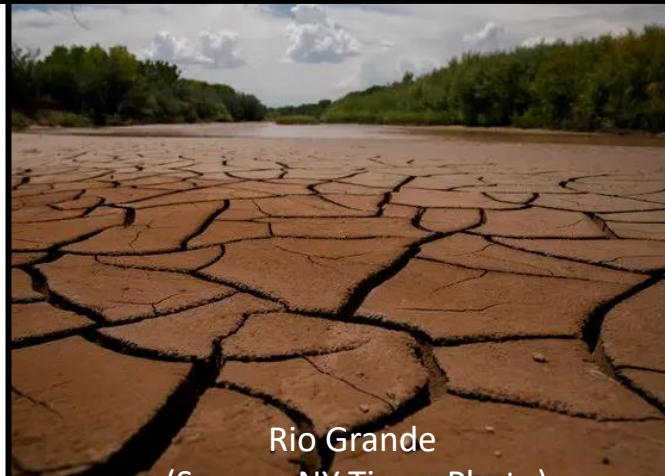
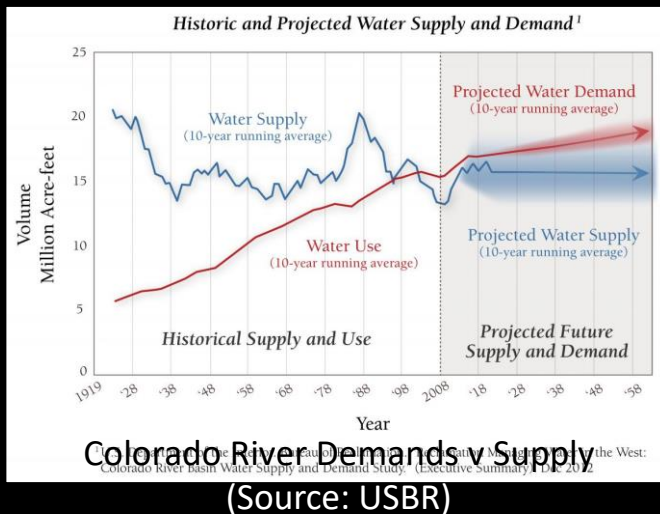
1. Structure of authority over ground & surface waters
2. The legal distinction between surface and ground water (in many locations)
3. Complexity and the need for substantial data and analysis to trace and quantify flows



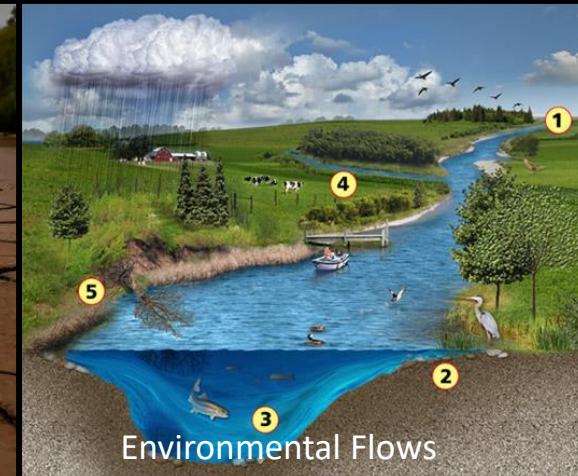
Rio Grande Rift between Albuquerque and Taos
(Source: New Mexico Museum of Natural History)

Q2. History relevant to how surface – groundwater interactions are addressed in the Colorado and Rio Grande/Bravo river basins

1. Evolution of water use and law
2. Driving pressures:
 - Increasing demands
 - On-going drought (and non-stationarity)
 - Shifting paradigms/norms related to environment



Rio Grande
(Source: NY Times Photo)



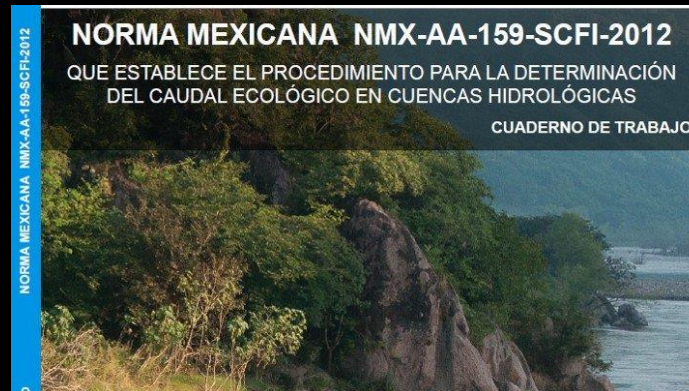
Environmental Flows
(Source: Alberta CA)

Q2. History relevant to how surface – groundwater interactions are addressed in the Colorado and Rio Grande/Bravo river basins

3. Minutes 242, 316, 319, 323
4. Environmental flow laws (TX, NM, MX)
5. Endangered species listings & lawsuits

Minute No. 316 of the
International Boundary and
Water Commission,
Water Commission,
UNITED STATES OF AMERICA
and MEXICO

Signed at Yuma April 16, 2010



Environmental Flows Recommendations Report



Final Submission to the Environmental Flows
Advisory Group, Rio Grande Basin and Bay Area
Stakeholders Committee, and Texas Commission on
Environmental Quality

Upper Rio Grande Basin and Bay Expert Science Team
July 2012

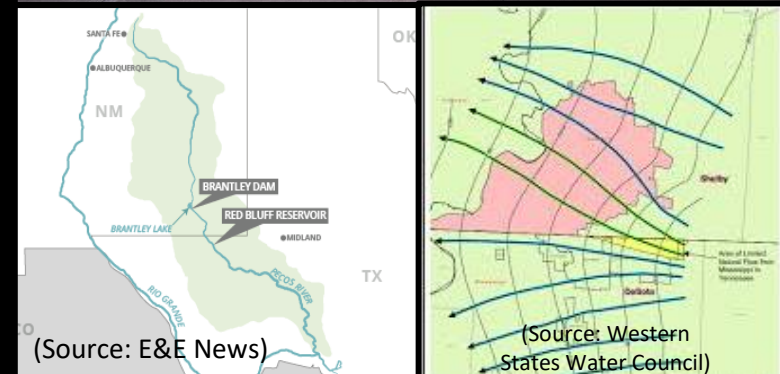


(Note: not in chronological order)

Q2. US Events relevant to how surface – groundwater interactions may be addressed in the future in the Colorado and Rio Grande/Bravo river basins

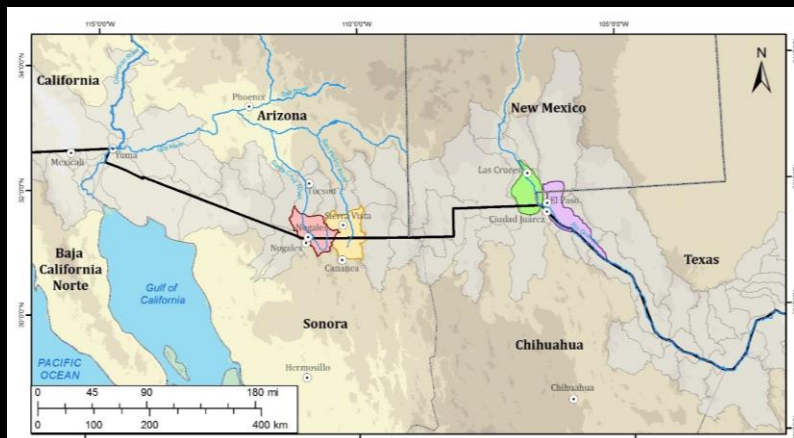
7. Colorado River drought contingency plan
8. US Supreme Court cases
 - Texas v New Mexico
 - Mississippi v Tennessee
9. California “Public Trust” and groundwater ruling

(Note: not in chronological order)



Q3. Role of the US Government in addressing surface – groundwater interactions in the Colorado and Rio Grande/Bravo river basins

1. Support for water-related agreements
2. Technical assistance
3. Operation of infrastructure
4. Grants/funding for water improvements



<https://webapps.usgs.gov/taap/>

Q3. Role of the US Government in addressing surface – groundwater interactions in the Colorado and Rio Grande/Bravo river basins

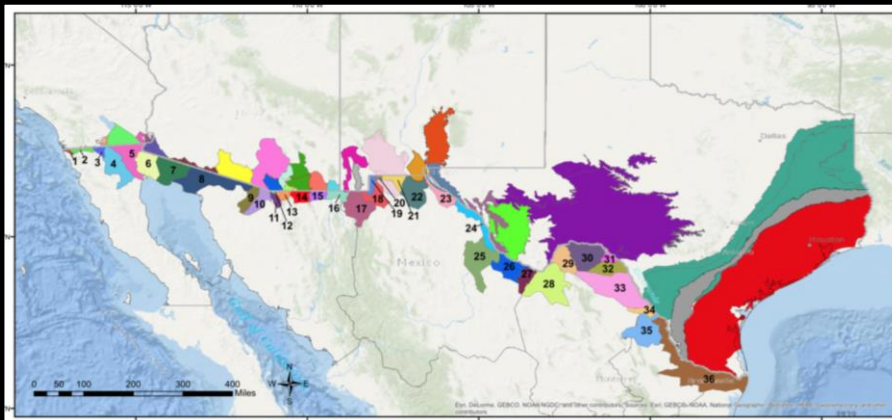
5. Endangered Species Act Implementation



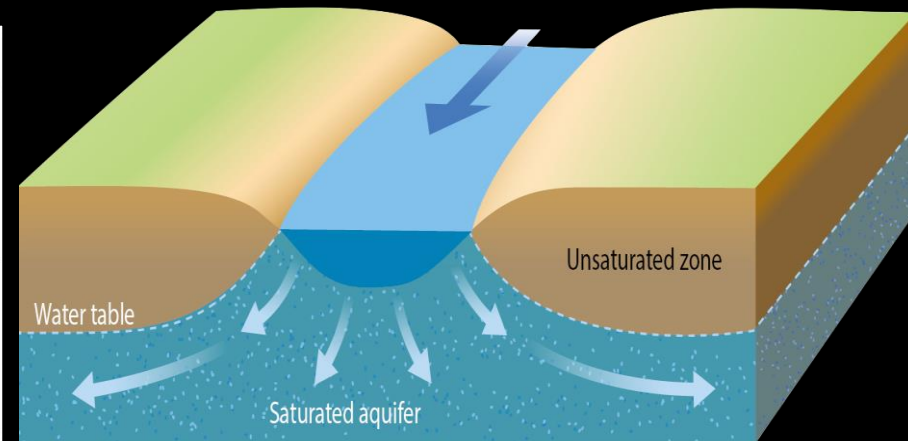
The Rio Grande Silvery Minnow is one among many listed species

Q4. Recommendations for improving outcomes related to surface – groundwater interactions in the Colorado and Rio Grande/Bravo river basins

1. Support local initiatives
2. Revise and adapt legal frameworks



Transboundary Aquifers along the US-Mexico Border
(Source: Sanchez, Lopez, Eckstein)



(Source: Downing)

Q4. Recommendations for improving outcomes related to surface – groundwater interactions in the Colorado and Rio Grande/Bravo river basins

1. Local support
2. Revise and adapt legal frameworks
3. Change the discourse
4. Encourage leadership

