



University of California, Davis
Department of Land, Air and Water Resources

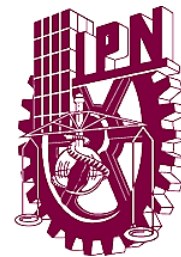


Balancing Human and Environmental Water Needs in the Rio Grande - Rio Bravo

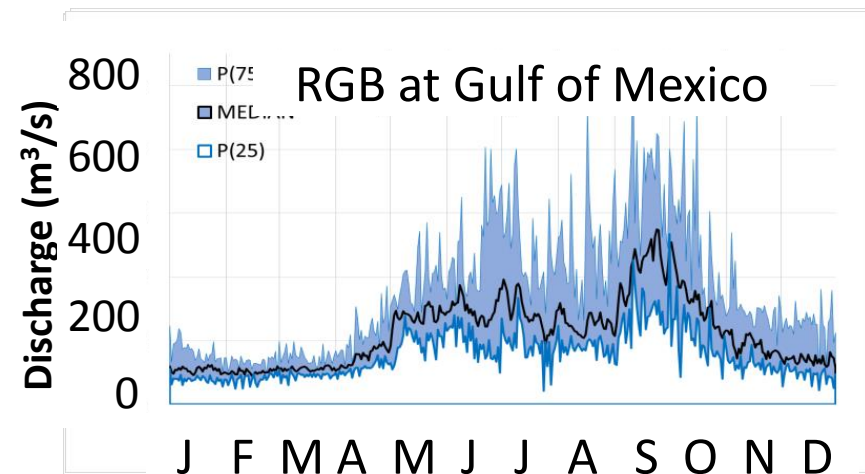
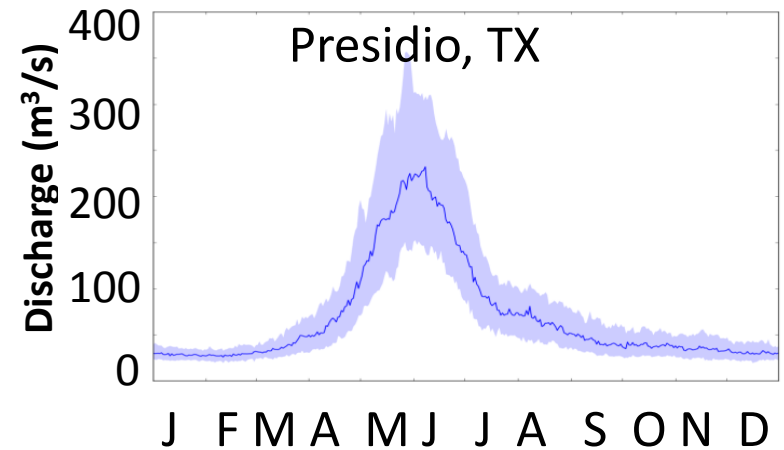
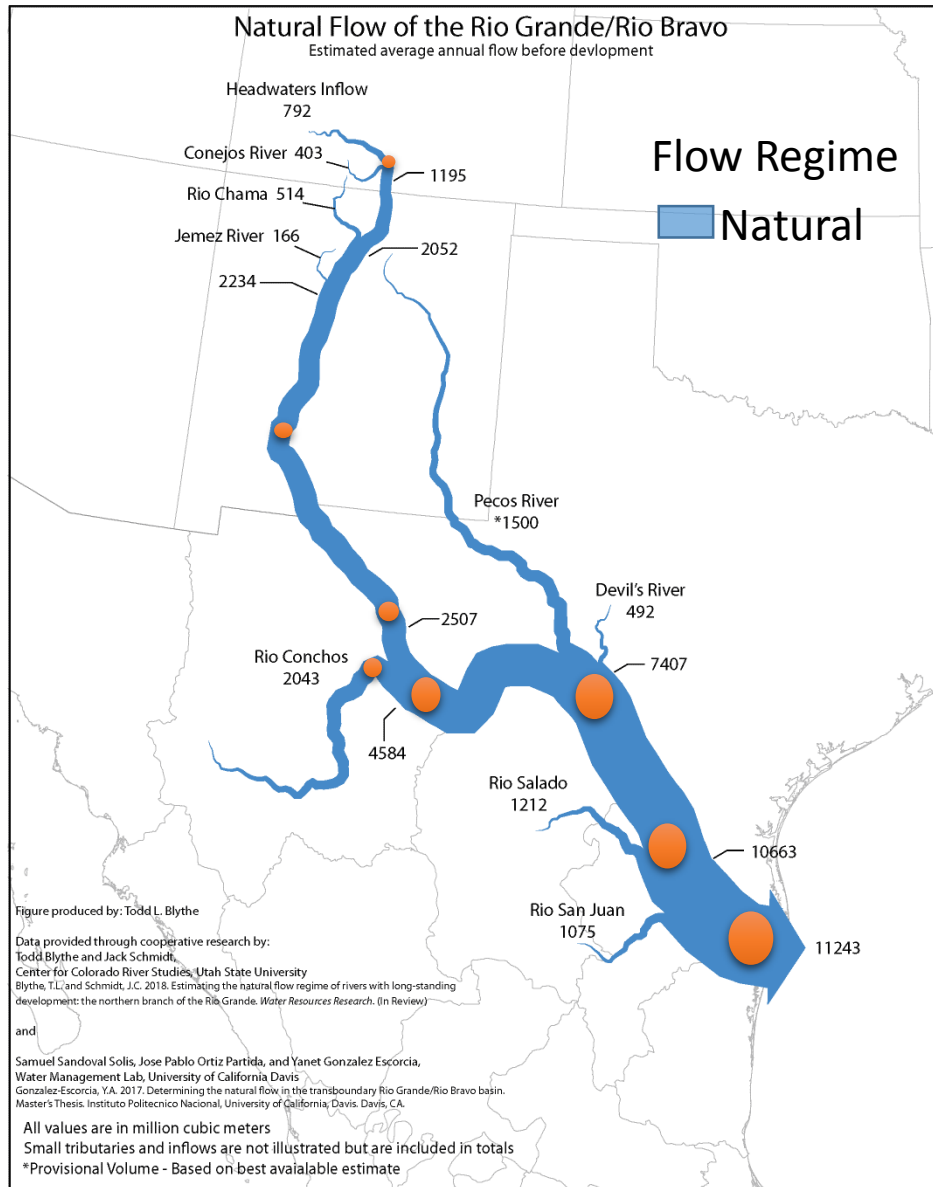
Dr. Samuel Sandoval Solis

In collaboration with:

Janet Escorcía, Jesus Loredó, Pablo Ortiz, Laura Garza, Shona Paterson, Luzma Nava, John (Jack) Schmidt and Todd Blythe

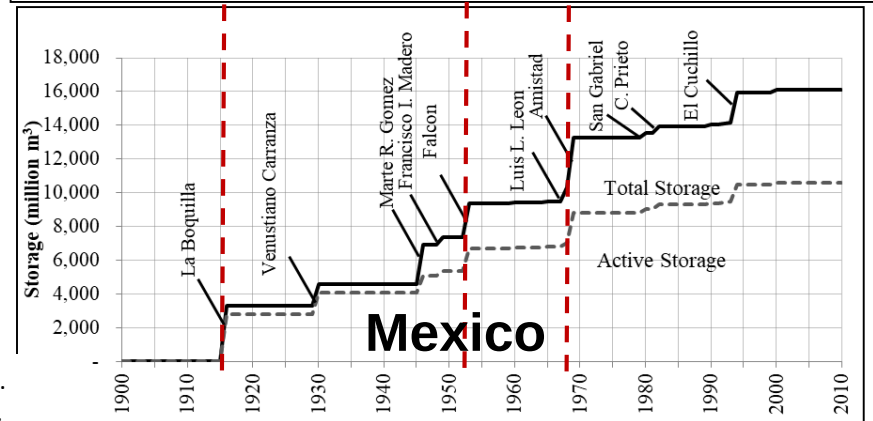
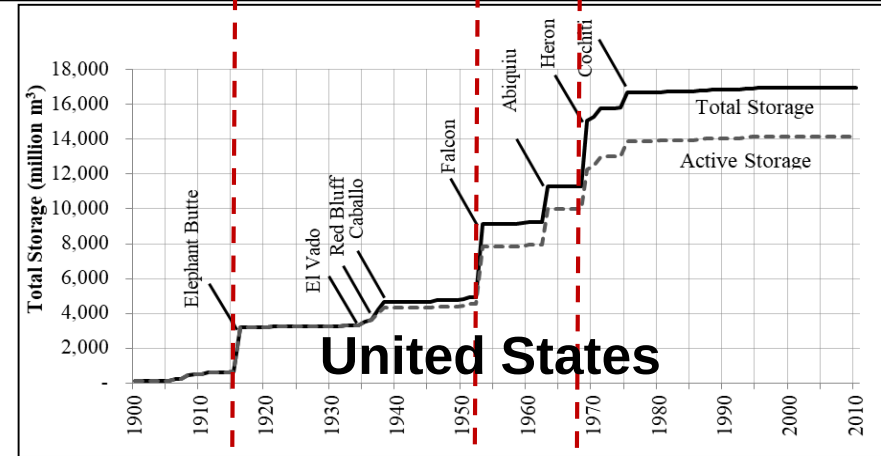
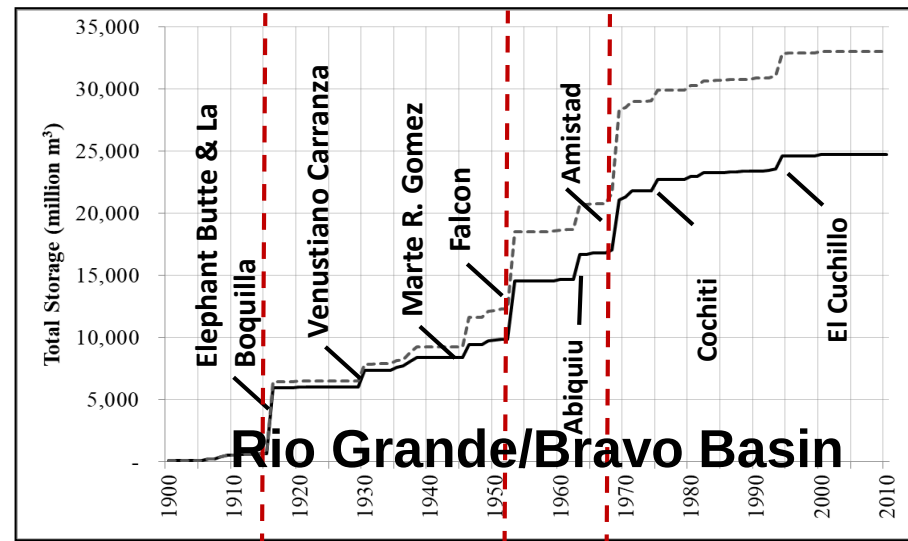
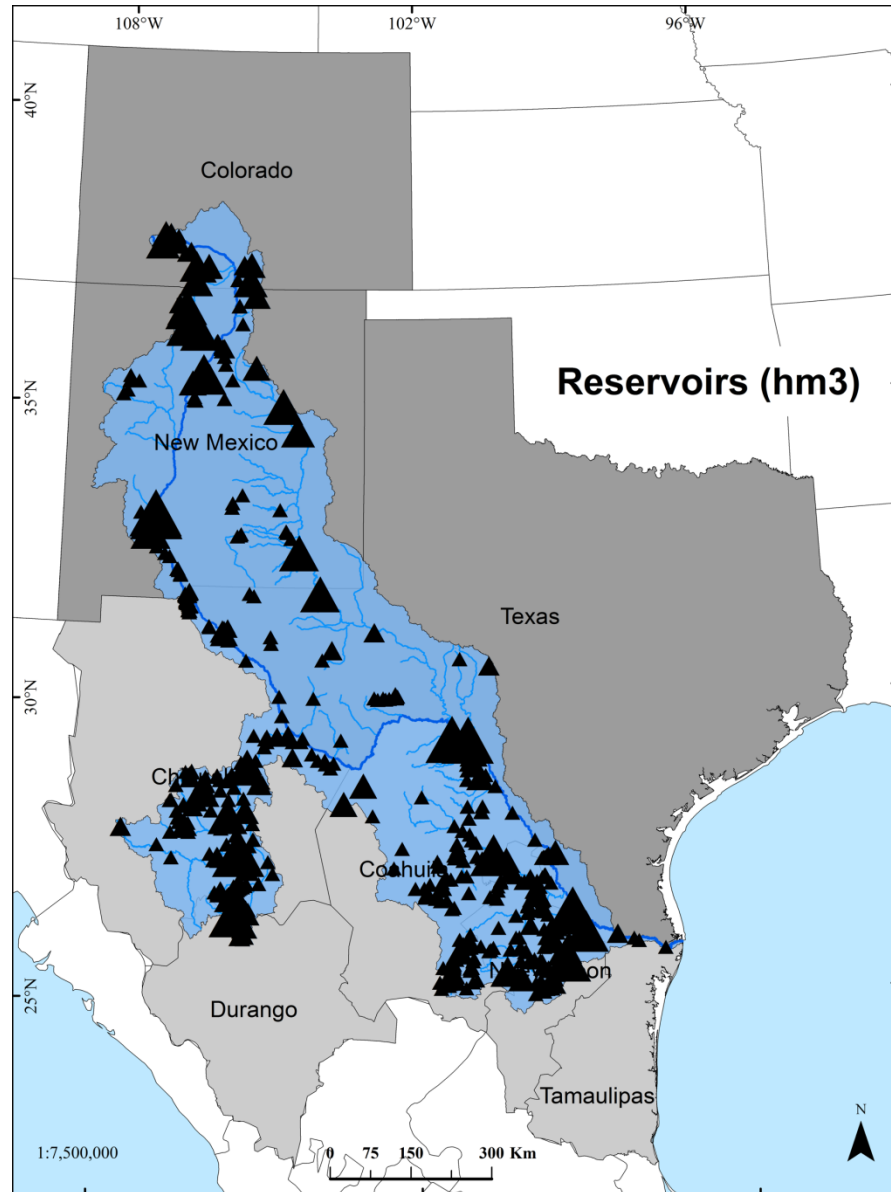


Natural Hydrology

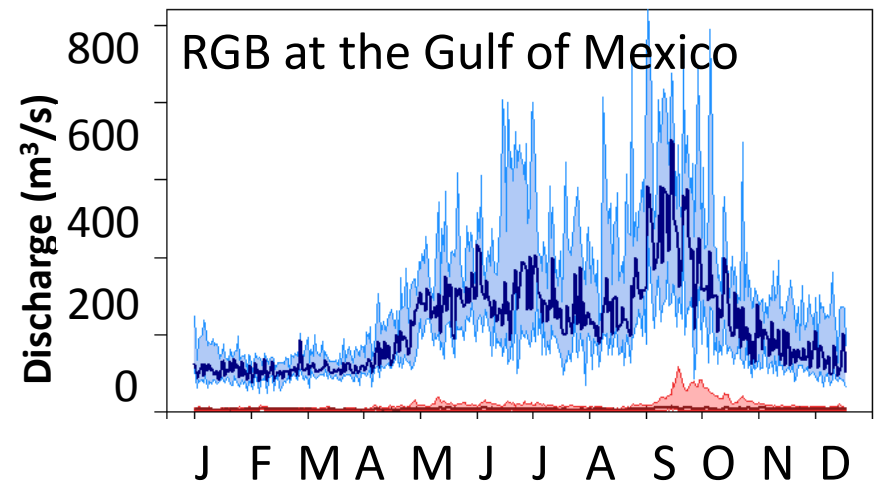
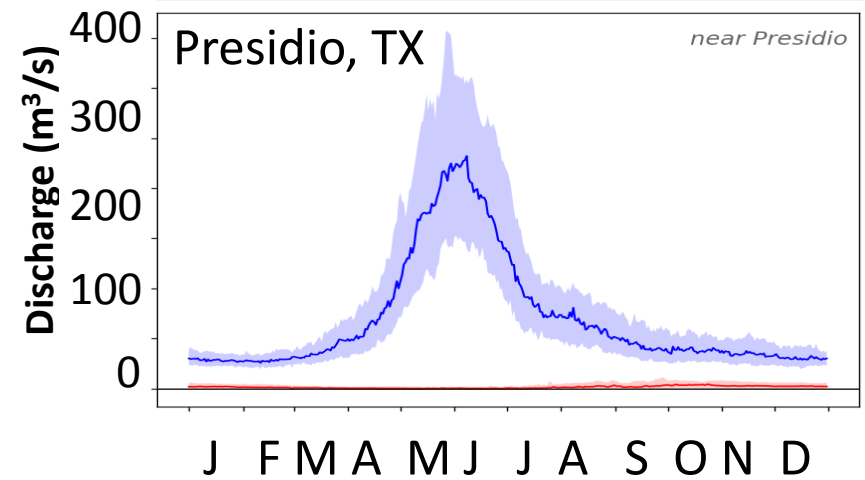
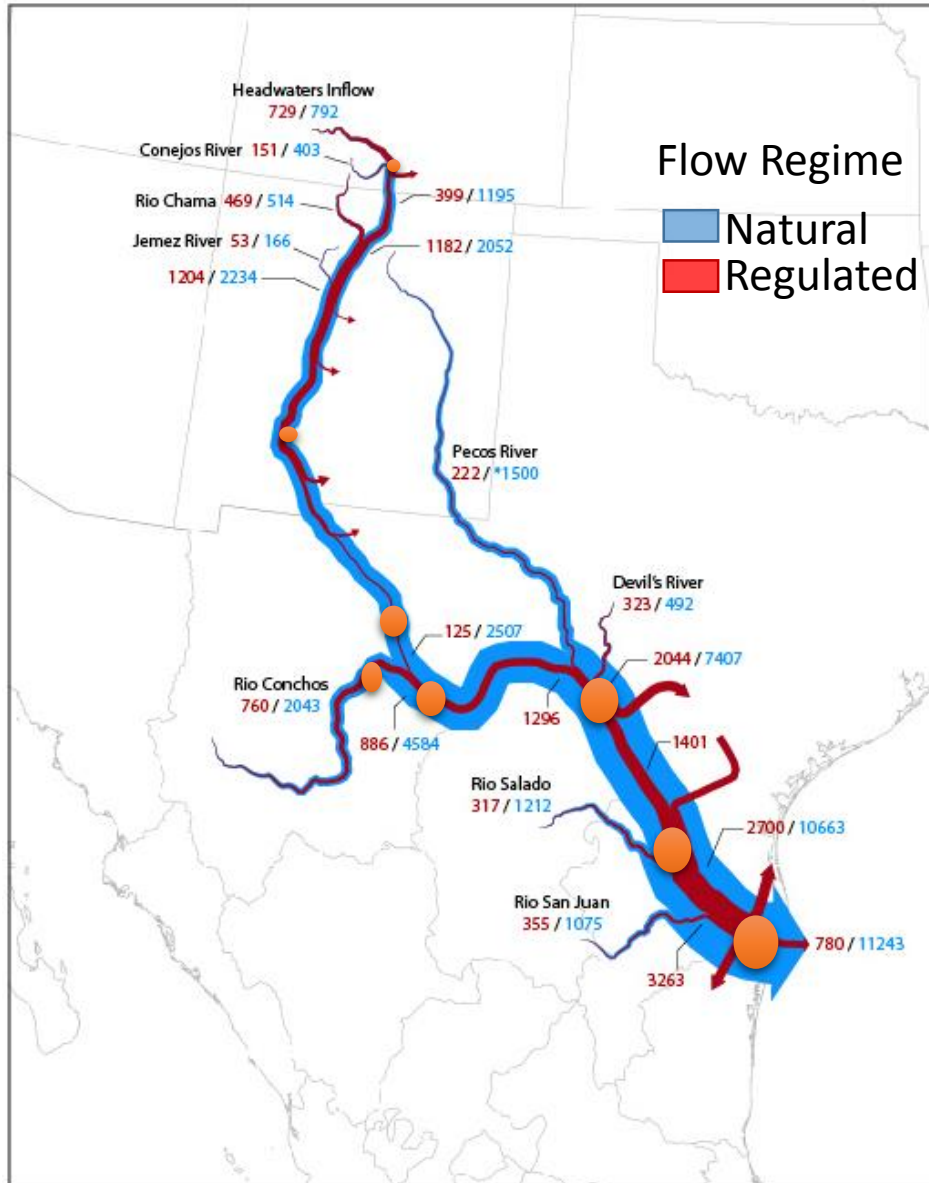


Blythe and Schmidt (2018), Escorcia (2017) and Loredó (2018)

Water Infrastructure

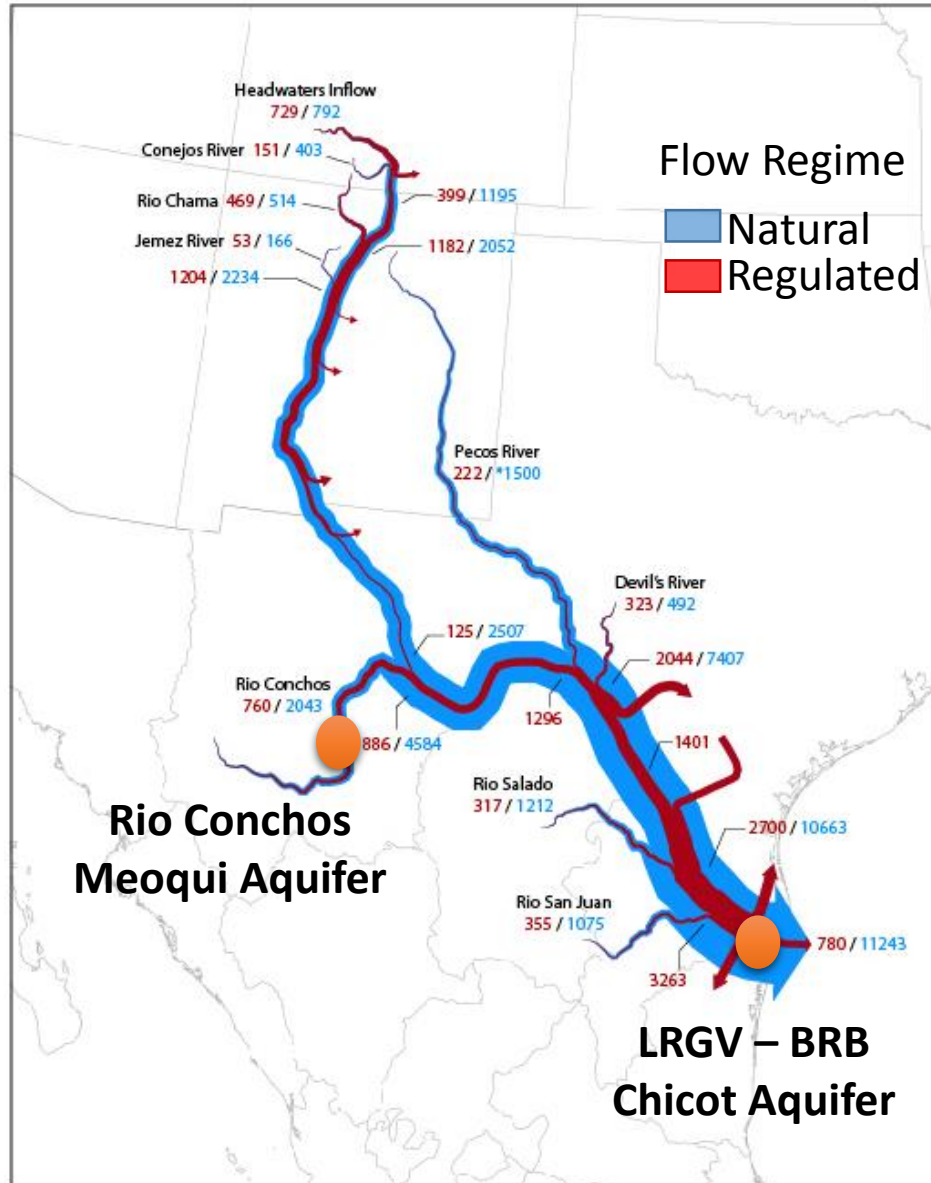


Modern Hydrology

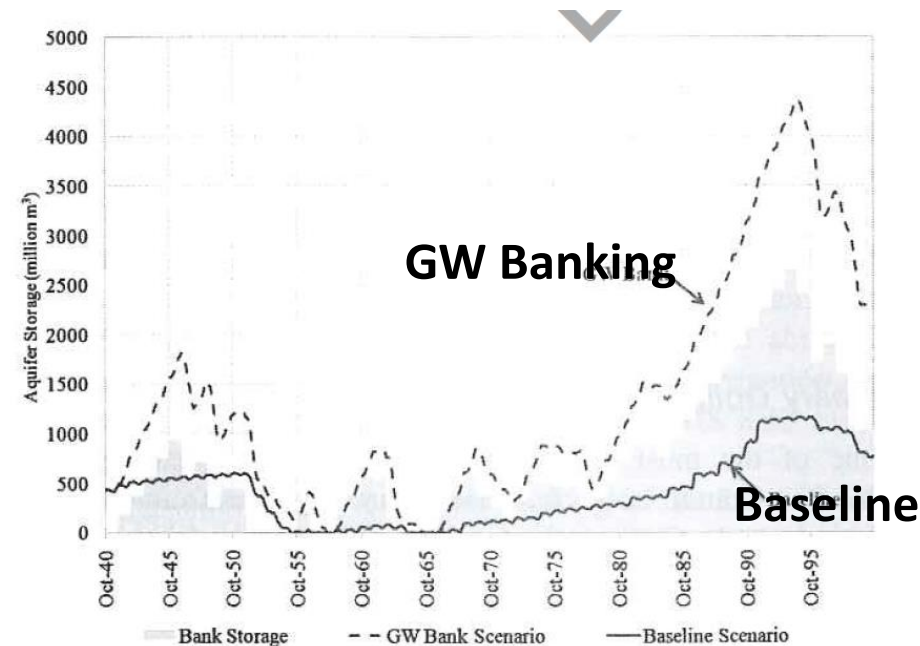
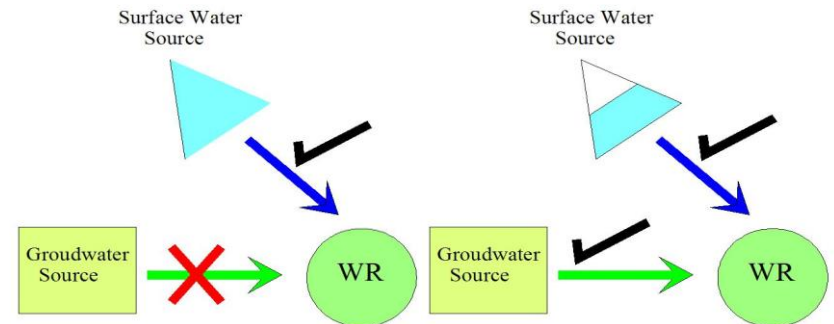


Blythe and Schmidt (2018), Escorcia (2017) and Loreda (2018)

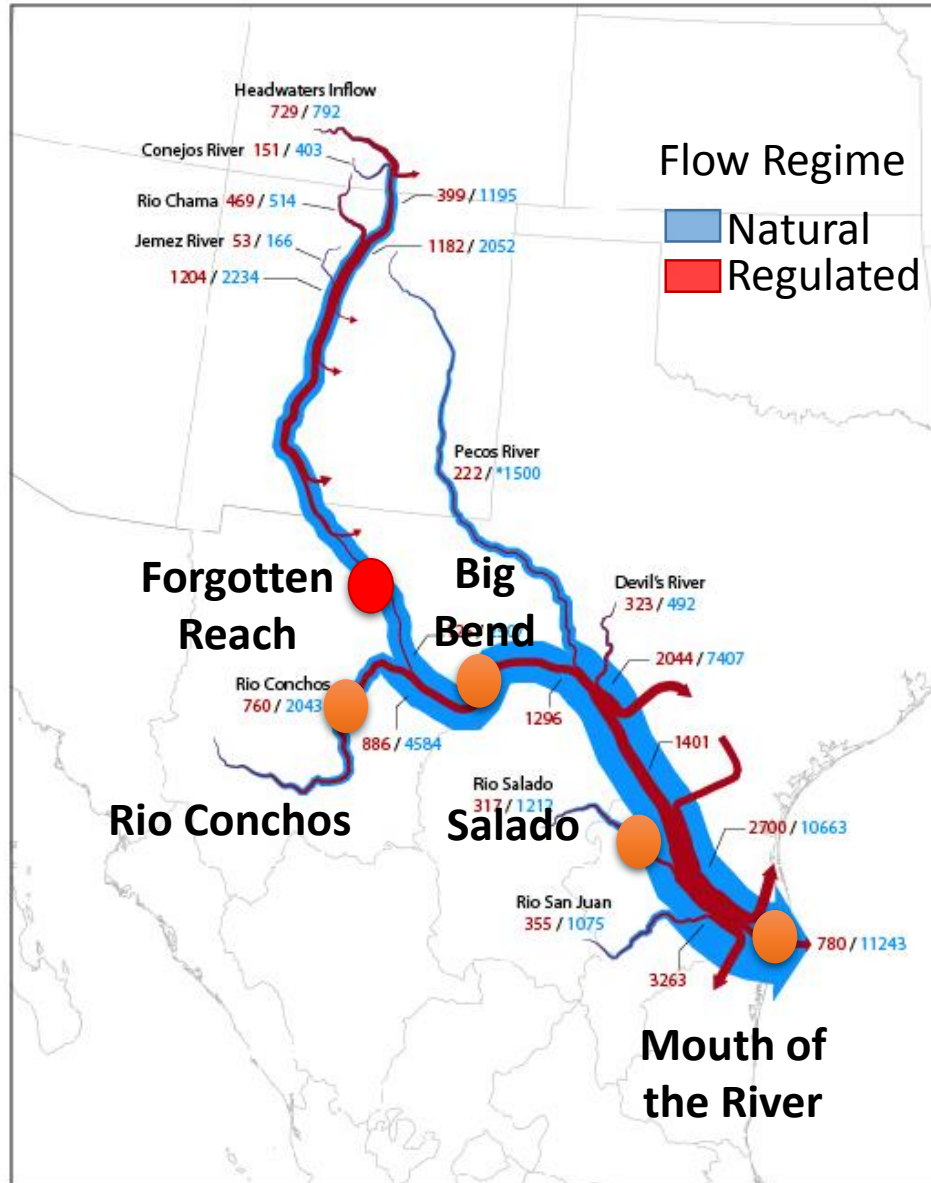
Opportunities: Conjunctive Use of SW & GW



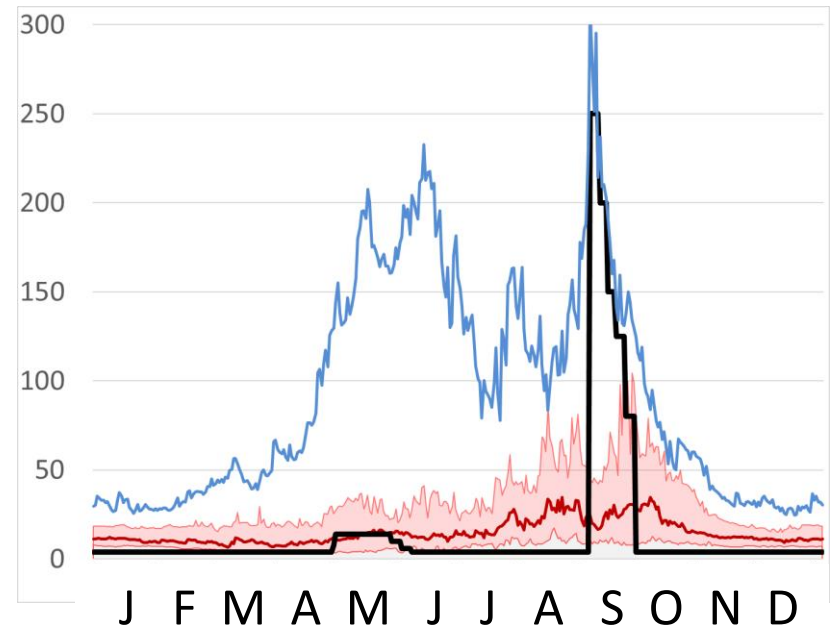
In Lieu GW Banking



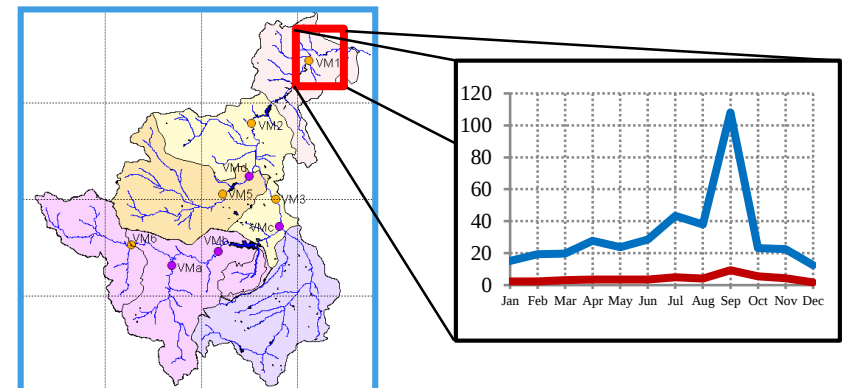
Opportunities: Environmental Flows



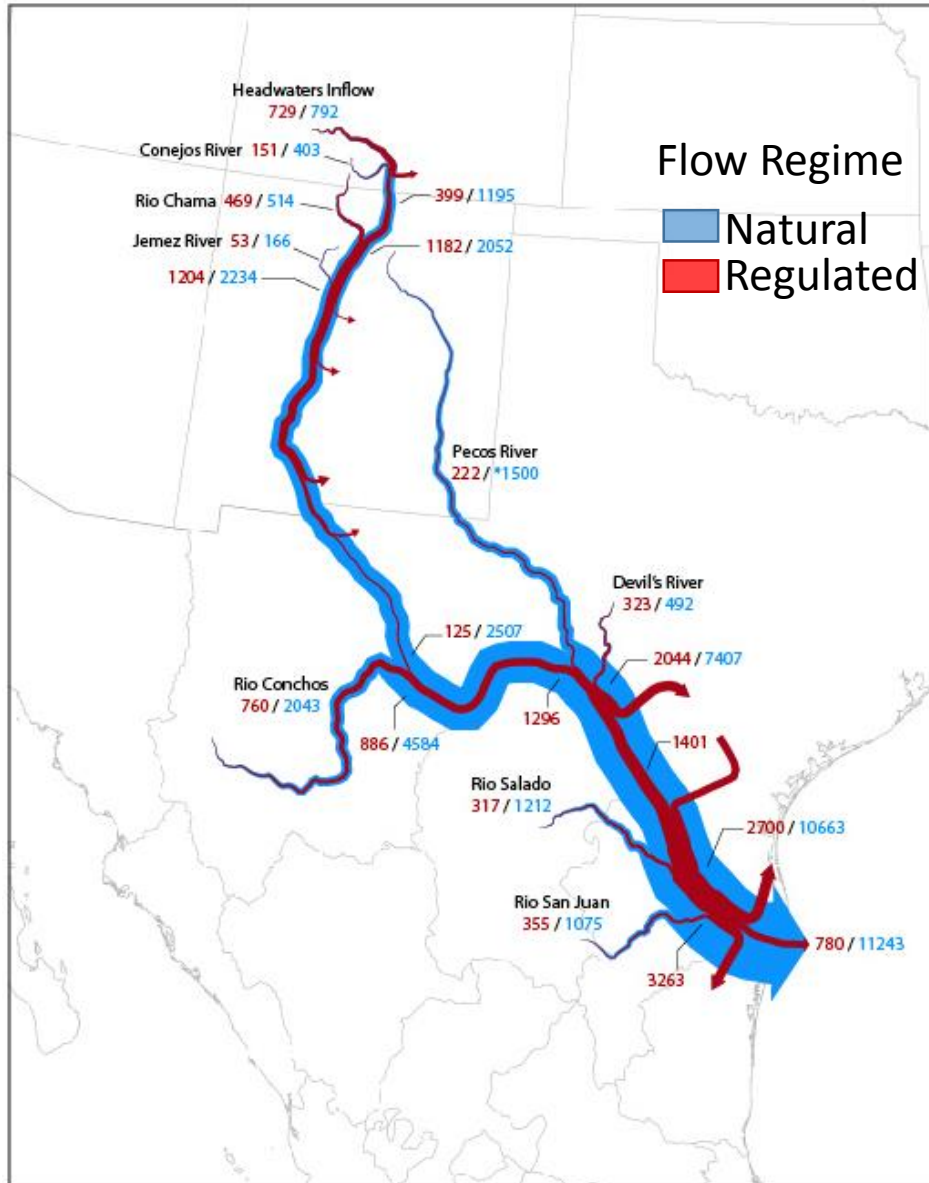
Big Bend Reach



Rio Conchos



What's next?



Water Demand

- Water conservation
- Deficit irrigation & crop management
- Environmental flows
- Buy back water right

Water Supply

- Conjunctive use of SW, GW, Recycle, Desal water
- Water Reuse

Storage

- Reservoir re-operation
- Managed Aquifer Recharge

No Silver Bullets
All of the above

THANK YOU
GRACIAS
OBRIGADO
GRAZIE
MERCİ
SHUKRAN
XIE XIE

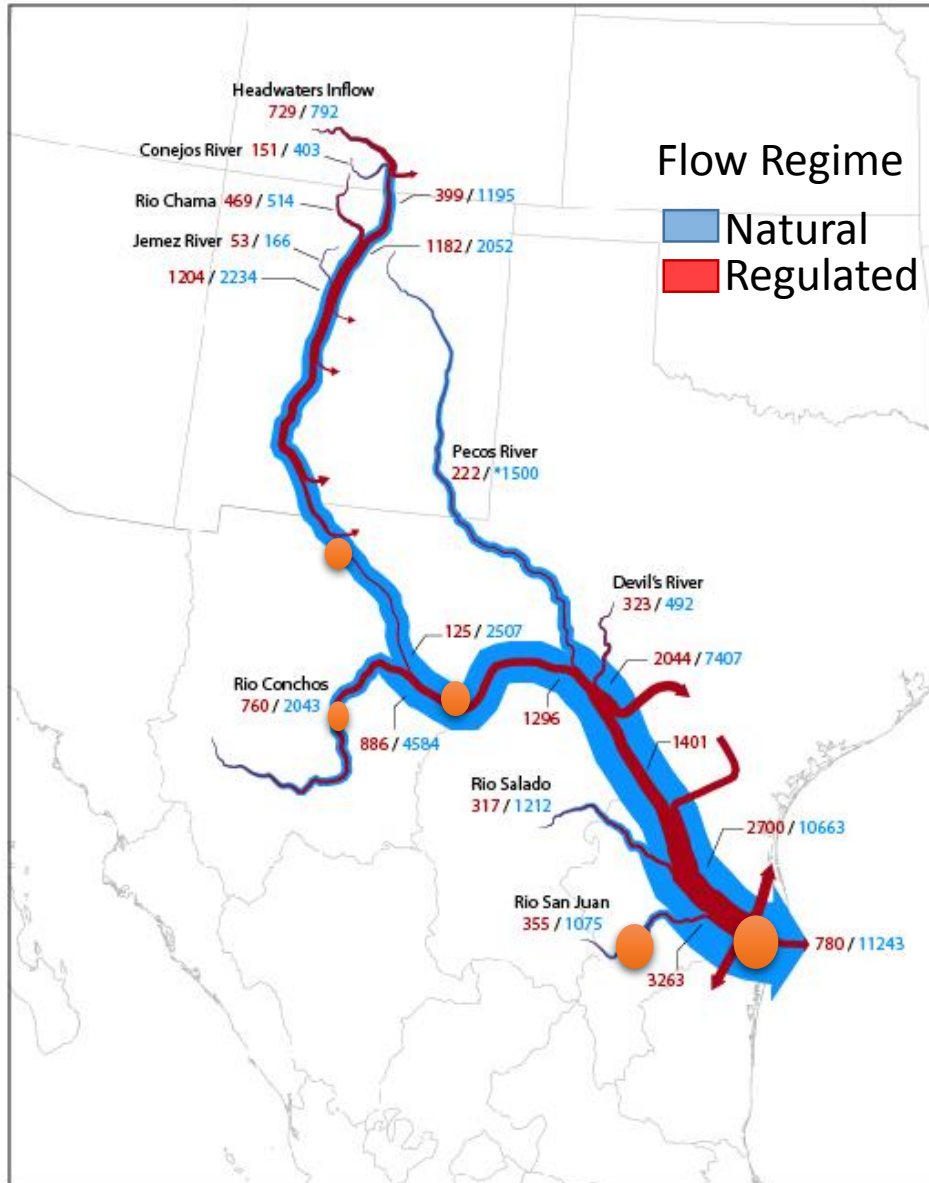
samsandoval@ucdavis.edu

<http://watermanagement.ucdavis.edu>

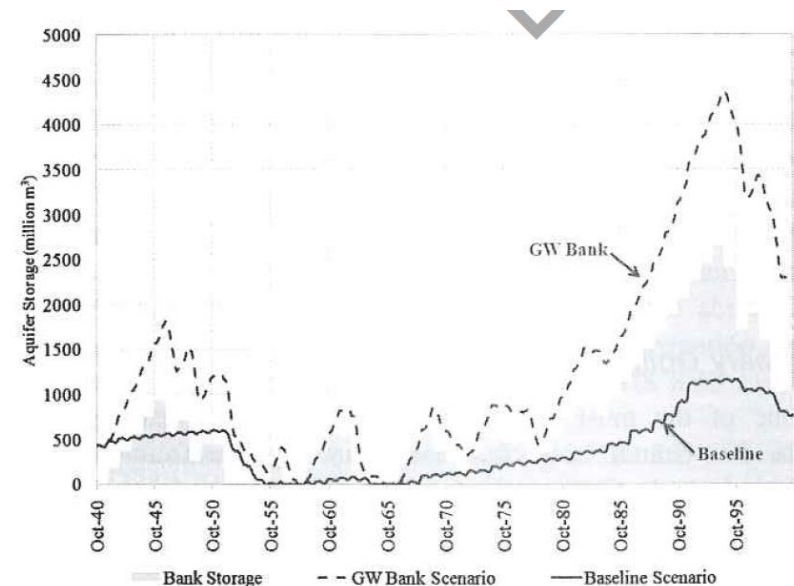
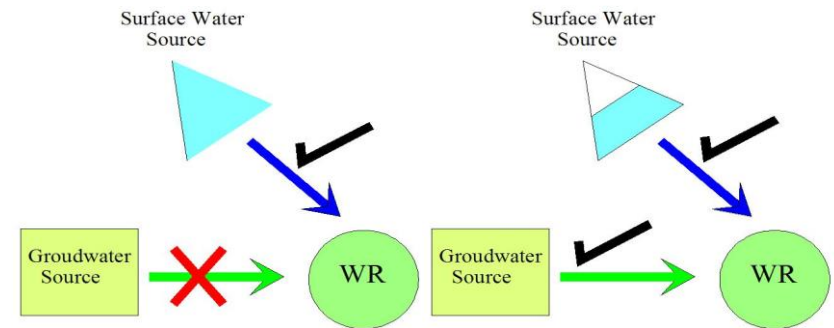
Water Governance

Water Gover															Binational		Mexico	
															IBWC	NADBank	BECC	CEC
Location	Upstream Fort Quitman				X	X	X	X	X	X	X	X	X	X	X			
	Downstream Fort Quitman				X	X	X	X	X	X	X	X	X	X	X			
Roles	Water Supply Agency								X	X								
	Governmental Institution								X	X			X					
	Finantial Institution						X	X										
	Science-based Institution				X	X						X			X			
	Non-Governmental Organizations																	
	Water Users													X				
Responsibilities	Water Allocation								X									
	Water Operation													X				
	Water Planning								X	X		X						
	Regulators								X	X								
	Finance						X	X										
	Irrigation													X				
	Communication of Scientific Knowledge				X										X			

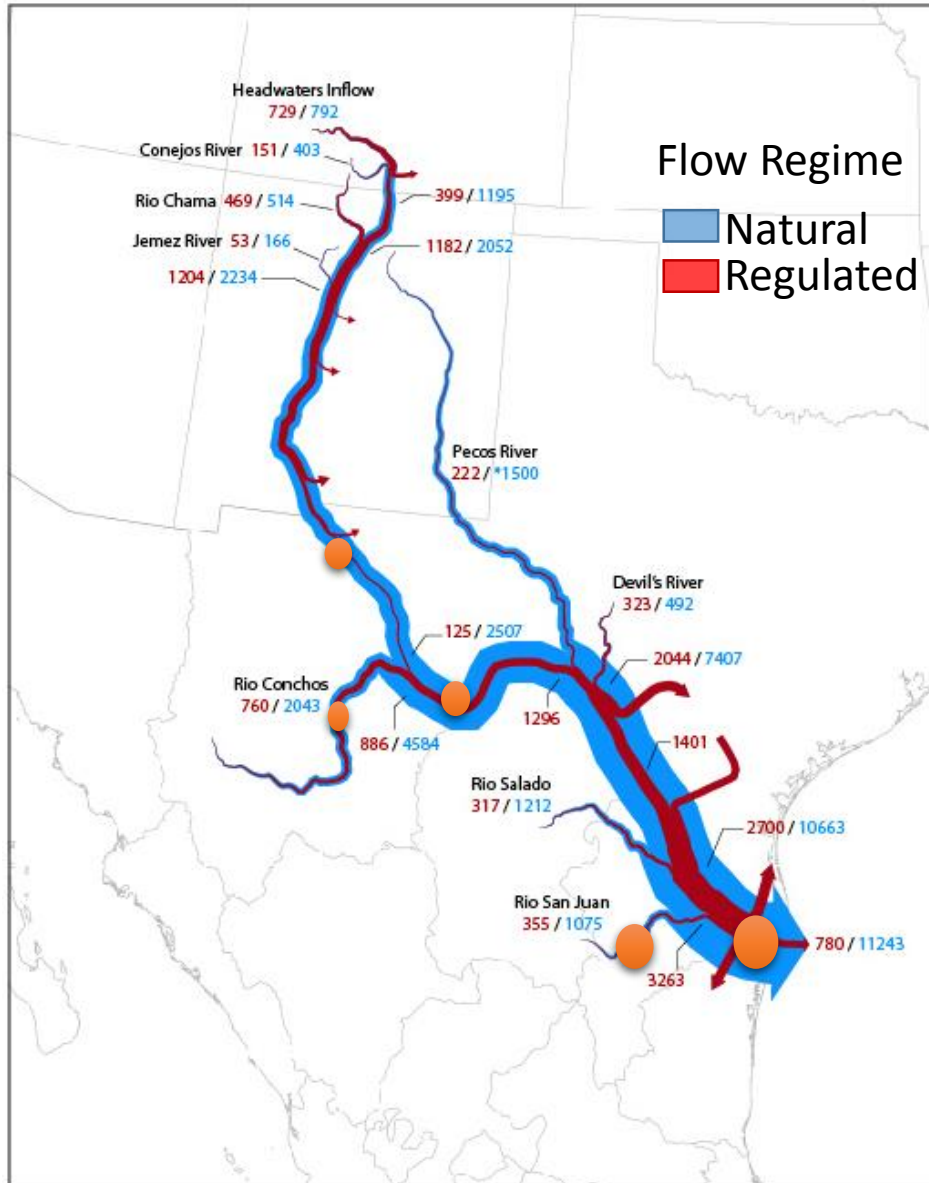
Opportunities



In Lieu GW Banking



Opportunities



In Lieu GW Banking

