

# Overview of Edwards Aquifer Authority Operations in Nueces Basin

**Nueces Basin and Bay Area  
Stakeholders Committee**

**April 21, 2010**



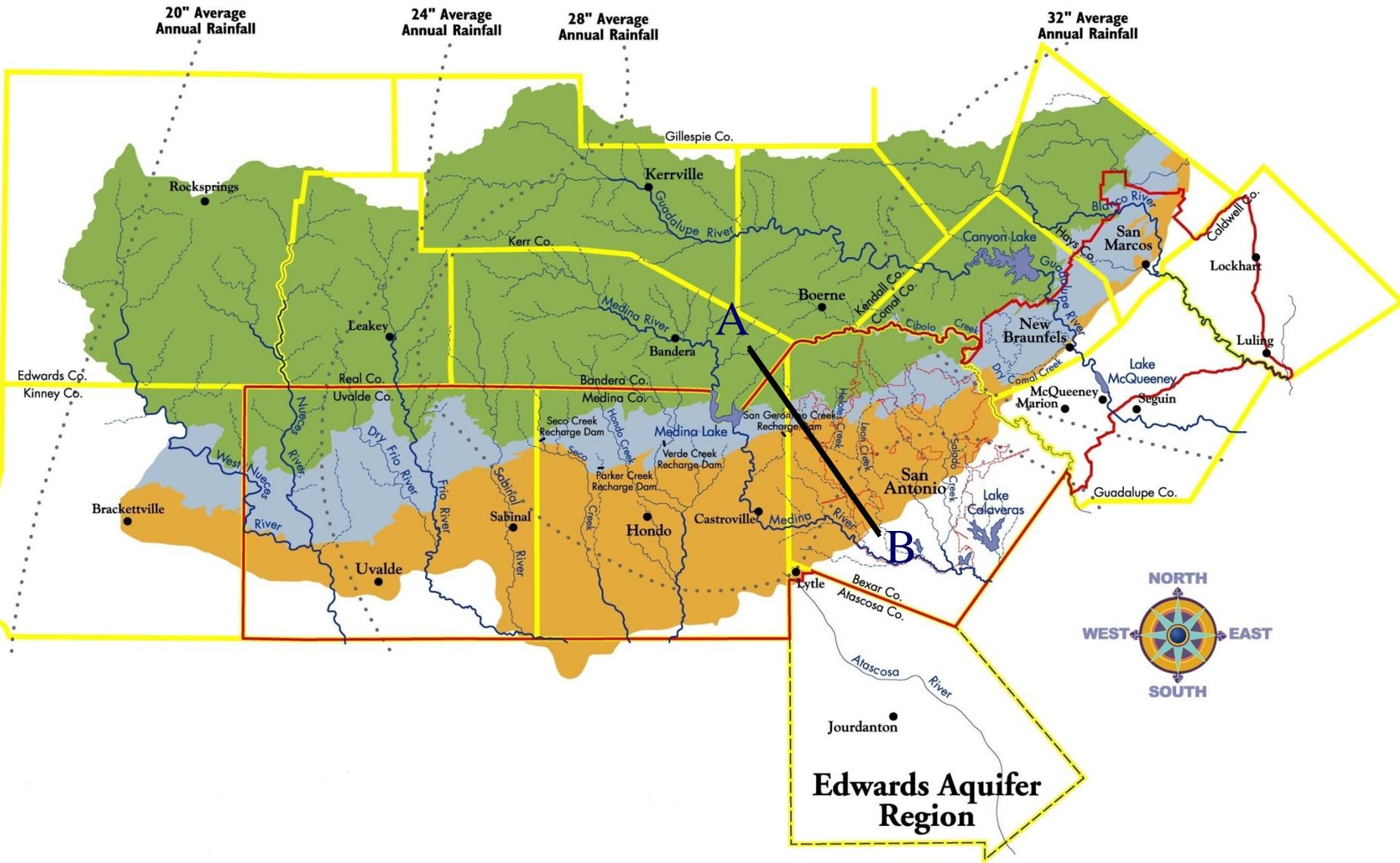
**EDWARDS AQUIFER  
AUTHORITY**

# Topics of Discussion

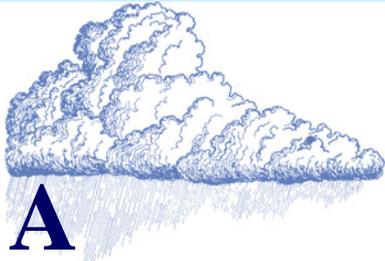
- EAA purpose and boundary
- EAA activities in Nueces Basin
- Impacts on Instream Flows in Nueces Basin



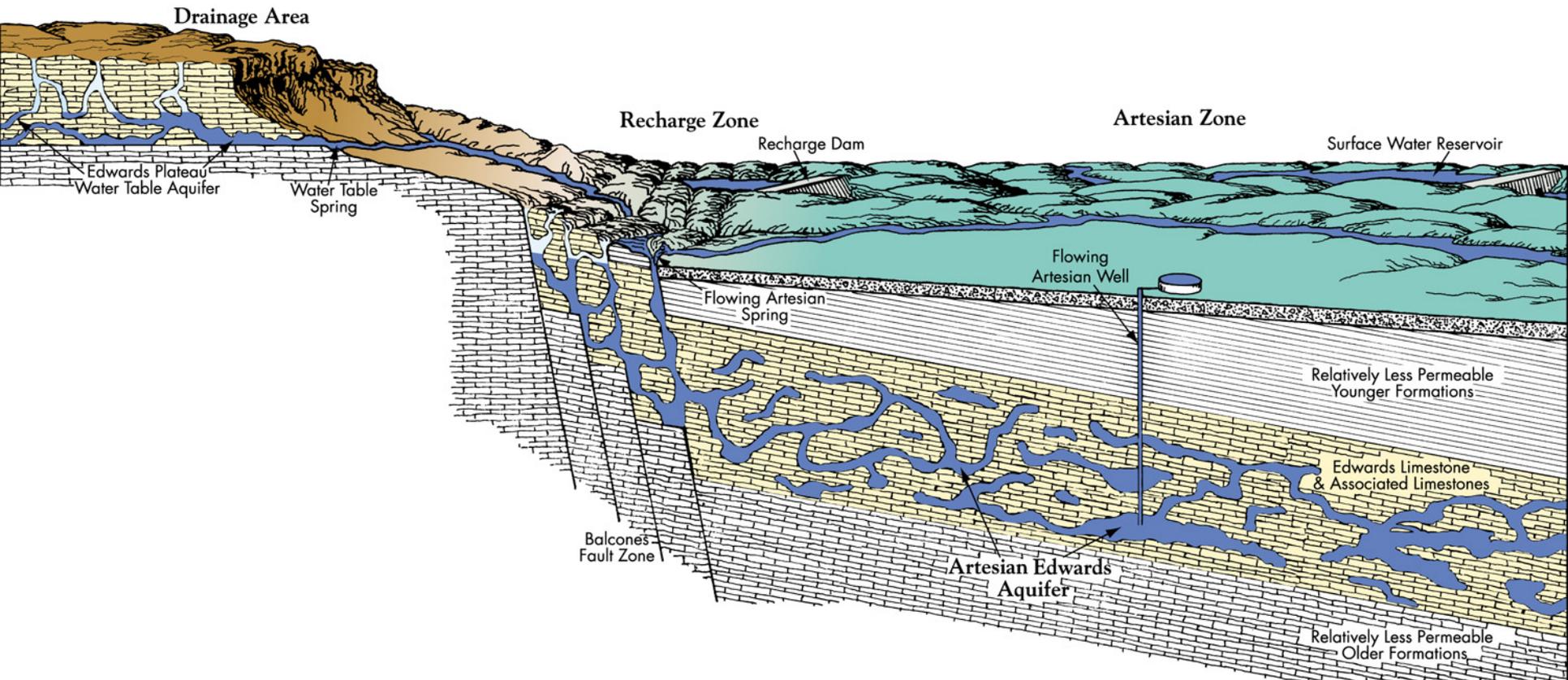
# Edwards Aquifer = San Antonio Segment of the Balcones Fault Zone Edwards Aquifer



# Generalized Edwards Aquifer Cross Section



B



# EAA Operations in Nueces Basin

- Regulatory programs – quantity and quality
- Data collection – quantity, quality, rainfall
- Current research projects:
  - Flowpath studies:
    - Alluvial underflow
    - Tracer testing in Kinney County
    - COE Nueces Basin Feasibility Study – HSPF
    - Recharge and recirculation – Phase III/IV complete
- Cloud Seeding – Uvalde, Medina, Bandera Co.

# EAA Operations in Nueces Basin (contd.)

- Range management cost share
- Existing recharge dams in Nueces Basin (three):
  - Seco Creek
  - Parkers Creek
  - Middle Verde Creek
- Planning/oversight Groups
  - SCTWAC
  - State water planning process - Region L
  - Edwards Aquifer RIP – Recharge Subcommittee



# Existing EAA-operated structures

- Authority operated structures:
  - All in Medina County
    - Parkers Creek Dam – built 1974
    - Middle Verde Creek Dam – built 1978
    - San Geronimo Creek Dam – built 1979
    - Seco Creek Dam/Channel – built 1982
  - Authority has surface water diversion permits for the four structures
  - Authority also has Class V injection well permits for the Verde and Seco creek structures



# San Geronimo Creek Dam



# Middle Verde Creek Dam



# Parkers Creek Dam



# Seco Channel







# South Central Texas Regional Water Planning Process – Region L

- – **1998 to present**
  - 2001 and 2006 versions for Region L Plan
    - 2001 version had more recharge scenarios than 2006 version
    - 2006 version primarily contains Trans-Texas management scenario (L-18)
    - Draft 2011 plan – recharge scenarios identical/very similar to 2006 plan

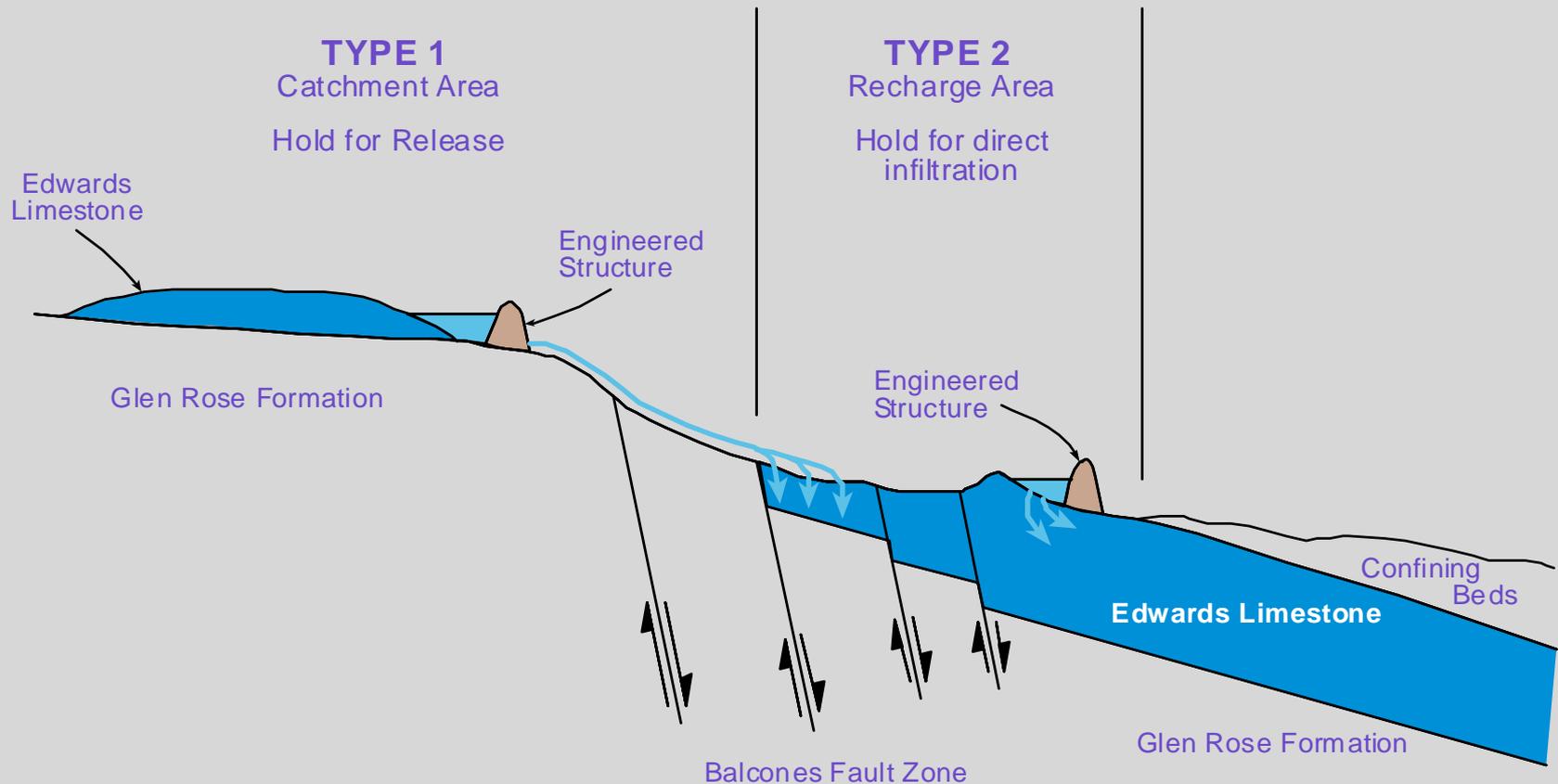


# Definition Number 1

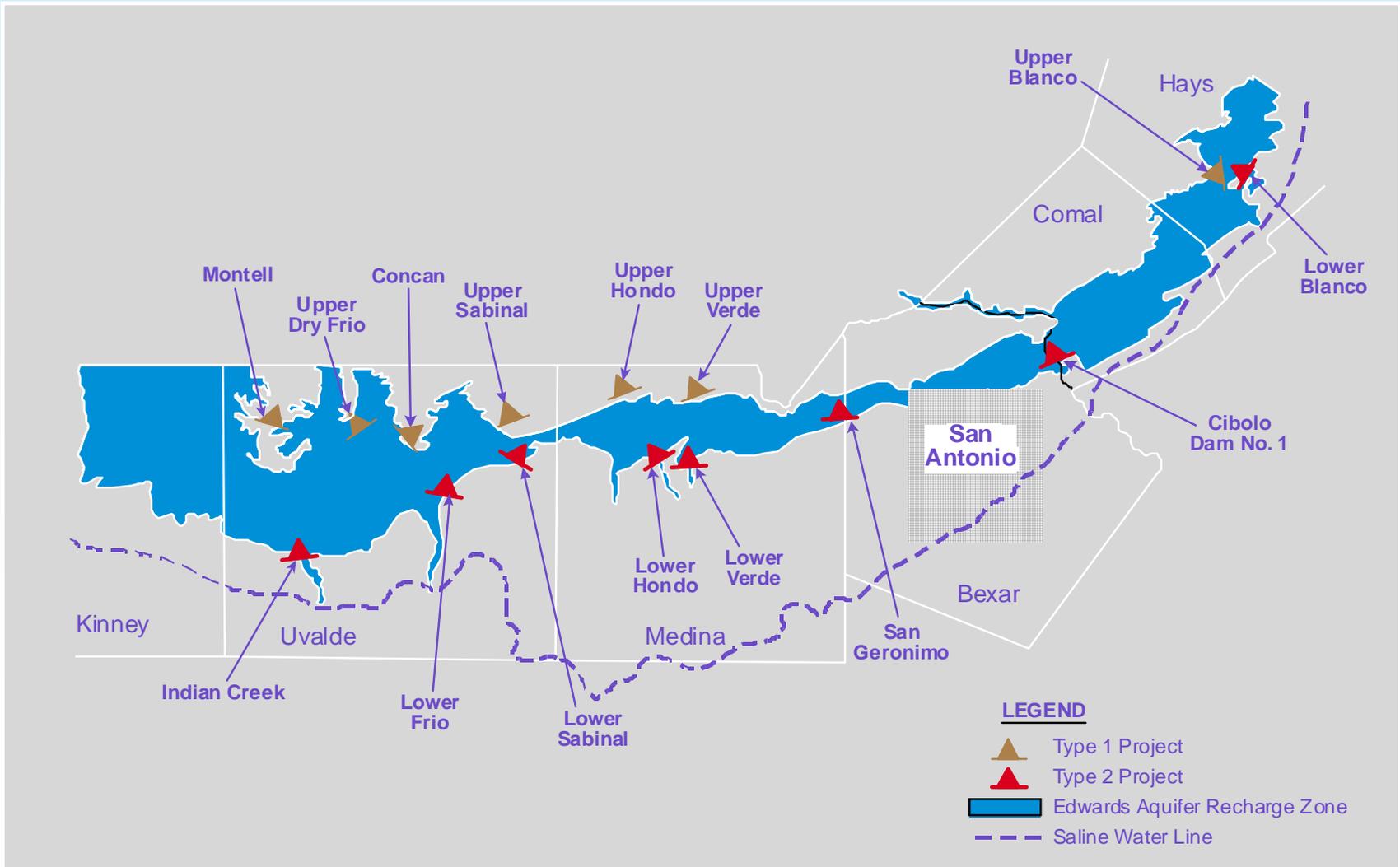
## Types of Recharge Structures:

NORTH

SOUTH



# Commonly Analyzed Recharge Sites



# Recharge Enhancement Studies (contd.)

- 2006 Region L Plan (contd.)
  - Contains recharge programs 2A, 2B, and 2C
  - Program 2A has the most scenarios, includes the 2B and 2C scenarios, plus others
  - **Section 4C.20 of plan recommends:**
    - **Implement Program 2C by 2020**
    - **Expand to Program 2A by 2060**



# Recharge Enhancement Studies (contd.)

- 2006 Region L Plan (contd.)
  - Program 2A
    - Indian Creek (with diversion to Dry Frio)
    - Lower Frio, Sabinal, Hondo, Verde
    - Lower Blanco, Cibolo #1, Dry Comal
    - San Geronimo (Upper San Geronimo)
    - Northern Bexar and northern Medina counties
    - Salado Creek FRS modifications



# Recharge Enhancement Studies (contd.)

- 2006 Region L Plan (contd.)
  - Program 2A (contd.)
    - Northern Bexar and Northern Medina counties (small Type 2 structures)
      - Limkiln
      - Culebra
      - Deep Creek
      - Salado Dam No. 3
      - Government Canyon



# Impacts on Instream Flow

- Impacts on lower Nueces Basin are minimal, pluses and minuses, qualitative estimates at this time
- Some activities enhance and some diminish flows
- Mitigation (if needed) is envisioned in all project concepts



# Overview of EAA Nueces Basin Activities

## **END of SLIDES**

John Hoyt, P.G.  
Edwards Aquifer Authority  
[www.edwardsaquifer.org](http://www.edwardsaquifer.org)



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