Topics

- El Paso Water Supply
- ASR Concepts
- Fred Hervey Water Reclamation Plant Background
- Injection Wells or Basins?
- Uses of Fred Hervey Water Reclamation Plant Effluent
- Future Plans
Surface Water Plants
Hueco Wells
Mesilla Wells
Desalination Plant
TYPICAL TOTAL WATER PRODUCTION (Acre-Feet)

- Hueco: 56,387 (49%)
- Mesilla: 12,437 (20%)
- Rio Grande: 36,134 (31%)

**Typical Total Water Production (Acre-Feet)**
Aquifer Storage and Recovery

- El Paso Water Utilities uses highly-treated effluent for aquifer recharge
- Groundwater levels
- Improve water quality of the aquifer
Aquifer Storage and Recovery

- Fred Hervey Water Reclamation Plant effluent is also used for turf irrigation and industrial cooling.
- Since 1985, over 75,000 ac-ft of effluent has been recharged to the Hueco Bolson.
- Only reclaimed water ASR program in Texas.
Fred Hervey Water Reclamation Plant

• First oxidation pond built in late 1950s

• Original plant built in 1985 (10 MGD)

• Expanded plant capacity (12 MGD)

• Plant located 20 miles from the Rio Grande, effluent discharge to the river not economical
Injection Well Summary

• 10 injection wells completed with galvanized casing and well screen in 1984

• Due to concerns about corrosion in well casing material, PVC was used to complete injection wells

• 2 PVC wells are in service
AWWARF Research Foundation Study (2003)

- Comparison of alternative methods for recharge of a deep aquifer
- Spreading basin completed beneath the caliche at the surface
- Dry well completed in vadose zone below caliche and clays to speed transit to aquifer
Spreading Basins

Planned Spreading Basin
Reclaimed Water from Fred Hervey Water Reclamation Plant. (Average Injection 800 GPM)
Initial Start-Up of Recharge Basin
Study Results

• Dry well was ineffective although is less land intrusive compared to the basins

• Spreading basin was capable of maintaining a high recharge rate

• Basins are a cost effective alternative to dry wells or injection wells
Fred Hervey Reclaimed Water Recharge (Past 20 Years)

Wells vs. Basins

Acre-Feet per Year

Years: 1985 - 2014

Wells

Basins
Typical Fred Hervey Effluent Distribution by Use (acre-feet)

- Injection Wells: 811, 13%
- Basins: 1806, 29%
- Painted Dunes Golf Course: 639, 10%
- El Paso Electric: 3065, 48%
Future Expansion Plans

- Additional spreading basins are currently permitted by TCEQ

- Surface water recharge from Rio Grande (Jonathan Rogers Water Treatment Plant)
  - Water rights for 70,000 AF/year
  - Maximum annual diversion – 60,000 AF/year
  - Early irrigation season supply vs. demand challenge

- Infiltration via enhanced arroyo concepts

- Aquifer Recharge Master Plan