

Managing the Edwards Aquifer for the Future

by

Rodney T. Smith

President, Southwest Texas Water Resources, L.P.

Barn Door

San Antonio, Texas

October 6, 2010

Overview

- Three Principles of Water Resource Management for San Antonio's Future
 - Reliability
 - Diversification
 - Managing Supply Vulnerability
- STWR Project: better management of the Edwards Aquifer for San Antonio's Future

Reliable Water Supply = Healthy Local Economy

- Reliability of water supply is a consideration in business decisions on location and expansion
- Capital markets are quantifying business risk from unreliable water supplies
- Municipal customers are willing to pay higher prices to avoid water shortages
- Water service must be reliable today and tomorrow

San Antonio's Water Challenge

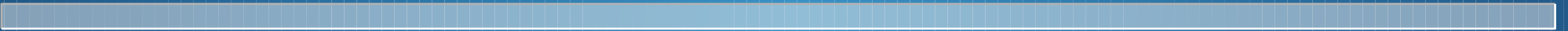
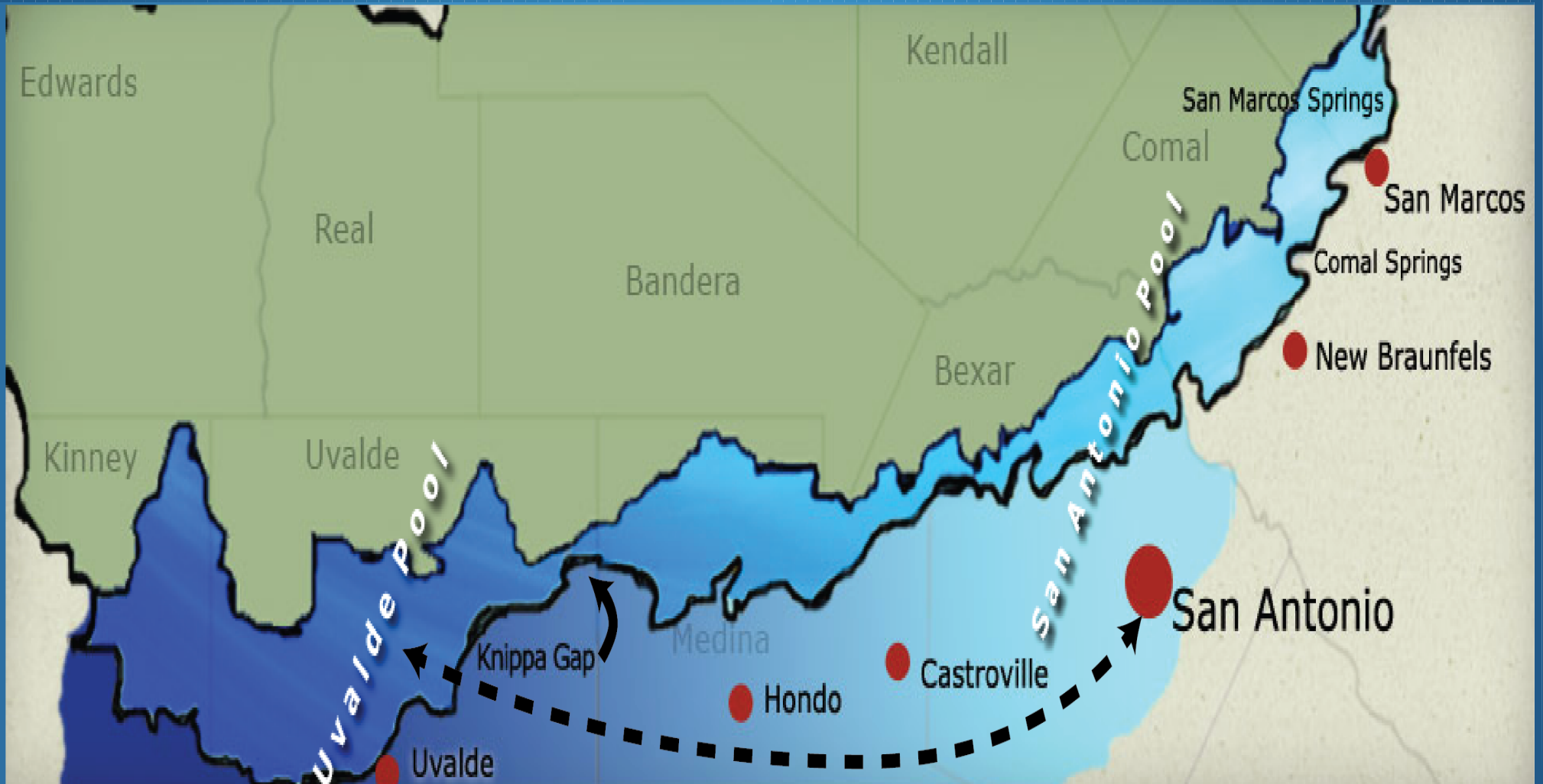
- Edwards Aquifer remains primary source of municipal water supplies
 - Cost advantage from location
 - High water quality
 - General availability until 1990's; pumping subject to restrictions during management period
- Adding non-Edwards supply to the mix
- Population of San Antonio metropolitan area is expected to reach 2.4 million by year 2050

Background Facts on Edwards Aquifer Rights

- Edwards Aquifer Authority manages groundwater pumping to protect spring flows essential for species protected under federal Endangered Species Act
- Edwards Aquifer is divided into two pools: San Antonio and Uvalde
- Knippa Gap operates as a hydrologic barrier between the pools (more below)
- Pumping rights quantified subject to restrictions during critical management periods based on well levels and springflows

Edwards Aquifer Recovery Implementation Program

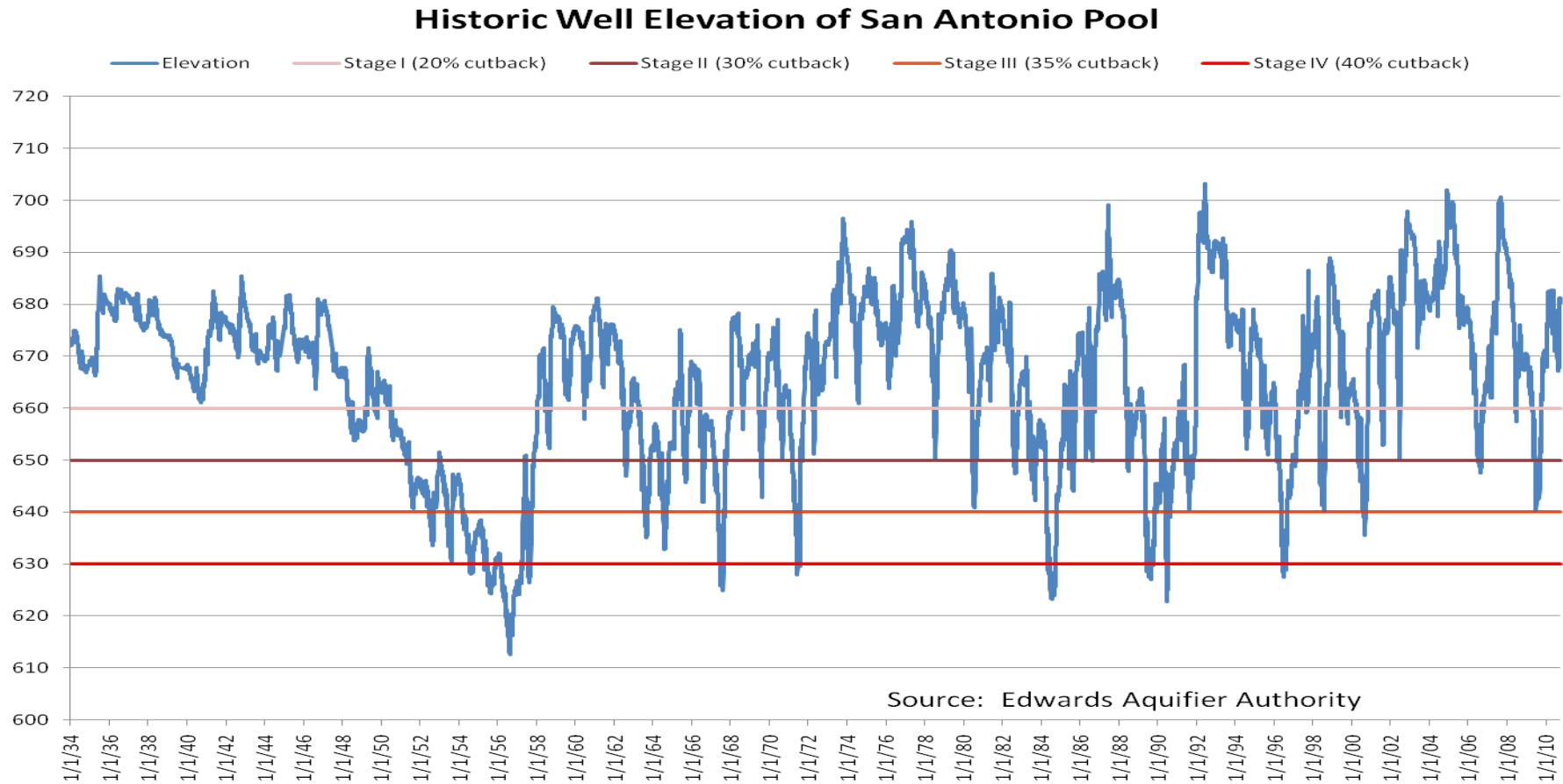
- EARIP established by Texas Legislature to prepare Habitat Conservation Plan for federal approval under the federal Endangered Species Act
- HCP to include actions to assure that federally listed, threatened and endangered species are protected at all times
- Experience throughout the west suggests the prospect of reduced supply availability



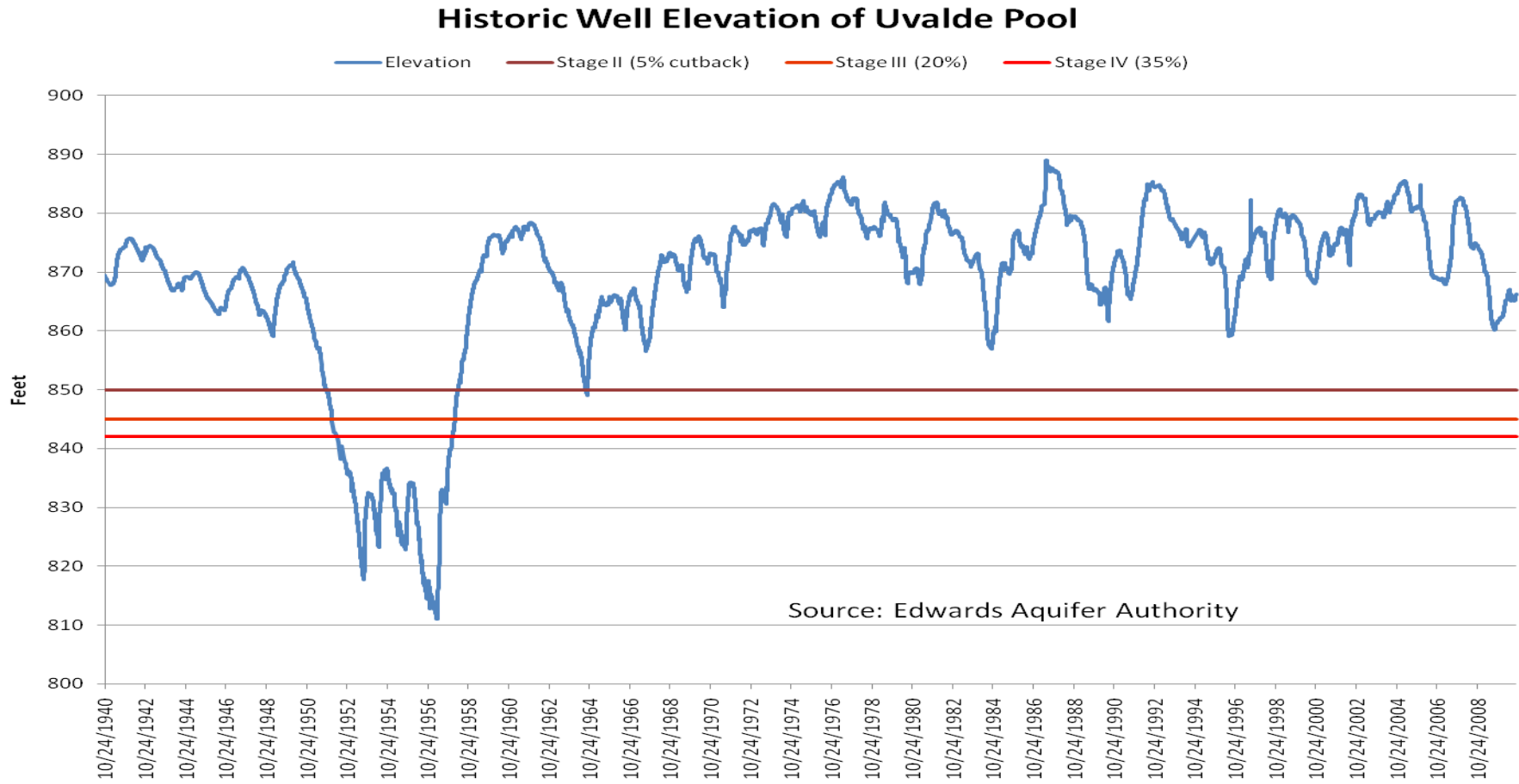
Core Project Principles

- Not all Edwards permits are created equal for municipal water supply
 - Pumping in the San Antonio Pool is subject to more risk of cutback than pumping in the Uvalde Pool (“supply reliability” and “diversification”)
- The location of pumping matters
 - Pumping in the Uvalde Pool has significantly less impact on Comal and San Marcos Springs than pumping in the San Antonio Pool (“managing supply vulnerability”)

Edwards Permits in San Antonio Pool Subject to Risk of Cutback



Edwards Permits in Uvalde Pool Subject to Less Risk of Cutback



Using Uvalde Water Rights To Pump More Edwards Water from the San Antonio Pool

- 30,000 Acre Feet of Uvalde Permits currently pumped in San Antonio Pool
- Sacrifices superior reliability of Uvalde rights by pumping permits in the less reliable San Antonio Pool
- Increased pumping in San Antonio Pool further reduces supply reliability of San Antonio Pool
- Increased pumping in San Antonio Pool further stresses springflow at Comal and San Marcos Springs

Impacts of STWR Project to San Antonio

- 40,000 Acre Feet of municipal supply has superior reliability of Uvalde Pool (serve 139,000 families)
- Risk of Critical Management Period in San Antonio Pool reduced (see table)
- Flows at Comal Springs would increase by 8 cfs
- Limit risk of further restrictions of pumping under federal Endangered Species Act

San Antonio Pool

<i>Critical Period Management</i>	<i>Probability with Uvalde Water Project</i>	<i>Probability without Uvalde Water Project</i>	<i>Project Impact</i>
None	41%	36%	+5%
Stage I	28%	31%	-3%
Stage II	22%	23%	-1%
Stage III	8%	9%	-1%
Stage IV	1%	1%	0%

STWR Legislative Program

- Exemption from existing pipeline prohibition in Edwards Aquifer Act for 40,000 Acre Foot project
- Project based on existing permits transferable under current law
- Maintain base acre foot water supply for Uvalde community
- Assure that Uvalde water remains within Edwards Aquifer
- Protect supply reliability of Uvalde Pool
- Support policies that protect and benefit Uvalde County

Next Steps: SAWS Request for Information

- SAWS issued on 9/10 Request for Information for third party water supply projects consistent with 50 Yr Strategic Plan
- Additional supply to supplement and diversify SAWS existing water inventory
- Edwards permits not eligible if pumped with existing SAWS infrastructure
- Information may be used for preparation of Request for Competitive Sealed Proposals in 2011

Takeaways

- The future of San Antonio requires a reliable water supply
- Not all Edwards water is equal for San Antonio in terms of supply reliability
- STWR Project would diversify San Antonio's water supply off the San Antonio Pool
- STWR Project provides environmental benefits that contributes towards solution of ESA problems facing the region

**For Additional Information Visit:
www.uvaldewaterproject.com**