IMPLEMENTATION UPDATE:

REMEDIATION ACTIVITIES FOR ELEVATED SALINITY

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TCEQ- Aug 28, 2013

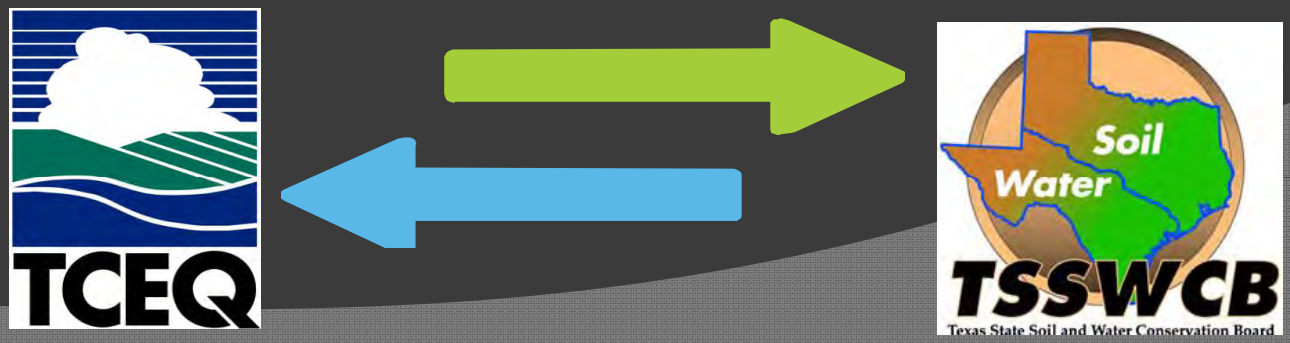
0 2 4 6 8
Miles
N
NOLAN
TAYLOR
Abilene
Potosi
Buffalo Gap
277
83
Lawn
84
Blackwell
Oak Creek Reservoir
Valley Creek
E. V. Spence Reservoir
Winters
RUNNELS
Robert Lee
Bronte
Oak Creek
Elm Creek
Mustang Creek
Live Oak Creek
1426 Colorado River Below E. V. Spence Reservoir
Ballinger
COKE
67
TOM GREEN
83
Miles
87
277
San Angelo
CONCHO
O. H. Ivie Reservoir
O. C. Fisher Lake
Concho River
Paint Rock

The Problem Defined

- Excessive salts [chloride and total dissolved solids]
- River didn't meet Texas standards
- Investigate sources, causes. 2003-7
- Implement activities. 2007-present
- Progress check. 2014

Texas Nonpoint Source Program

- Is jointly developed and administered by the TCEQ and Texas State Soil and Water Conservation Board
- Resource Leveraging
  - TCEQ and TSSWCB must work closely with other state, regional, and local organizations to implement management measures and optimize the use of all available resources.



Nonpoint Source Funding

- 60% - Federal Funds To TX NPS Program (TCEQ & TSSWCB)
- 40% - Required Match- Non-federal funds
- “Match” - funds or services provided by grantee

- RRC providing significant $ to investigate & remediate area
- TSSWCB – significant activities in past years.
- Continued Stakeholder discussion/input critical

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What are total solids ?
Why are they important?

- Dissolved solids consist of calcium, chlorides, sulfates, nitrate, phosphorus, iron, sulfur
- Total dissolved solids affects the water balance in the cells of aquatic organisms. It might inflate, float up or sink down… it might not survive.
- Drinking water will have a bad-taste.
- Minerals clog your hot water appliances

Possible Sources of the Salty Problem

- Abandoned oil and gas wells, previous open-pit disposal areas
- Invasive brush species
- Natural salt deposits leaching into the groundwater
- Man-made salts leaching into groundwater.

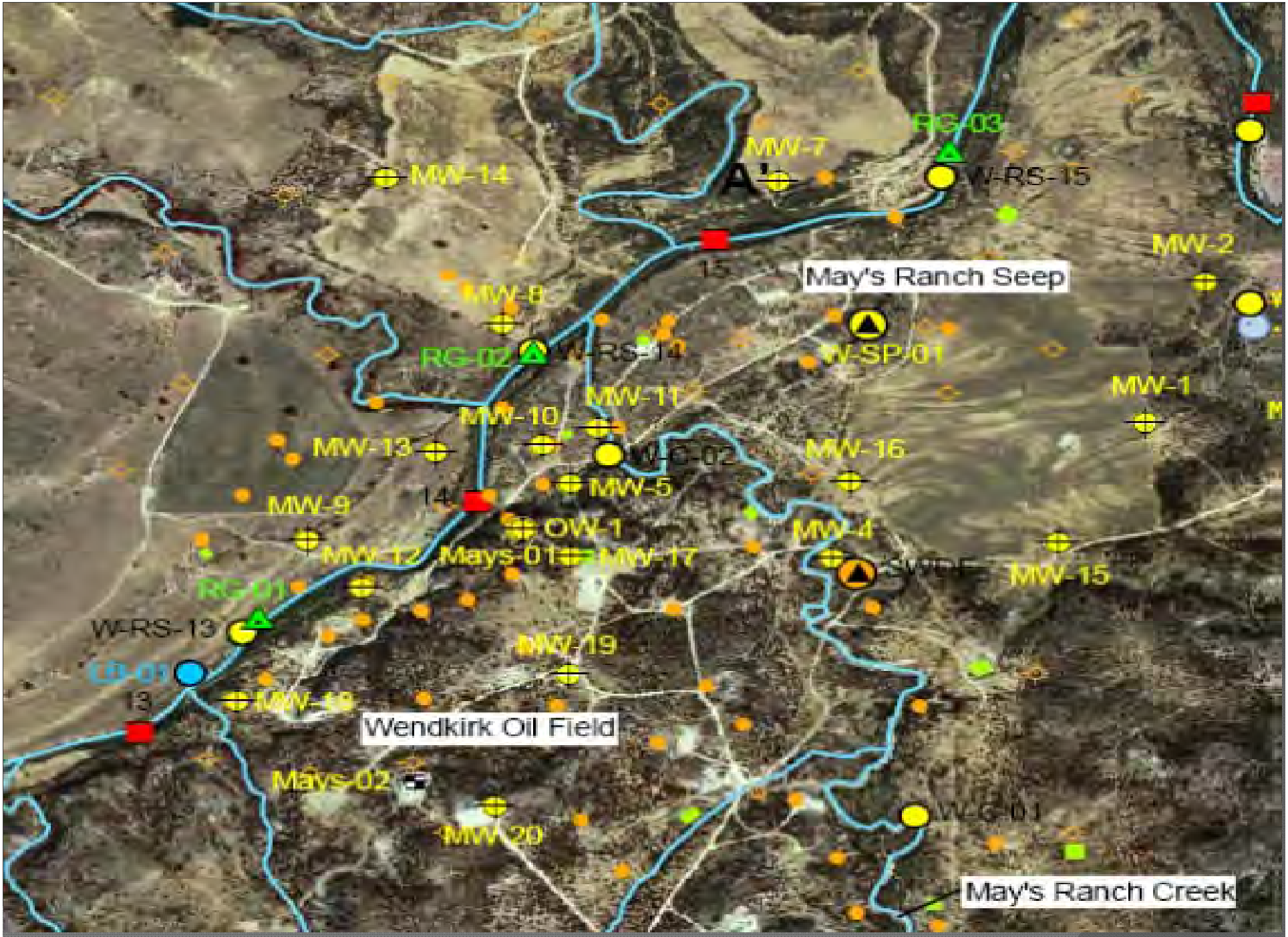
Railroad Commission's Role

Oil Field Clean Up Fund + NPS Funds

- Natural or oil/gas related sources
- Proper plugging of abandoned wells
- Re-entry, re-plugging, interceptor trenches
- Determination of saline seeps
- Preventative plugging of wells that penetrate the highly pressurized, highly saline Coleman Junction Formation

Implementation Activities

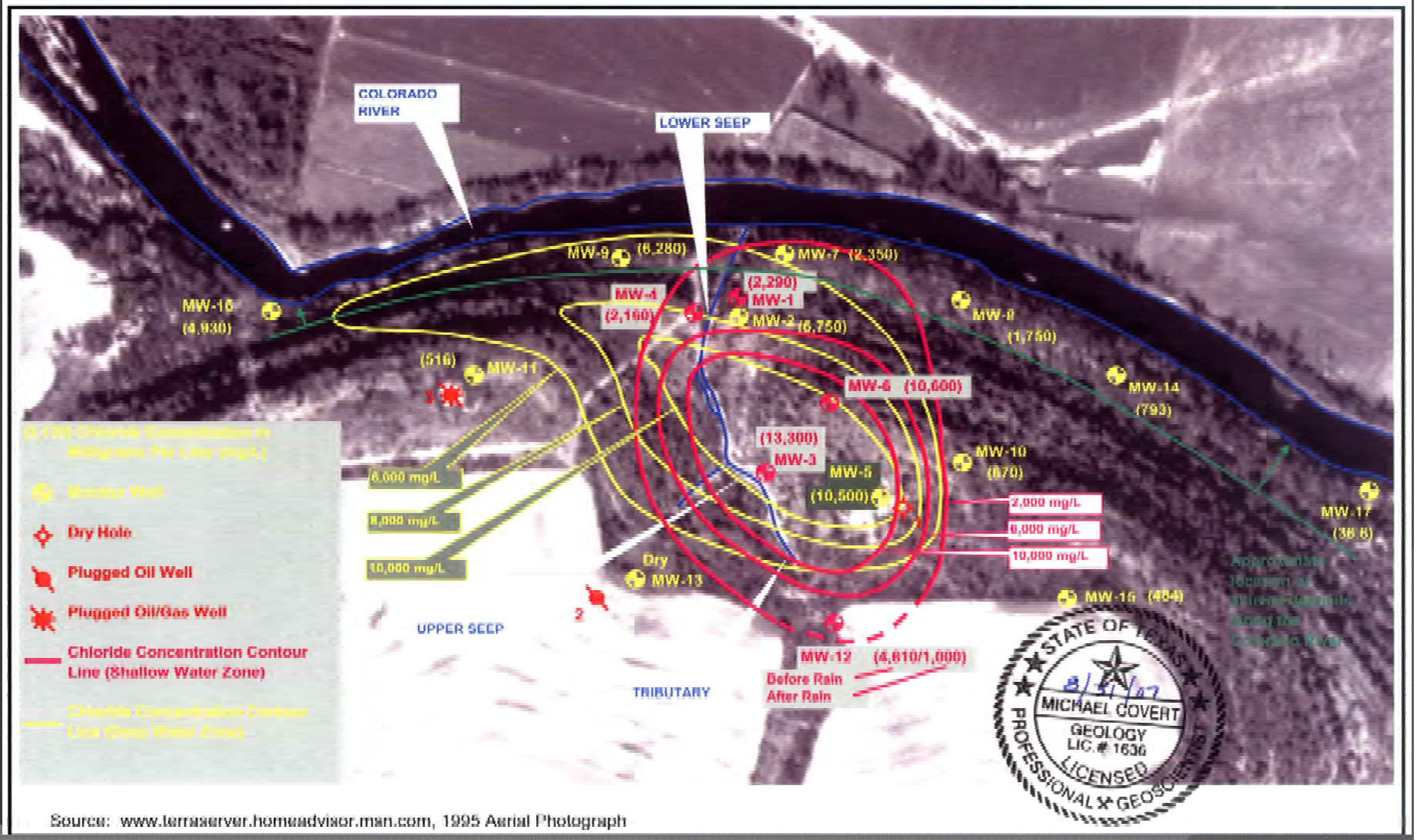
- 187 wells plugged- Runnels Co.
- 89 wells plugged above EV Spence
- Wendkirk Oil field & Ballinger seep – wells plugged
- West O'Daniel seep – recovery trench. 2008
- Invasive brush removed - TSSWCB
- New project – Wendkirk & Ballinger – install recovery trenches. 2014-2016.


MW-14
MW-7
A
RG-03
W-RS-15
15
May's Ranch Seep
MW-2
MW-8
RG-02
W-RS-14
W-SP-01
MW-11
MW-10
MW-1
MW-13
W-C-02
MW-16
MW-5
14
MW-9
OW-1
MW-4
MW-12
Mays-01
MW-17
MW-15
RG-01
W-RS-13
MW-19
13
MW-18
Wendkirk Oil Field
Mays-02
W-C-01
MW-20
May's Ranch Creek

RRC Activities

- Install & sample monitoring wells up and down gradient of known saltwater seeps
- Conduct survey on selected area(s) determined to have high salinity in groundwater
- Choose and implement BMPs that will help reduce the high salt loading

BALLINGER SEEP AREA

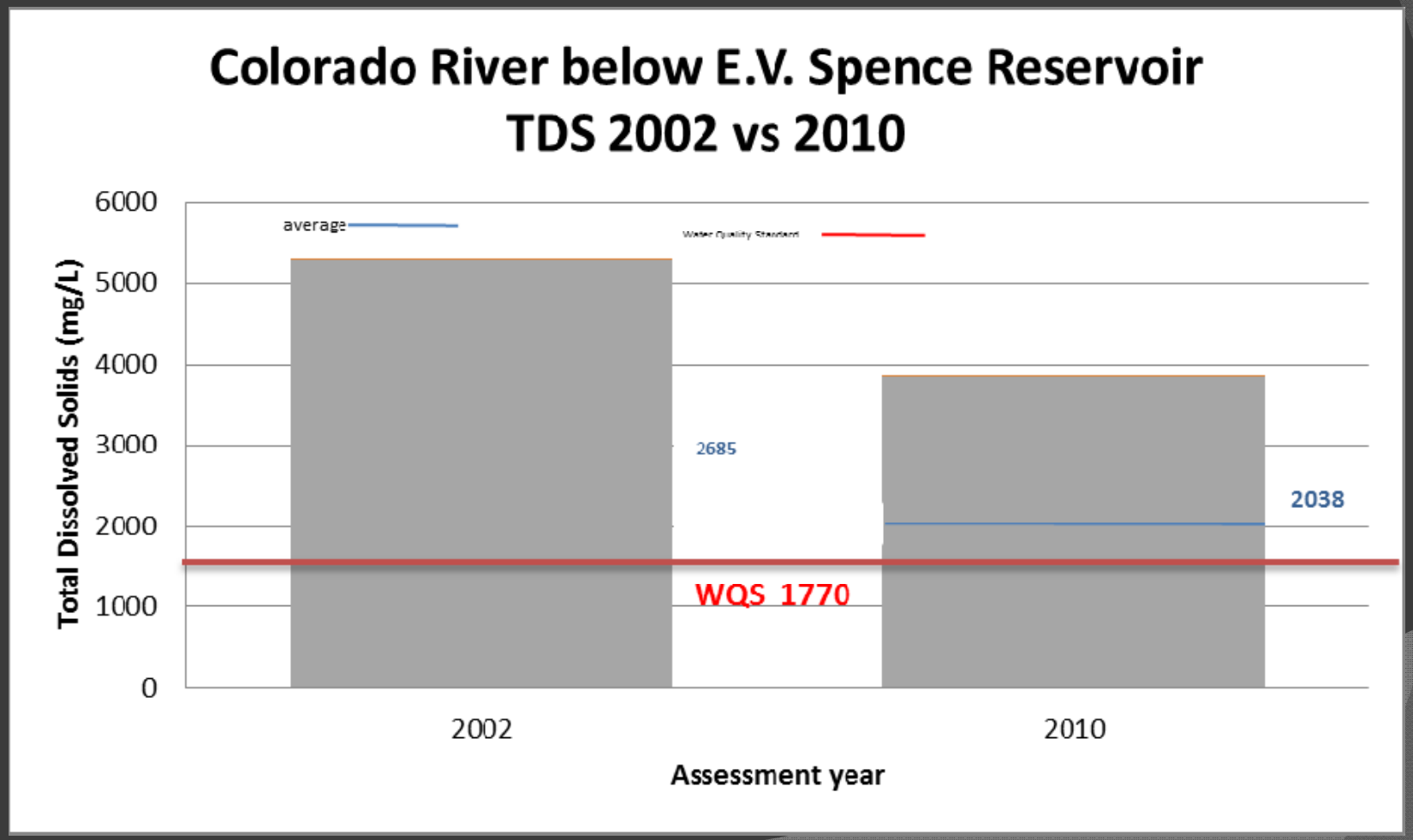


Source: www.terraserver.homeadvisor.msn.com, 1995 Aerial Photograph

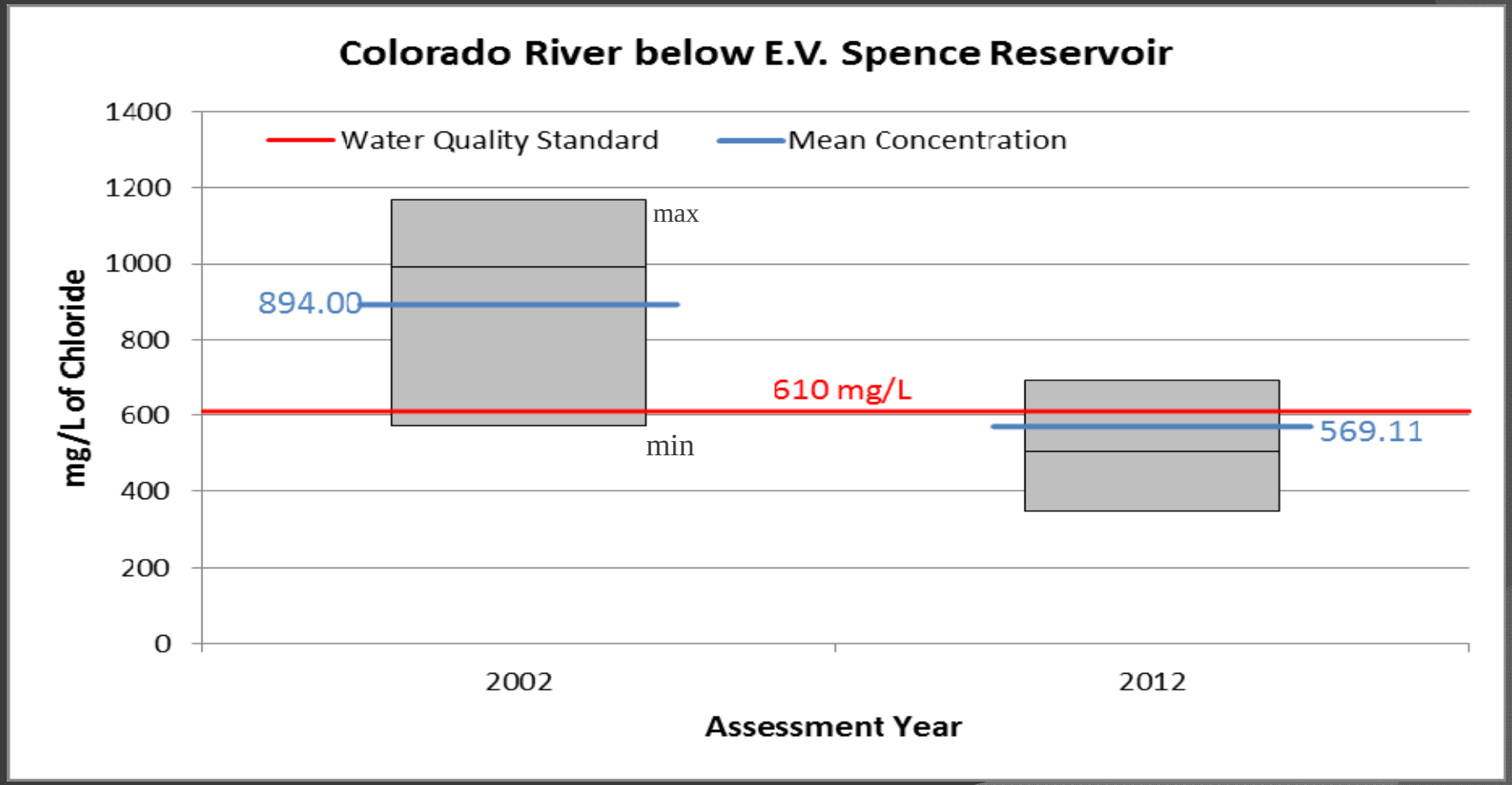
Colorado River MWD

- Any water released from E.V. Spence Reservoir should remain at or below 550 mg/L for chloride and 1,537 mg/L for TDS.

TDS – Status


Colorado River below E.V. Spence Reservoir
TDS 2002 vs 2010
Total Dissolved Solids (mg/L)
6000
5000
4000
3000
2000
1000
0
average
Water Quality Standard
2685
2038
WQS 1770
2002
2010
Assessment year

Chloride - Status



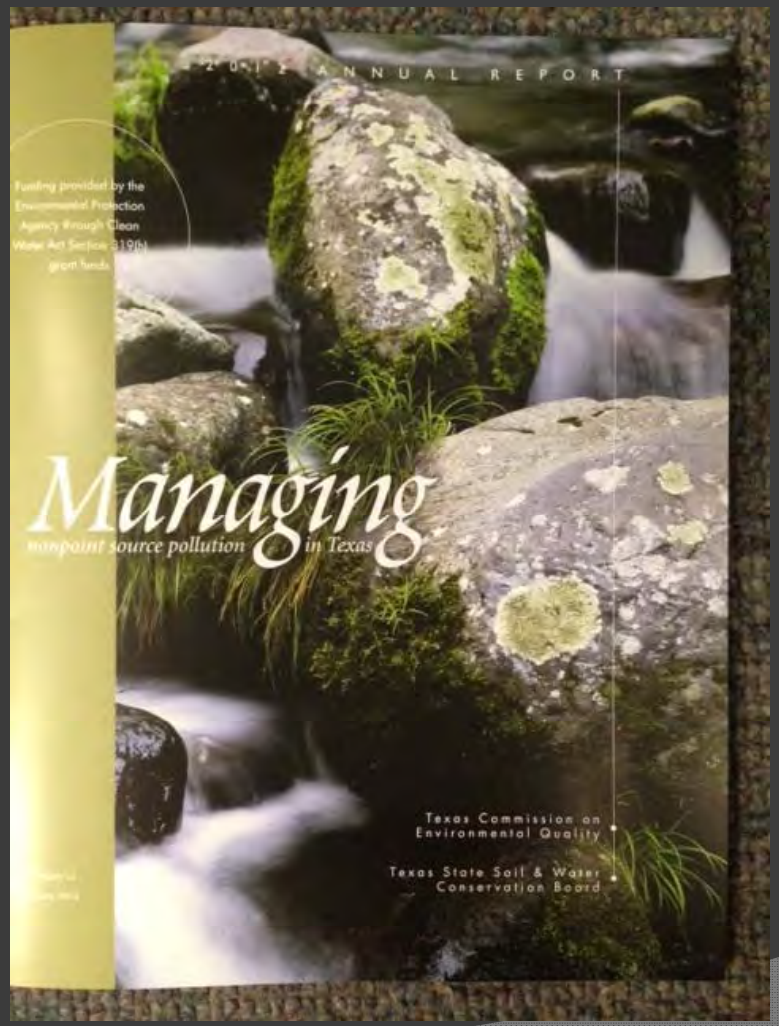
Water Quality Improvements

- Colorado below EV Spence
- Meeting standard for chloride (2012) and will be de-listed
- Decreasing TDS levels

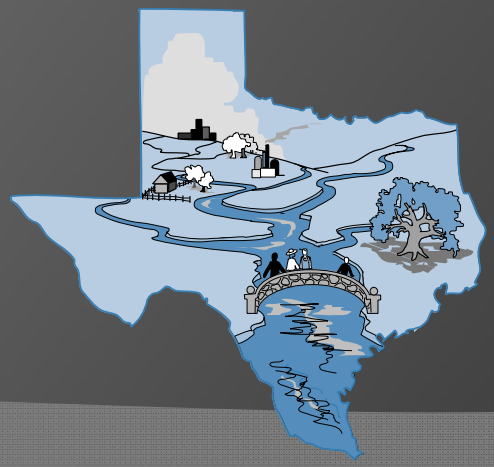
When will we have Success ?

- Success is measured through:
  - Water quality improvements
  - NPS pollutant load reductions
  - Implementation of NPS controls
  - Public education, awareness, and action
  - Meeting Water Quality Standards
  - This project area is very close……!!

NPS Program Annual Report



QUESTIONS/INFORMATION

Website:
http://www.tceq.texas.gov/nav/eq/nonpointsrcpgm.html

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