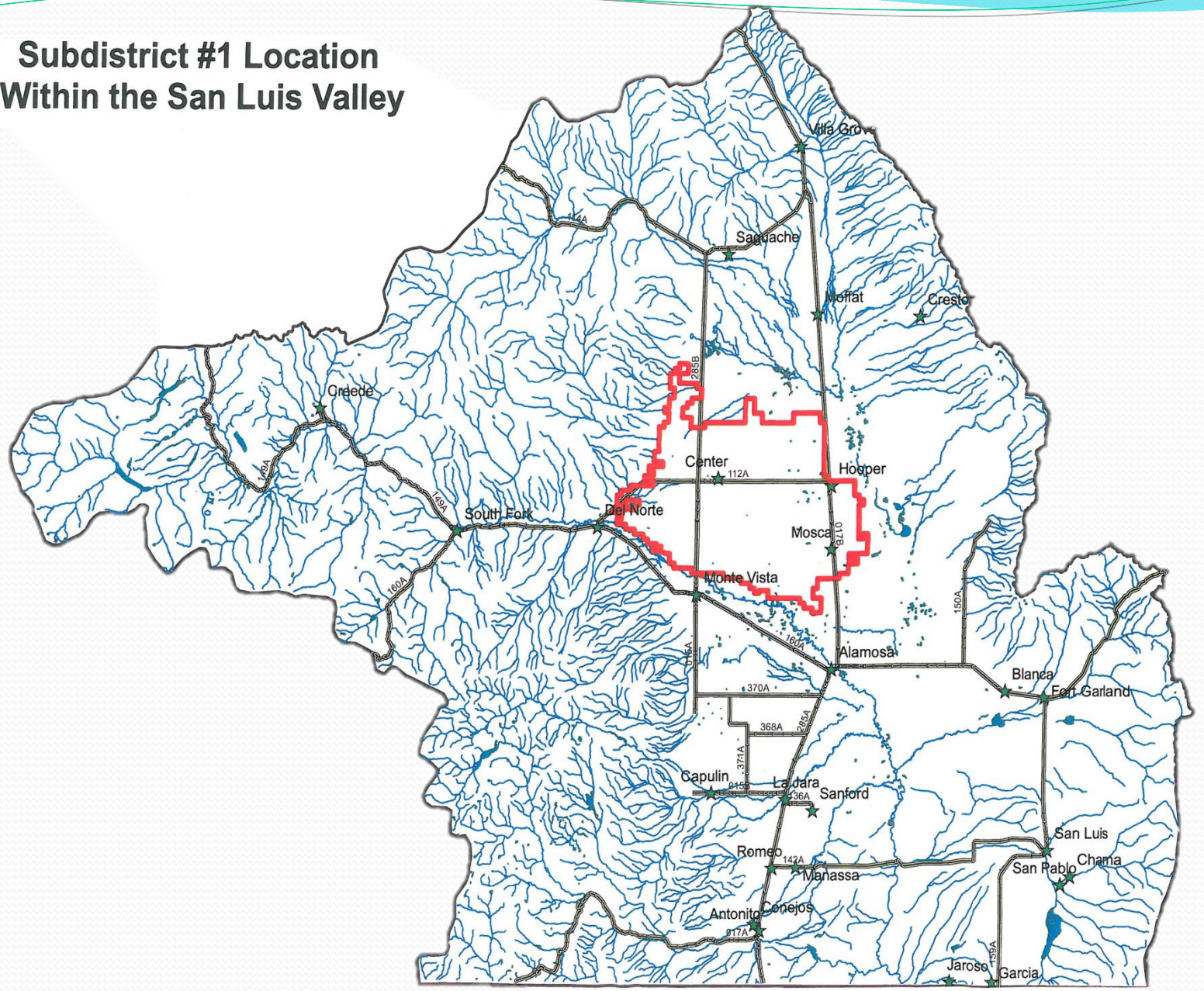
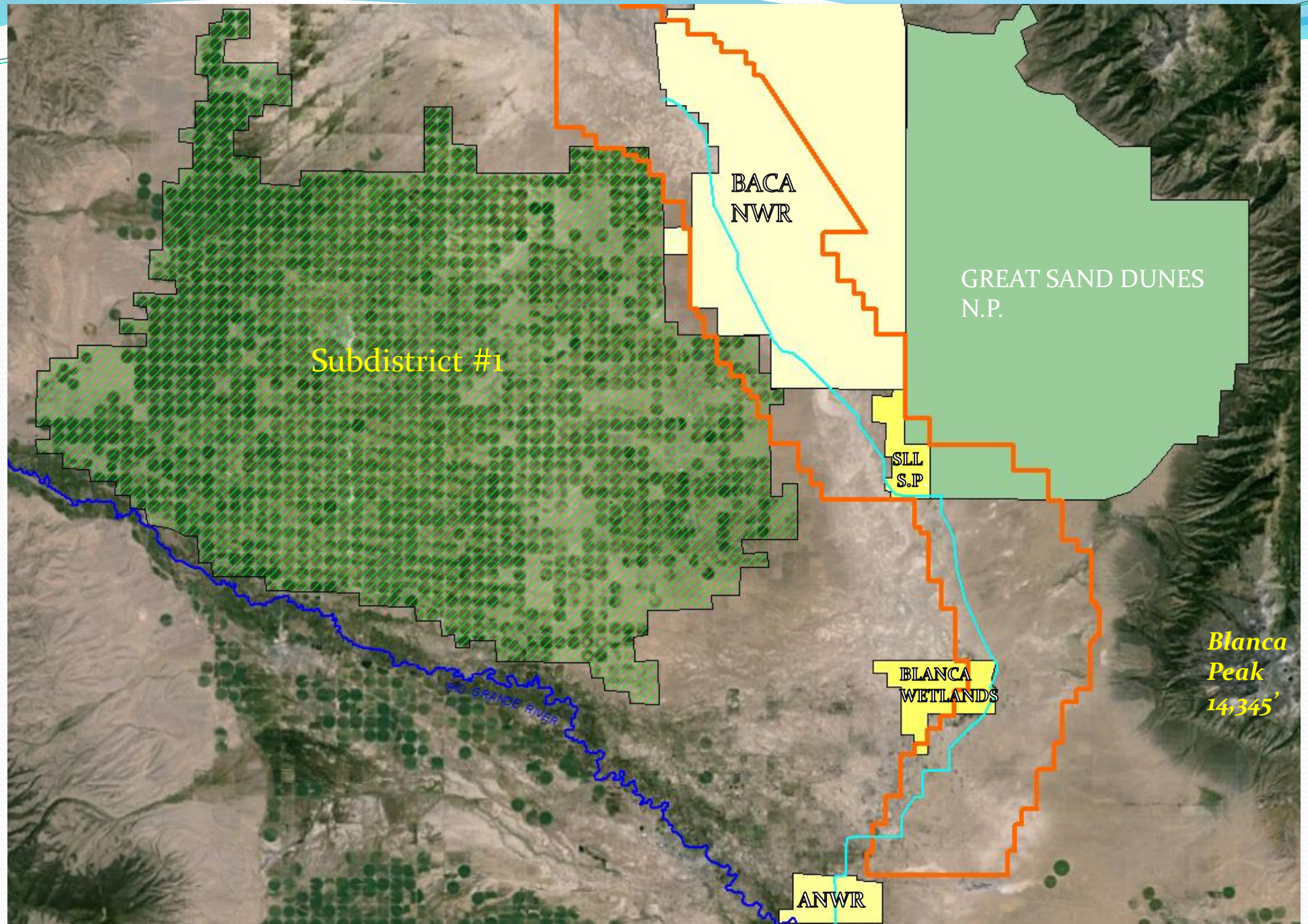
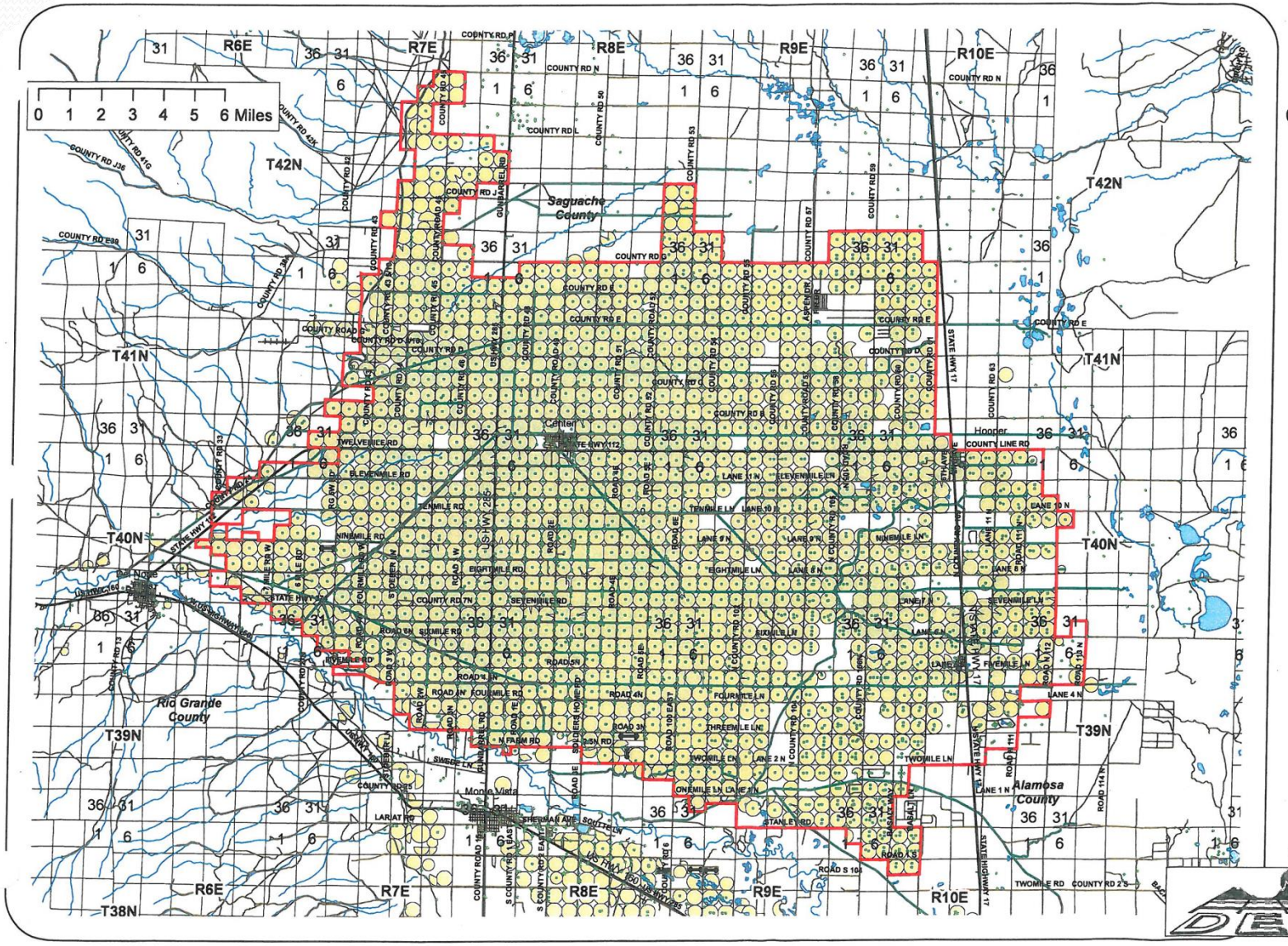
Rio Grande Water Conservation District Upadate on Subdistricts

Presented By Steve Vandiver
General Manager
Rio Grande Water Conservation District
to the WRRC
August 10th, 2015

Subdistrict #1 Location Within the San Luis Valley




BACA
NWR
GREAT SAND DUNES
N.P.
Subdistrict #1
SLL
S.P
BLANCA
WETLANDS
Blanca
Peak
14,345'
BIG GRANDE RIVER
ANWR



SPECIAL
SUBDISTRICT NO. 1
Closed Basin Subdistrict

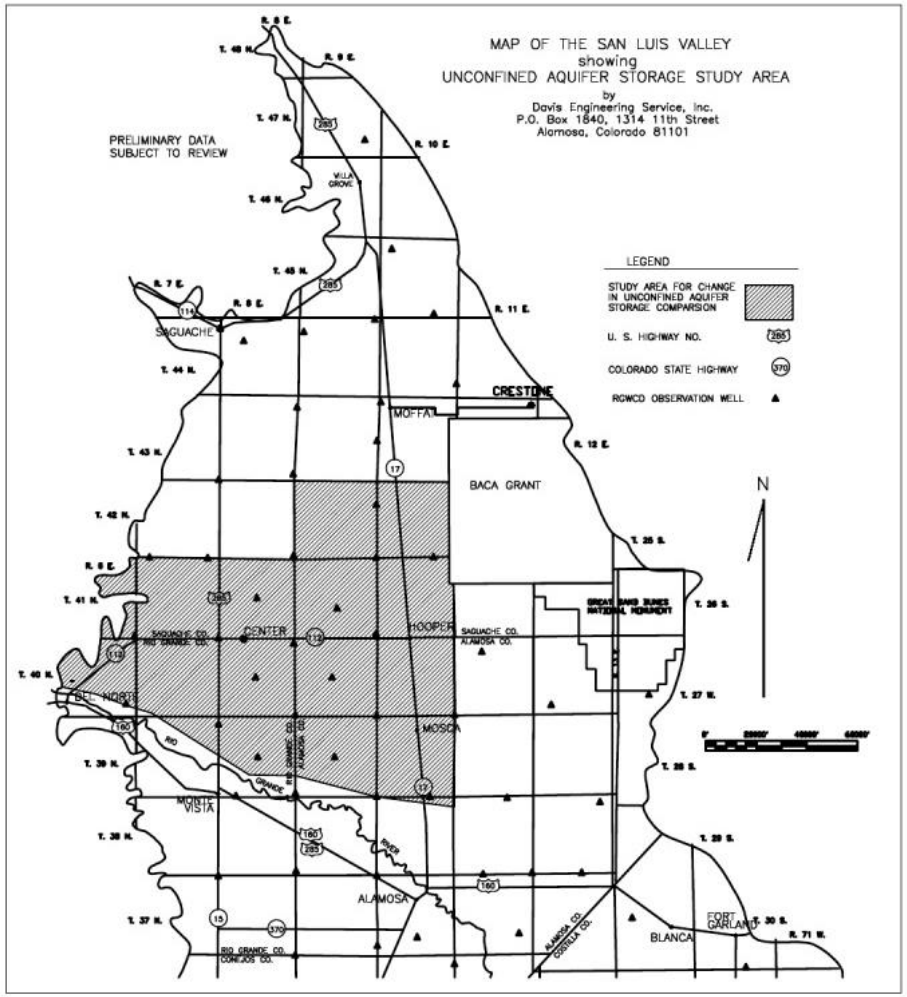
N
W E
S

Legend

- Div3_Wells_Structure
- Subdistrict_1
- Roads
- Div3_SLV Canals
- Sprinklers_2010_linear
- Sprinklers_2010

Prepared 08/09/2012

SINCE 1948
Davis Engineering Service, Inc.
1314 11th Street
P.O. Box 1840
Alamosa, CO 81101
(719)589-3004



EXPLANATION

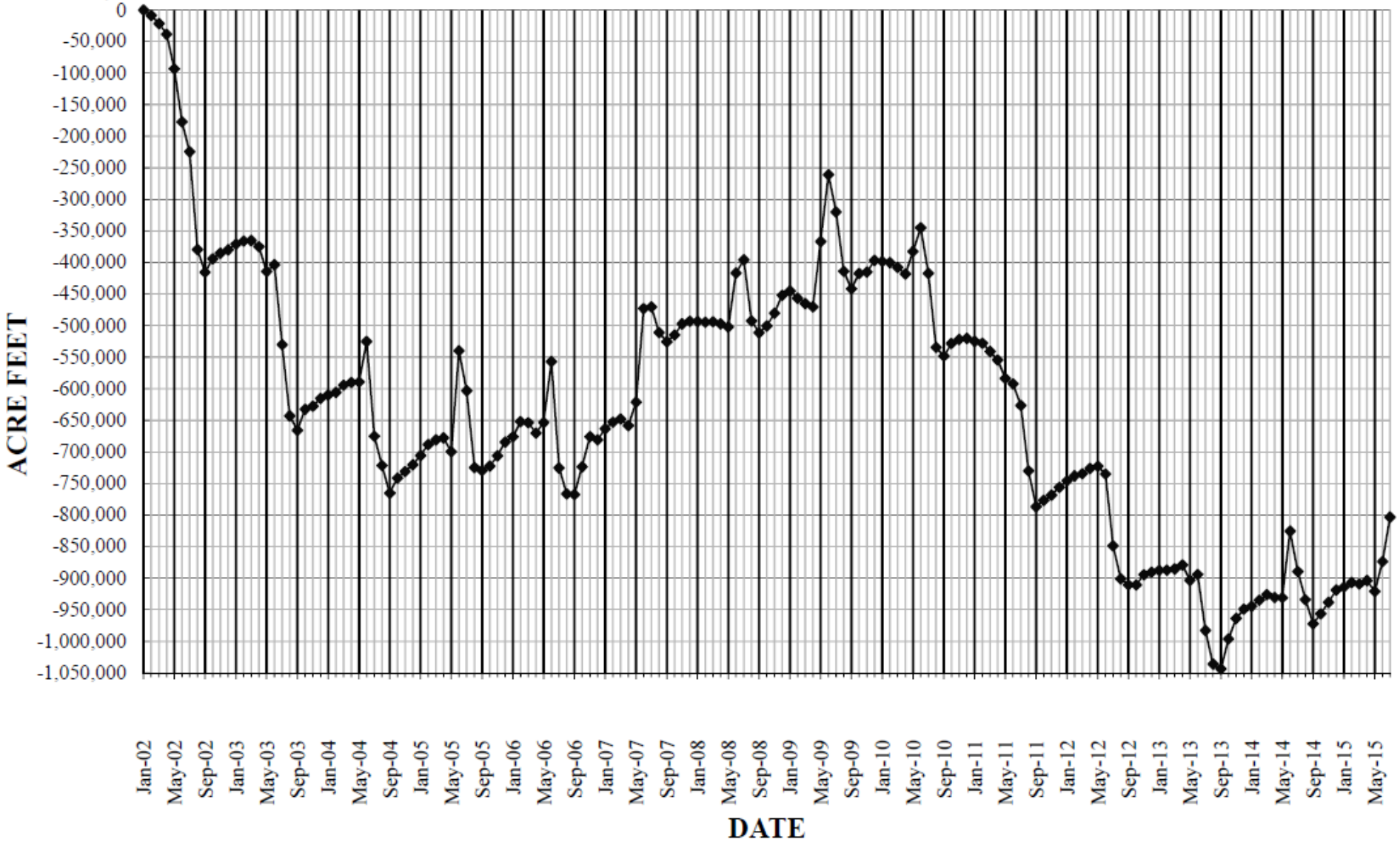
Change in unconfined aquifer storage has been calculated for a defined area which is shown on the above map. The changes in aquifer storage were based on approximately 27 RGWCD monitoring wells located within the area. The method of computing the change in aquifer storage was in accordance with the Thiessen mean method whereby a polygon is constructed around each observation well and the assumption is made that the change in water level throughout the area of the polygon is the same as the change in the well within the polygon. A graph showing changes since 1976 is attached. Zero on the vertical axis of the graph was assumed as corresponding to 1976 for graphing purposes; however, it should not be assumed that the unconfined aquifer was at equilibrium as of that date.

CHANGE IN UNCONFINED AQUIFER STORAGE

YEAR 2002 - 2015

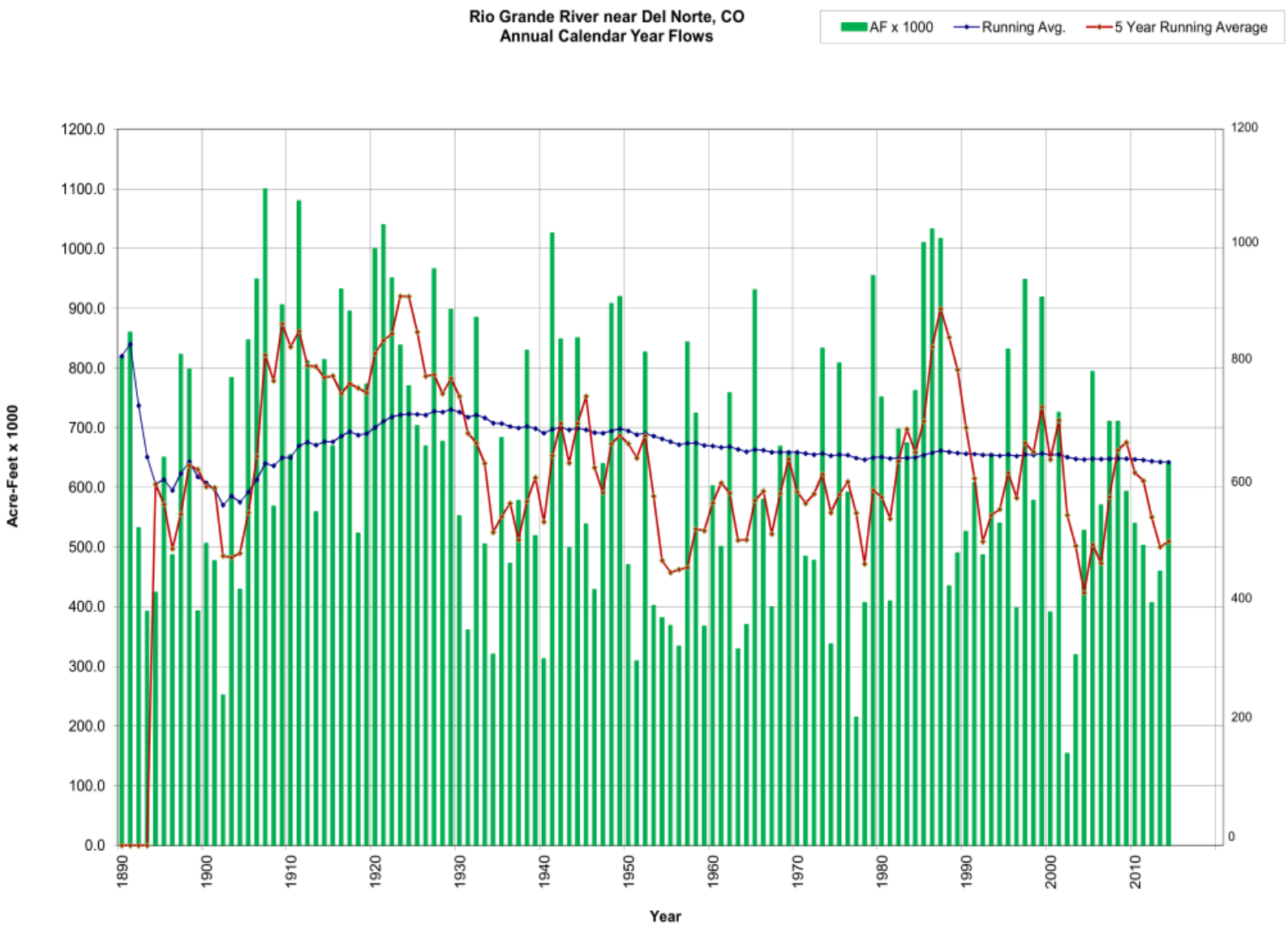
Changes: Comparing
September of each year
Year 2002 = -439,816 a.f.
Year 2003 = -250,214 a.f.
Year 2004 = -99,285 a.f.
Year 2005 = +35,612 a.f.
Year 2006 = -38,228 a.f.
Year 2007 = +242,380 a.f.
Year 2008 = +14,057 a.f.

Changes: Comparing
September of each year
Year 2009 = +69,864 a.f.
Year 2010 = -106,745 a.f.
Year 2011 = -238,480 a.f.
Year 2012 = -123,126 a.f.
Year 2013= -133,066 a.f.
Year 2014 = +71,440 a.f.



DRAFT - July 13, 2015
By Davis Engineering Service, Inc.

Annual Calendar Year Flows



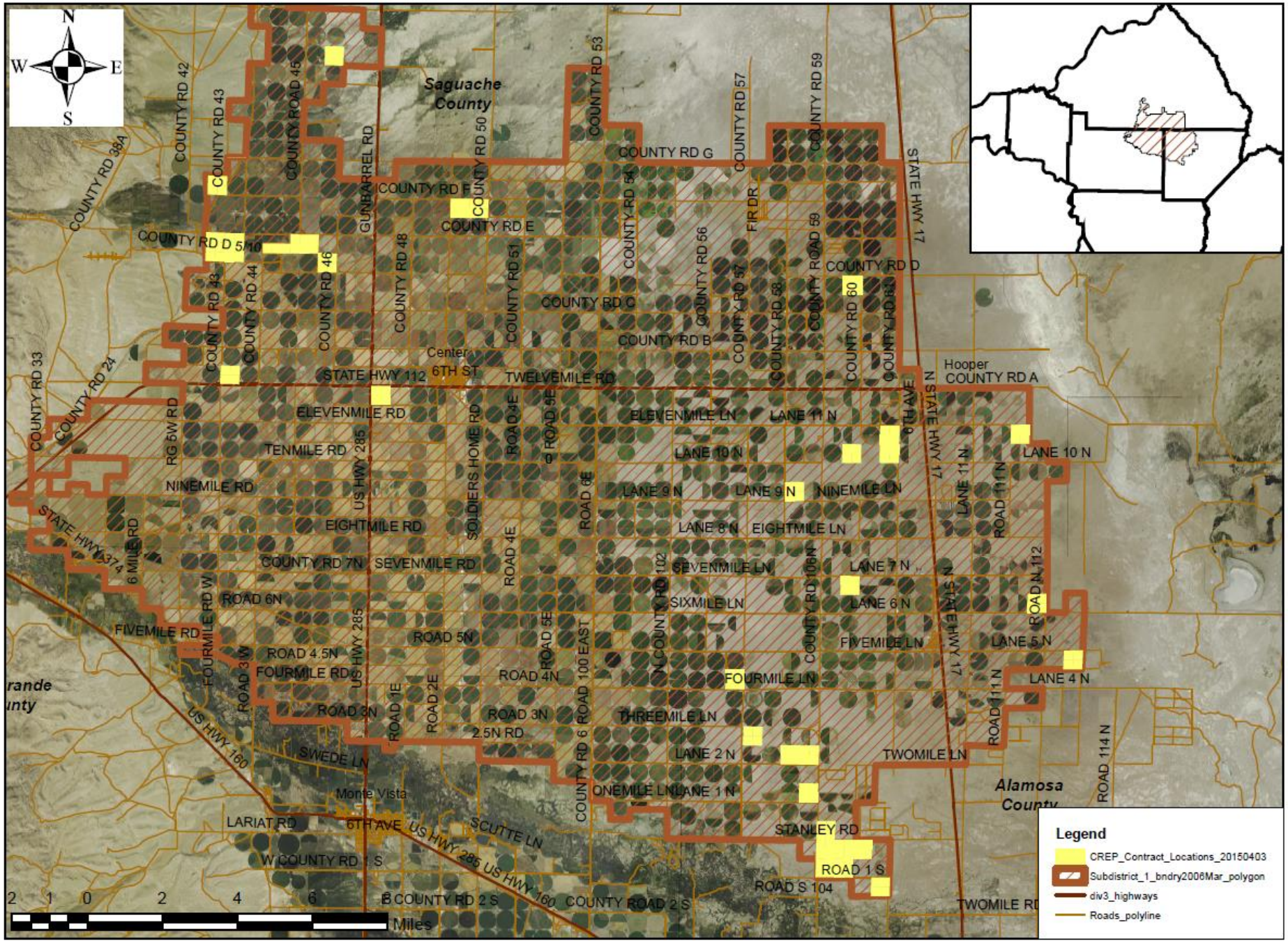
Effect of Drought On Rio Grande Water Supply

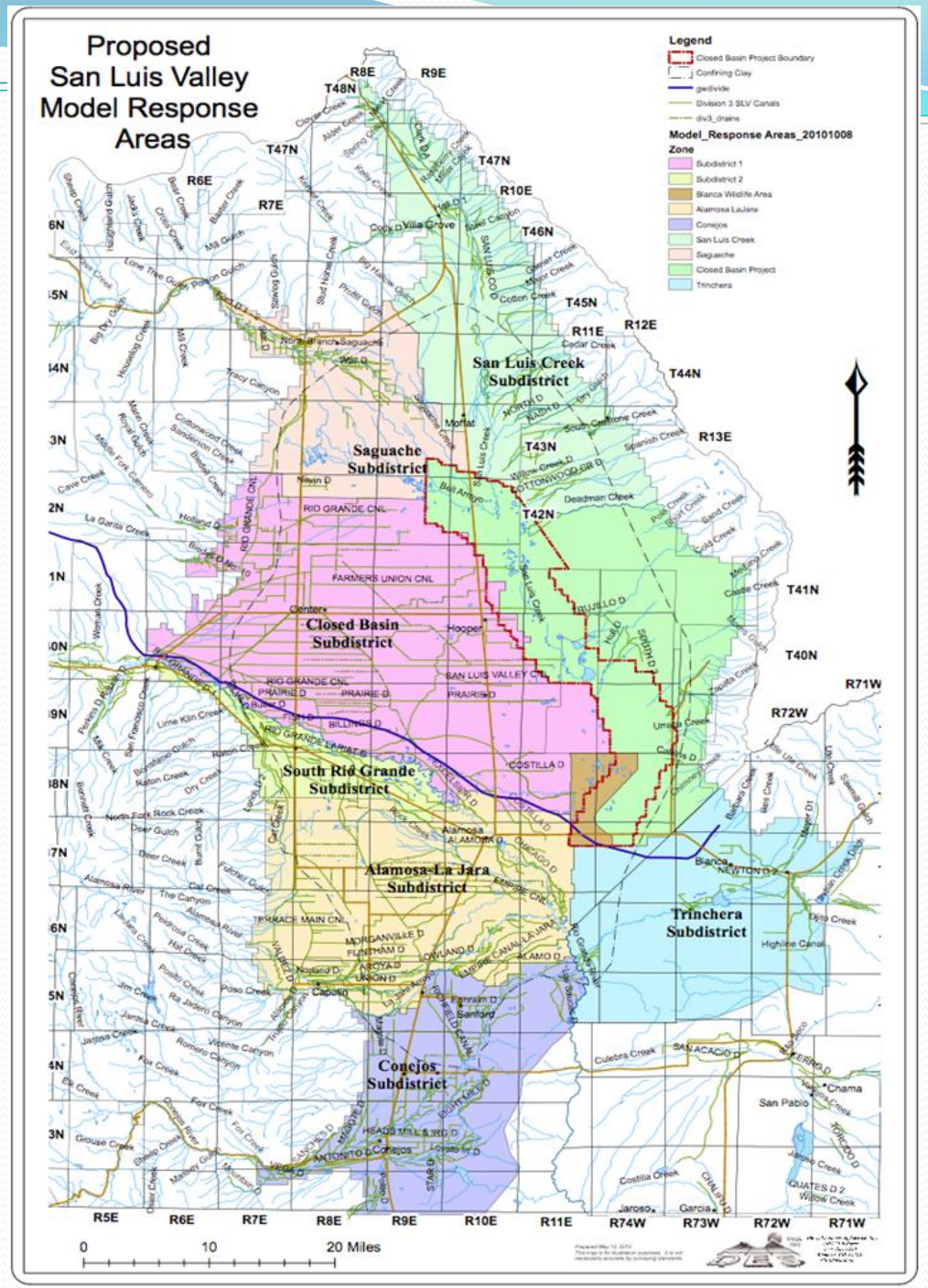
2000-2014 Annual Flow of Rio Grande Compared to Historical Averages

Year	Flow of Rio Grande Flow at Del Norte Gage	Deviation from 1890-1999 Average of 656,831	Deviation from 1950-1999 Average of 607,158
2000	391,200	-265,631	-215,958
2001	725,400	68,569	118,242
2002	156,400	-500,431	-450,758
2003	319,100	-337,731	-288,058
2004	527,625	-129,206	-79,533
2005	793,063	136,232	185,905
2006	570,400	-86,431	-36,758
2007	709,979	53,148	102,821
2008	710,073	53,242	102,915
2009	593,074	-63,757	-14,084
2010	539,365	-117,466	-67,793
2011	502,710	-154,121	-104,448
2012	406,949	-249,882	-200,209
2013	460,000	-196,831	-147,158
*2014	640,000	-16,831	32,842
	Cumulative Shortage:	**-1,807,127**	**-1,062,032**

Above Ave.

CREP PROGRAM ORIGINAL AND PROPOSED FIELD LOCATIONS




Proposed
San Luis Valley
Model Response
Areas
Legend
Closed Basin Project Boundary
Confining Clay
gedivide
Division 3 SLV Canals
div3_chains
Model_Response Areas_20101008
Zone
Subdistrict 1
Subdistrict 2
Blanca Wildlife Area
Alamosa LaJara
Conejos
San Luis Creek
Saguache
Closed Basin Project
Trinchera
San Luis Creek Subdistrict
Saguache Subdistrict
Closed Basin Subdistrict
South Rio Grande Subdistrict
Alamosa-La Jara Subdistrict
Trinchera Subdistrict
Conejos Subdistrict
R5E
R6E
R7E
R8E
R9E
R10E
R11E
R12E
R13E
R74W
R73W
R72W
R71W
T48N
T47N
T46N
T45N
T44N
T43N
T42N
T41N
T40N
0
10
20 Miles