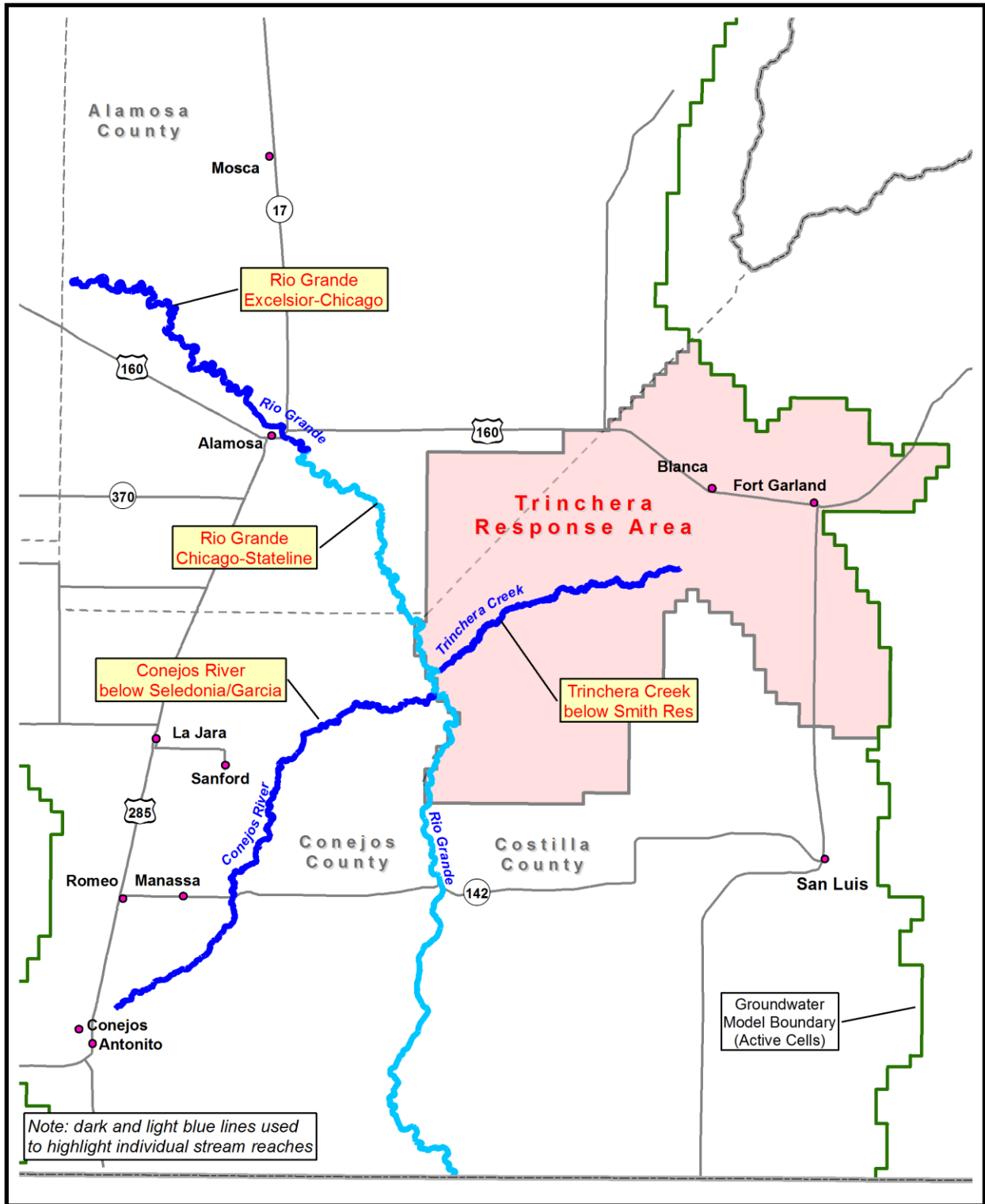



**RESPONSE AREA SUMMARY PACKAGE****TRINCHERA RESPONSE AREA****Table of Contents**

Figure 1	<p><b><i>Trinchera Response Area, Stream Reaches with Response Functions</i></b> - This figure shows the stream reaches for which Response Functions were calibrated. For the Trinchera Response Area there are four stream reaches with Response Functions:</p> <ol style="list-style-type: none"><li>1. Trinchera Creek below Smith Reservoir</li><li>2. Rio Grande Excelsior Ditch to Chicago Ditch</li><li>3. Rio Grande Chicago Ditch to State Line</li><li>4. Conejos River below Seledonia/Garcia Ditches</li></ol>
Table 1a	<p><b><i>Estimated Historical and Current Year Stream Depletion and Accretion from Groundwater Withdrawals in the Trinchera Response Area (acre-feet)</i></b> - This table provides a summary of the Trinchera Response Area's groundwater withdrawal impacts to streams using Response Functions calibrated to the RGDSS Groundwater Model for the time frame of 2001 through 2015. For illustrative purposes, groundwater withdrawal was discontinued after 2015 and the Response Functions were applied to estimate post plan depletions. Net Groundwater Consumptive Use is defined as the groundwater consumed by the operations of one or more wells and represents the difference between groundwater withdrawals less any return flow to the hydrogeologic system.</p>
Table 1b	<p><b><i>Estimated Post Plan Net Stream Depletions from Groundwater Withdrawals in the Trinchera Response Area (acre-feet)</i></b></p>
Figure 2	<p><b><i>2001-2015 Estimated Net Stream Depletions and Post 2015 Projected Net Stream Depletions from Groundwater Withdrawals in the Trinchera Response Area</i></b> - The stacked graph shows the combination of Table 1a (historical and current year depletions) and Table 1b (post-plan depletions) .</p>
Table 2	<p><b><i>Monthly Net Stream Depletions for 2015 Plan Year in the Trinchera Response Area (acre-feet)</i></b> - This table provides the monthly distribution of Net Stream Depletions for the 2015 Plan Year.</p>



Note: dark and light blue lines used to highlight individual stream reaches

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**Figure 1. Trinchera Response Area Stream Reaches with Response Functions**

**Table 1a: Estimated Historical and Current Year Net Stream Depletions from Groundwater Withdrawals in the Trinchera Response Area (acre-feet)**

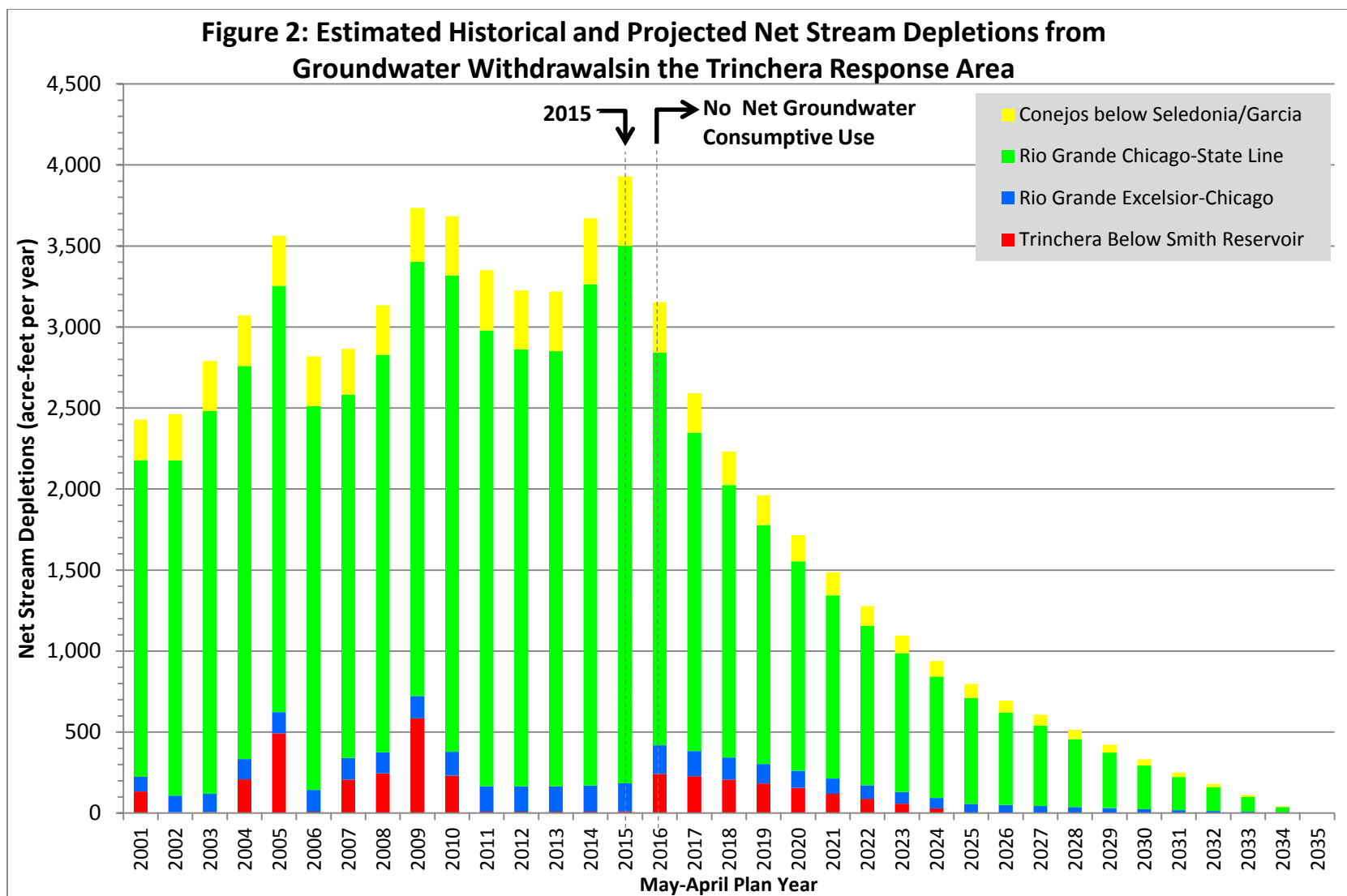
Year	Trinchera + Sangre + Ute Creeks (Apr-Sep)	Net Groundwater Consumptive Use (Jan-Dec)	Net Stream Depletions (May – April)				Total
			Trinchera Below Smith Res.	Rio Grande Excelsior-Chicago	Rio Grande Chicago-State Line	Conejos below Seledonia/Garcia	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(10)
2001	25,506	18,963	133	91	1,955	250	2,429
2002	3,210	30,417	6	102	2,069	284	2,461
2003	25,459	21,463	7	113	2,361	310	2,791
2004	30,512	18,581	209	124	2,426	312	3,071
2005	59,367	14,748	492	131	2,631	309	3,563
2006	9,517	23,990	8	134	2,370	306	2,818
2007	39,855	11,639	208	132	2,243	283	2,866
2008	41,334	18,542	245	131	2,453	305	3,134
2009	31,496	21,423	585	137	2,680	333	3,735
2010	33,459	24,484	232	147	2,939	365	3,683
2011	10,132	31,156	9	156	2,814	372	3,351
2012	16,478	26,693	9	157	2,696	364	3,226
2013	11,337	27,764	9	156	2,685	369	3,219
2014	28,349	25,340	9	161	3,094	406	3,670
2015	28,349	25,340	11	175	3,316	429	3,931
Average	26,291	22,703	145	136	2,582	333	3,197

**Table 1b: Estimated Post Plan Net Stream Depletions from Groundwater Withdrawals in the Trinchera Response Area (acre-feet)**

Year	Trinchera + Sangre + Ute Creeks (Apr-Sep)	Net Groundwater Consumptive Use (Jan-Dec)	Net Stream Depletions (May – April)				Total
			Trinchera Below Smith Res.	Rio Grande Excelsior-Chicago	Rio Grande Chicago-State Line	Conejos below Seledonia/Garcia	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(10)
2016		0	242	177	2,423	311	3,153
2017		0	229	155	1,964	244	2,592
2018		0	208	135	1,682	207	2,232
2019		0	183	120	1,475	182	1,960
2020		0	155	106	1,293	161	1,715
2021		0	120	94	1,131	141	1,486
2022		0	89	83	983	123	1,278
2023		0	58	73	857	109	1,097
2024		0	29	64	750	97	940
2025		0	0	57	654	86	797
2026		0	0	50	570	75	695
2027		0	0	44	496	66	606
2028		0	0	38	419	57	514
2029		0	0	31	343	47	421
2030		0	0	25	269	38	332
2031		0	0	19	204	28	251
2032		0	0	14	148	19	181
2033		0	0	9	91	11	111
2034		0	0	3	34	4	41
2035		0	0	0	0	0	0
Post Plan Depletion		0	1,313	1,297	15,786	2,006	20,402

## Notes for Tables 1a and 1b columns:

1. Year
2. Combined Streamflow (Trinchera Creek above Turners Ranch, Sangre De Cristo Creek near Fort Garland and Ute Creek near Fort Garland) in acre-feet for the period of April through September. The 2015 streamflow data was estimated to be the same as in 2014.
3. Net Groundwater Consumptive Use (NetGWCU) for January through December.
  - a. NetGWCU values for 2001 through 2010 were taken from the RGDSS Groundwater Model output.
  - b. NetGWCU values for 2011 through 2014 were calculated using well meter data and irrigated acreage information.
  - c. NetGWCU data for 2015 was estimated to be the same as in 2014.
4. Net Stream Depletions in Trinchera Creek below Smith Reservoir for the plan year (May through April) in acre-feet.
5. Net Stream Depletions in the Conejos River below the Seledonia/Garcia Ditches for the plan year (May through April) in acre-feet.
6. Net Stream Depletions in the Rio Grande Excelsior Ditch to Chicago Ditch reach for the plan year (May through April) in acre-feet.
7. Net Stream Depletions in the Rio Grande Chicago Ditch to the Stateline for the plan year (May through April) in acre-feet.
8. Total Net Stream Depletions columns (4+5) in acre-feet.



**Table 2: Monthly Net Stream Depletions for 2015 Plan Year in the Trinchera Response Area (acre-feet)**

Stream Reach	2015								2016				Total
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Trinchera Below Smith Reservoir	4	6	0	0	0	0	0	0	0	0	0	1	11
Rio Grande Excelsior-Chicago	15	14	14	14	13	14	14	15	15	14	16	16	174
Rio Grande Chicago-State Line	287	291	319	319	283	266	249	254	247	223	297	281	3,316
Conejos below Seledonia/Garcia	32	33	39	42	39	38	36	37	35	32	34	32	429
<b>Total</b>	<b>338</b>	<b>344</b>	<b>372</b>	<b>375</b>	<b>335</b>	<b>318</b>	<b>299</b>	<b>306</b>	<b>297</b>	<b>269</b>	<b>347</b>	<b>330</b>	<b>3,930</b>

Notes for columns:

- 1 Stream reach
- 2-13 Monthly Net Stream Depletions in acre-feet
- 14 Total Plan Year Net Stream Depletions in acre-feet