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Lost Pines Groundwater Conservation District
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GMA-12 All Permits Model Runs

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ROCKY MOUNTAIN | MIDWEST | SOUTHWEST | TEXAS

REPORTED PERMITS (AC-FT/YR)

	Alluvial	Shallow Flow	Sparta	Weches	Queen City	Reklaw	Carrizo	Calvert Bluff	Sims-boro	Hooper	Total
BVGCD	0	30	12,544	0	1,653	0	10,537	1,594	335,540	1,921	363,818
FCGCD	0	0	299	0	830	0	3362	0	0	0	4,491
LPGCD	6,000	0	1,159	0	885	0	24,126	5,905	136,274	1,953	176,302
METGCD	0	0	3505	8	1036	0	785	5588	2158	2273	15,354
POSGCD	0	3,079	7,161	34	1,476	36	18,444	6,396	113,406	2,062	152,093
	6,000	3,109	24,668	42	5,881	36	57,254	19,482	587,378	8,209	712,059

ASSUMPTIONS

- Pumping file construction
 - Baseline S-19
 - Starting in 2025
 - Removed pumping above 100 af/yr from cells in Layers 3 - 10
 - Replaced pumping rates in cells with values of current permits
 - Allowed auto-flow reduction
- Used publicly available codes for post-processing
 - Hutchison, 2023 -> GMA12 Post-Processor
 - Hutchison, 2024 -> Percent Remaining Artesian Head

MODELED PUMPING (AC-FT/YR)

	2011 (SP1)	2025 (SP15)	2070 (SP60)
BVGCD	155,411	420,837	420,962
FCGCD	819	9,648	9,772
LPGCD	30,758	183,854	190,531
METGCD	16,973	18,649	18,547
POSGCD	36,531	190,687	196,924
	240,493	823,675	836,736

Auto-flow reductions not included

2070 DRAWDOWN (S-19 ALL PERMITS)

ft in Outcrop*	Sparta	Queen City	Carrizo	Calvert Bluff	Sims-boro	Hooper
BVGCD	7	55	21	5	2	5
FCGCD	162	-	-	-	-	-
LPGCD	5	45	19	10	4	8
METGCD	1	2	3	2	2	2
POSGCD	9	41	56	13	3	6

ft in Subcrop^	Sparta	Queen City	Carrizo	Calvert Bluff	Sims-boro	Hooper
BVGCD	60	51	118	203	451	287
FCGCD	43	76	154	210	370	209
LPGCD	30	37	206	231	453	252
METGCD&	6	12	9	28	97	63
POSGCD	66	34	181	317	632	377

GMA12 Post-Processor: ^Official Aquifer Area by GCD and model layer, "avgddgddoa.dat"

*Official Aquifer Area by GCD and outcrop area, "avgocddgddoa.dat"

&Full Model Domain by GCD and model layer, "

REMAINING ARTESIAN HEAD, AS % OF 2010 (S-19 + S-19 ALL PERMITS)

S-19 Original	Sparta	Queen City	Carrizo	Calvert Bluff	Sims-boro	Hooper
BVGCD	74	88	86	75	80	92
FCGCD	95	96	95	96	95	98
LPGCD	84	79	72	70	79	88
METGCD	80	88	83	83	95	96
POSGCD	89	93	71	69	75	85

S-19 All Permits	Sparta	Queen City	Carrizo	Calvert Bluff	Sims-boro	Hooper
BVGCD	67	82	75	57	56	79
FCGCD	96	96	94	93	92	96
LPGCD	79	75	61	57	66	81
METGCD	79	88	87	86	95	96
POSGCD	84	92	59	54	51	70



CONNECTING WATER TO LIFE

