

2019 GROUND WATER QUALITY MONITORING REPORT

South Platte Natural Resources District



JANUARY 7, 2019
REPORTED BY CHRIS KAISER

Summary

This report summarizes the 2019 ground water quality monitoring program for the South Platte Natural Resources District (SPNRD).

The SPNRD has completed its thirty-first year of monitoring nitrates in the District. Of the 173 network wells, 135 were sampled at least once this year. This breaks down to 48 of 53 domestic wells, 44 out of 75 irrigation wells, 38 out of 38 dedicated monitoring wells, and five out of eight municipal wells. The municipal nitrate information is collected by the city of Sidney and they allow the NRD to use their data for this report. Some irrigation wells were unable to be sampled for the following reasons: enrolled in temporary deferment, EQIP practices, crop rotations, or the well is no longer being used. Some irrigation wells were not used very often, or not used at all throughout the last year. Most irrigation users have also gone to a set irrigation schedule which has made it difficult to catch those systems running.

There are 62 monitoring wells established on the tablelands that are not considered in the network. All these wells have been sampled within the last few years. Except for three wells, nitrate results in these wells fall between 1-3 parts per million (ppm).

Quality Assurance/Quality Control (QA/QC) measures were followed during nitrate sampling. The primary method used for QA/QC was duplicate sampling. One duplicate was taken for every ten samples. The relative percent difference (RPD) was determined from the two duplicate samples. An average of this percent is then calculated for all the RPD's. This year's average was 1.76%. According to Ward Laboratories, the most precise data will fall within the 0-10% range.

Attached in this report is a map indicating the current SPNRD ground water quality management subareas and the management area phase those subareas are in.

Items to take into consideration when reviewing the following information obtained in this report:

- The Sidney GWQMSA is in a Phase II management control (three consecutive years over the 80% MCL trigger). Producers in this area are required to abide by the District's Nitrogen Reporting Program. This is the third consecutive year that this subarea has been over the 95% MCL trigger.
- The board will need to decide which course of action to take regarding the Sidney GWQMSA. The rules state that once three consecutive years above 95% MCL have occurred, the subarea would be moved to Phase III. Staff will work with the Natural Resources Projects & Programs Committee to address these issues.
- Nitrate levels have been steadily increasing in areas along the Lodgepole Creek in Kimball county. Currently, there are no ground water quality management areas designated in Kimball county.

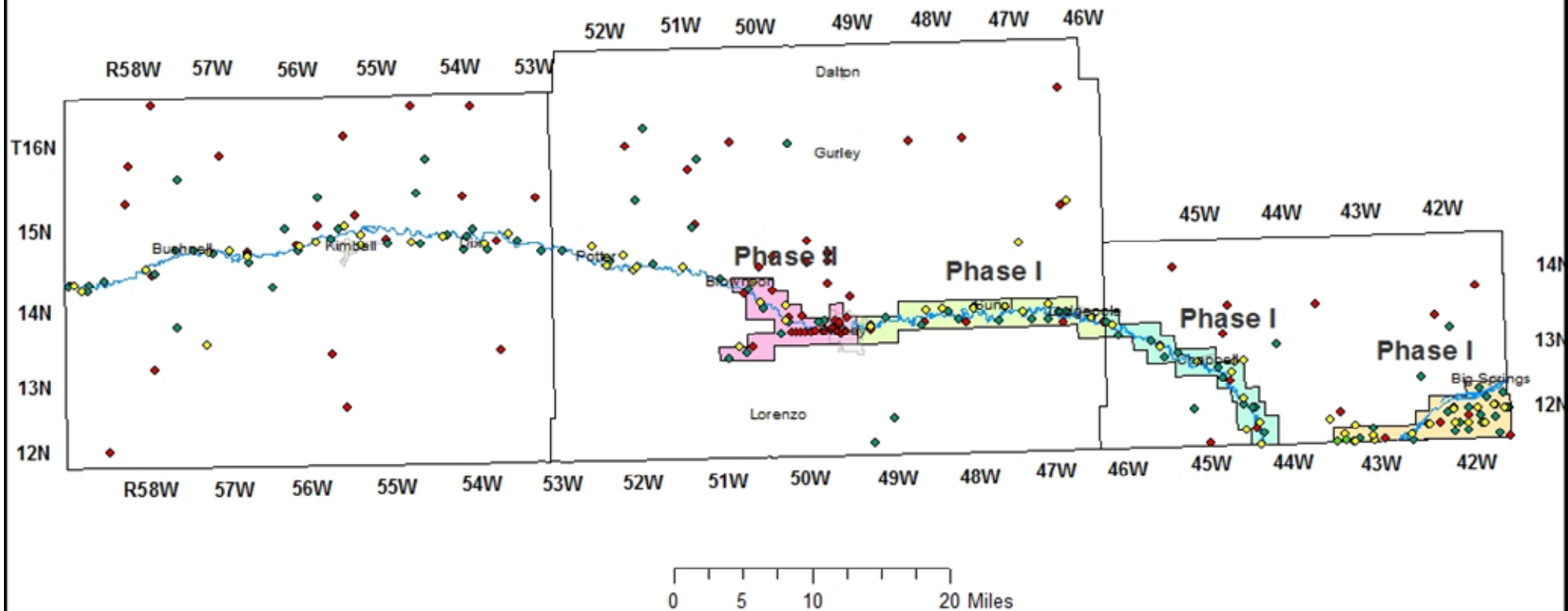
SPNRD Ground Water Quality Subareas

Water Quality Subareas

- Sidney GWQMSA PHASE II
- East Lodgepole Valley GWQMSA (Cheyenne County) PHASE I
- Lodgepole Valley GWQMSA (Deuel County) PHASE I
- South Platte Valley GWQMSA PHASE I

Well Type

- Domestic
- Irrigation
- Monitoring

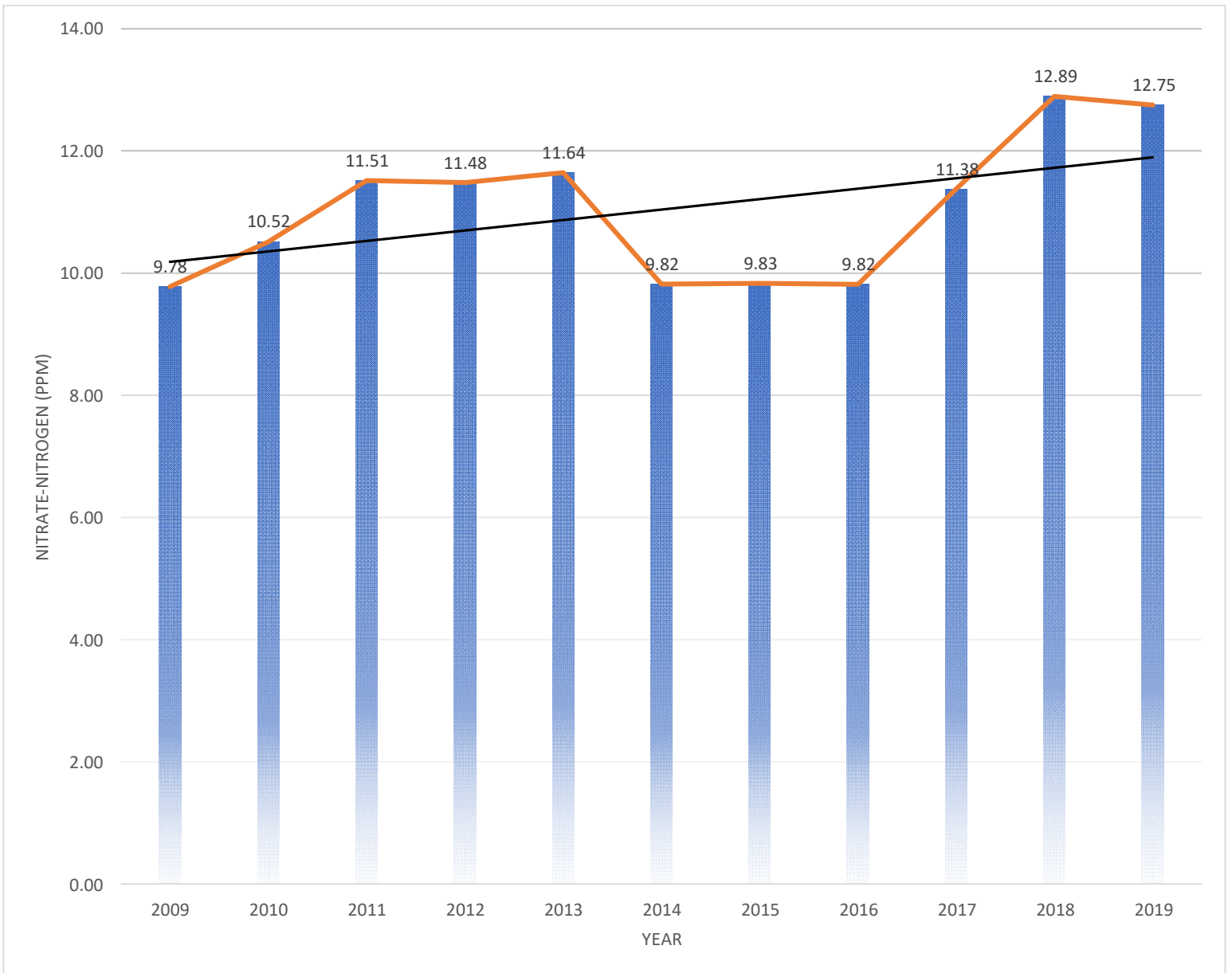


NITRATE AVERAGES FOR TARGET SUBAREAS OF THE DISTRICT

Target Area	2011	2012	2013	2014	2015	2016	2017	2018	2019
City of Sidney Municipal Wells	11.51	11.48	11.64	9.82	9.83	9.82	11.38	12.89	12.75
Sidney Draw Trigger Monitoring Wells	10.31	9.76	10.22	9.88	10.53	10.49	11.10	11.74	11.82
Sidney GWMA Network Wells	4.63	4.10	4.55	4.61	4.72	6.91	7.05	8.04	8.39
Composite Average SGWQMSA (Phase II)	9.02	8.70	9.03	8.01	8.40	8.97	9.77	10.56	10.55
East Lodgepole Valley GWMA Network Wells	8.29	7.92	7.42	6.31	7.34	7.56	7.44	6.99	6.64
East Lodgepole Valley Monitoring Wells	9.8	10.61	9.99	8.56	7.45	8.65	8.67	10.03	9.00
Composite Average East Lodgepole Valley GWQMSA (Phase I)	8.61	8.43	7.88	7.74	7.36	7.79	7.97	7.75	7.31
West Lodgepole Valley Cheyenne County	5.18	4.59	3.90	3.71	3.43	4.13	5.07	4.16	3.86
South Platte Valley GWMA Network Wells	8.25	8.40	8.63	8.97	8.75	9.79	8.50	9.29	9.02
South Platte Valley Monitoring Wells	4.32	4.87	5.90	5.32	4.73	4.42	3.90	3.82	3.92
Composite Average South Platte Valley GWQMSA (Phase I)	7.49	7.70	8.02	8.21	7.89	8.64	7.55	8.20	7.96
Lodgepole Valley (DC) GWMA Network Wells	6.01	7.01	5.69	6.16	6.36	7.73	6.90	7.21	6.76
Lodgepole Valley (DC) Monitoring Wells	4.78	5.41	5.73	5.23	4.90	3.88	3.10	3.03	3.40
Composite Average Lodgepole Valley GWQMSA Deuel County (Phase I)	5.73	6.68	5.70	5.93	6.00	6.70	5.73	6.01	5.80
Lodgepole Valley (KC) Network Wells	5.52	5.66	4.56	5.16	4.61	6.13	6.37	5.99	6.53
Lodgepole Valley (KC) Monitoring Wells	5.17	6.37	6.63	6.27	5.71	6.68	7.55	6.38	5.61
Composite Average Lodgepole Valley (KC)	5.04	5.21	5.42	4.84	5.18	6.26	6.61	6.07	6.31

City of Sidney Municipal Nitrate-Nitrogen Levels

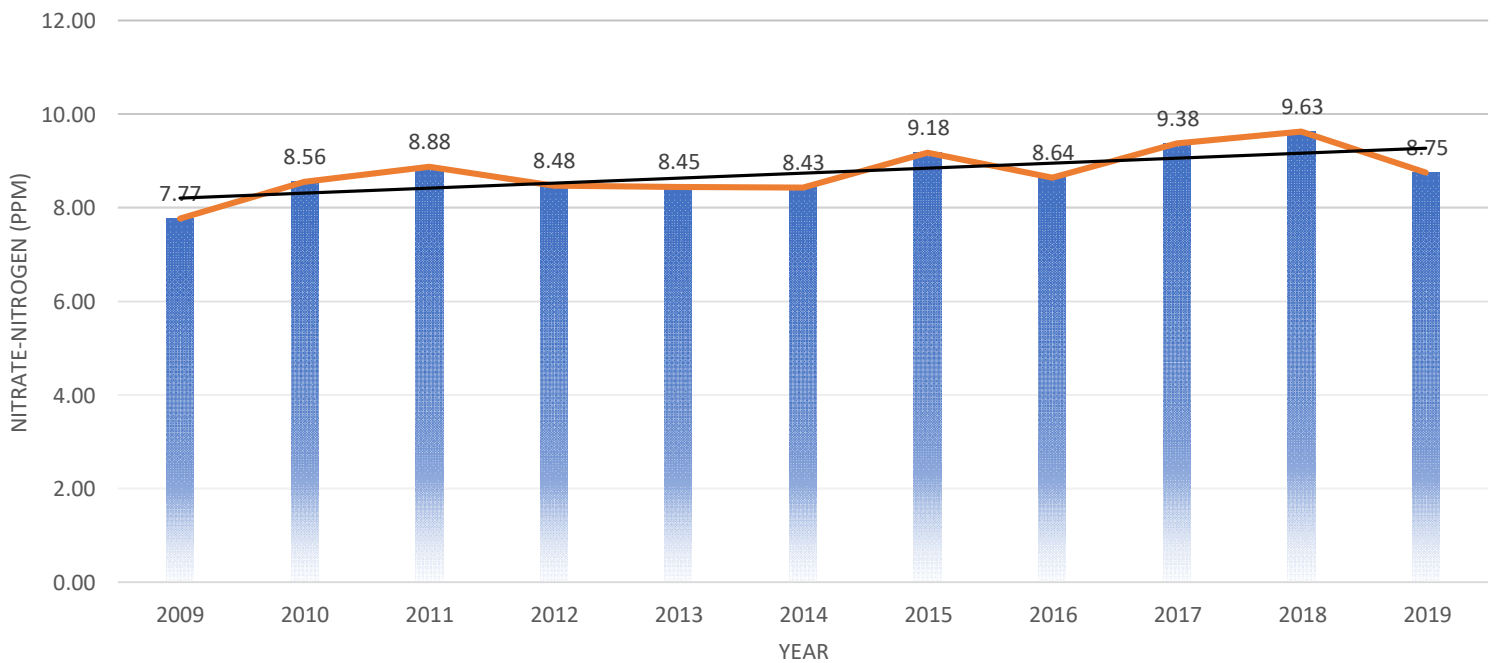
Well ID	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
SMW-1	11.80	12.47	13.75	13.63	13.85	10.42	10.85	11.87	13.95	14.26	13.65
SMW-2	11.10	12.07	13.65	13.50	13.90	11.49	11.53	12.10	14.29	14.36	14.31
SMW-3	12.77	13.10	14.00	14.20	14.70	11.44	11.60	10.51	14.30	16.16	16.09
SMW-4	7.63	8.23	8.90	8.53	8.75	8.23	8.11	7.30			
SMW-6	12.77	12.60	14.05	14.17	14.10	12.03	12.15	10.50	7.49		
SMW-7	8.03	10.13	11.25	10.80	10.35	9.06	8.35	9.90			
SMW-8	6.60	7.63	8.00	7.87	7.80	7.11	7.49	8.19	8.66	8.57	8.71
SMW-9	7.53	7.90	8.50	9.13	9.70	8.78	8.58	8.15	9.56	11.12	11.00
AVG	9.78	10.52	11.51	11.48	11.64	9.82	9.83	9.82	11.38	12.89	12.75



All Sidney Draw Monitoring Wells

Well ID	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
SD-1	8.03	8.96	7.90	7.30	7.50	8.11	7.70	9.80	8.10	9.30	7.10
SD-10	11.48	11.90	11.87	9.50	10.30	9.90	10.07	10.05	10.80	10.20	11.10
SD-12-D	11.10	12.13	12.20	12.09	12.52	12.30	12.60	11.20	12.10	12.80	14.80
SD-12-S	11.85	13.07	13.40	13.25	13.47	13.10	14.10	10.40	15.00	12.80	11.10
SD-15	4.22	5.60	6.93	7.37	3.87	5.18	5.50	3.95	4.10	4.10	3.40
SD-16	1.95	2.08	1.70	1.80	1.77	1.80	1.90	1.63	1.70	1.60	2.45
SD-2	4.15	5.78	7.97	6.00	6.95	6.80	11.30	10.65	8.10	7.70	6.60
SD-3	5.10	5.53	4.80	6.10	4.90	5.20	5.05	7.33	8.90	7.90	6.30
SD-4	6.92	7.92	7.37	8.00	8.60	8.24	8.95	11.35	12.40	13.70	10.90
SD-6	9.36	10.03	10.45	9.90	10.40	10.23	11.55	10.53	11.40	12.50	11.40
SD-7-D	8.94	9.07	9.65	9.32	9.30	8.74	9.50	9.30	8.80	9.50	10.90
SD-7-S	10.10	10.63	12.30	11.08	11.83	11.60	11.90	7.50	11.10	13.40	9.00
AVG	7.77	8.56	8.88	8.48	8.45	8.43	9.18	8.64	9.38	9.63	8.75

ALL SIDNEY DRAW MONITORING WELLS

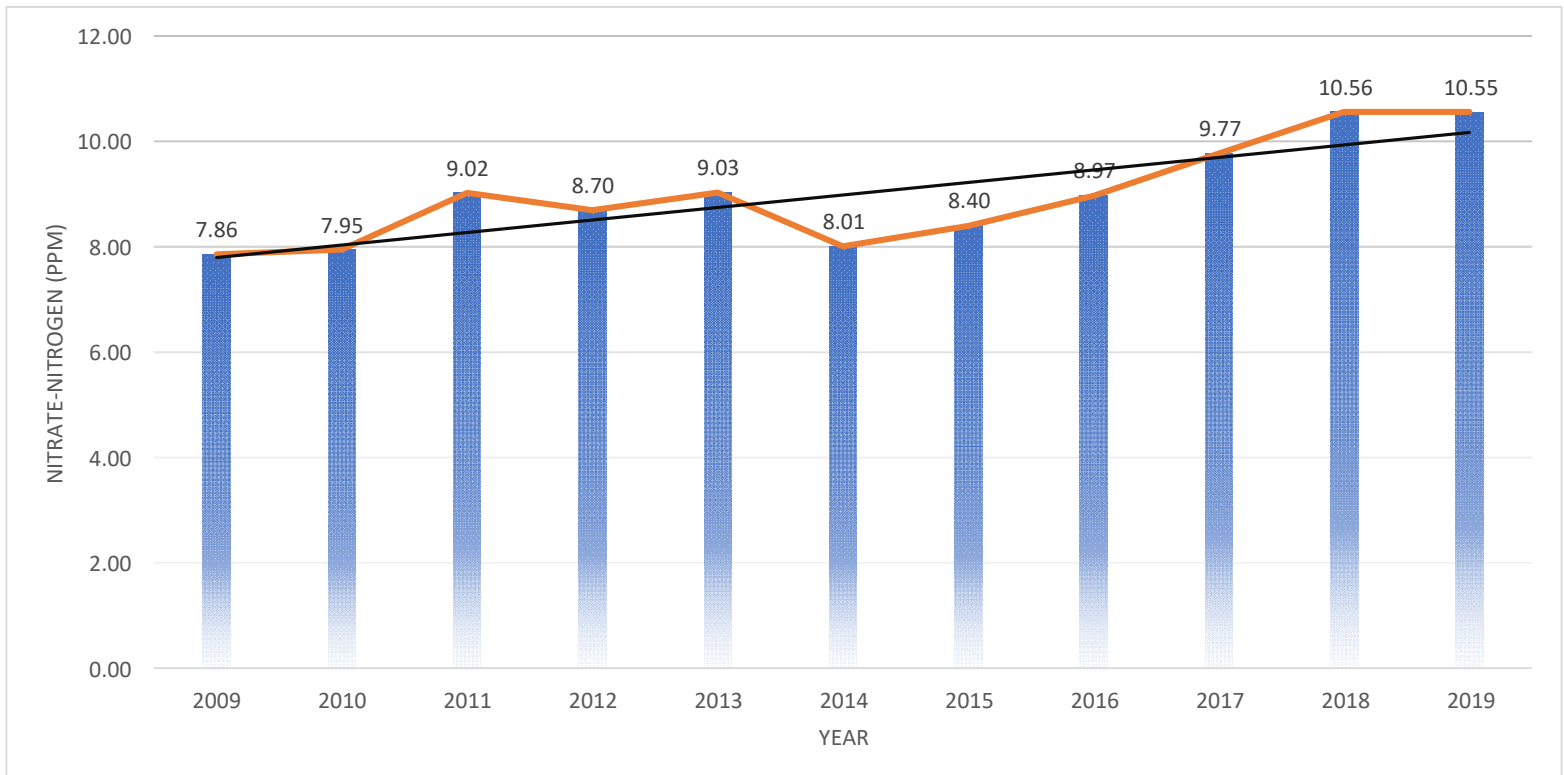


Wells Included in Triggers

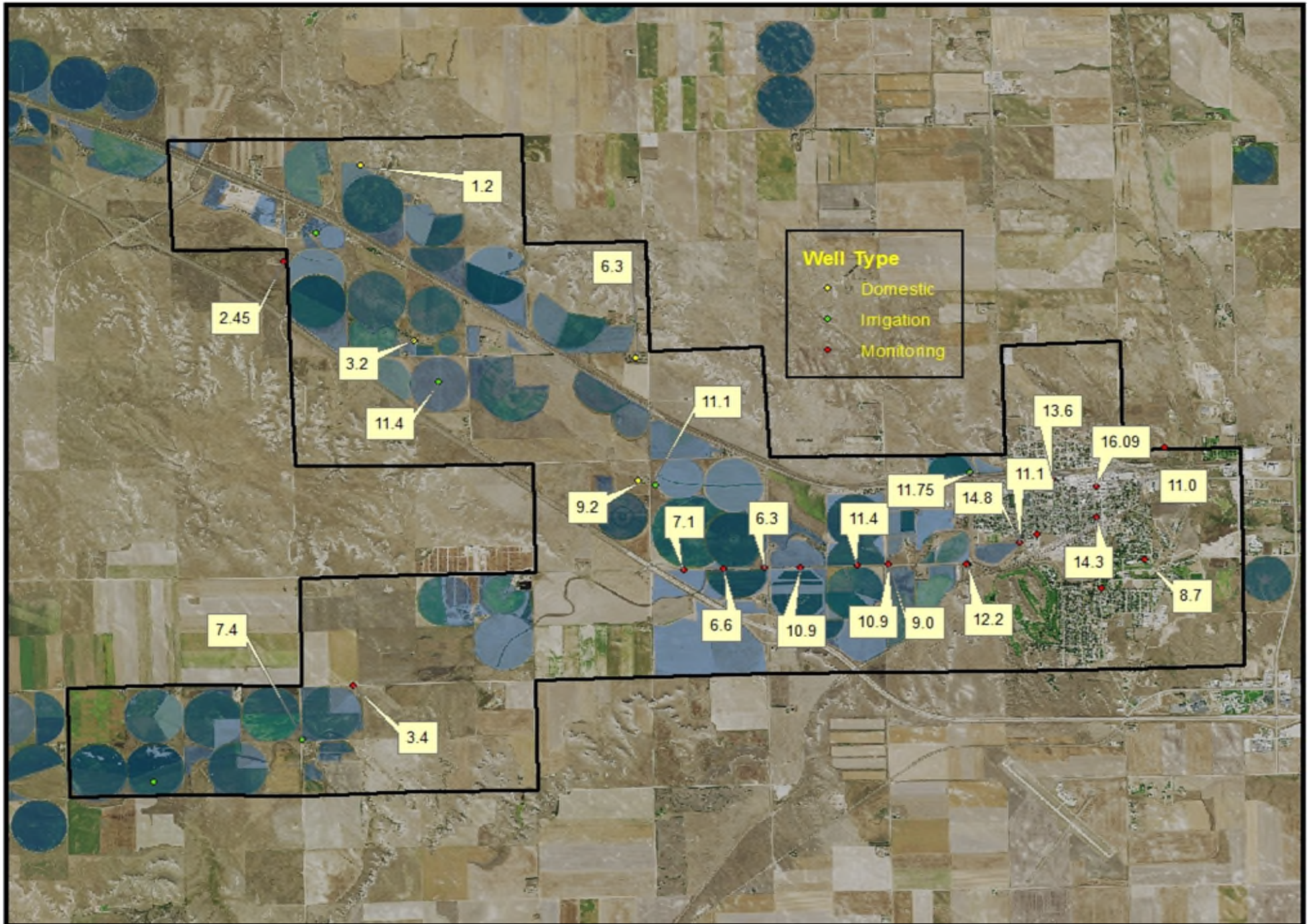
Well ID	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
SD-10	11.48	11.90	11.87	9.50	10.30	9.90	10.07	10.05	10.80	10.20	11.10
SD-12-D	11.10	12.13	12.20	12.09	12.52	12.30	12.60	11.20	12.10	12.80	14.80
SD-4	6.92	7.92	7.37	8.00	8.60	8.24	8.95	11.35	12.40	13.70	10.90
SD-6	9.36	10.03	10.45	9.90	10.40	10.23	11.55	10.53	11.40	12.50	11.40
SD-7-D	8.94	9.07	9.65	9.32	9.30	8.74	9.50	9.30	8.80	9.50	10.90
AVG	9.56	10.21	10.31	9.76	10.22	9.88	10.53	10.49	11.10	11.74	11.82

Sidney Ground Water Quality Management Subarea Composite Averages

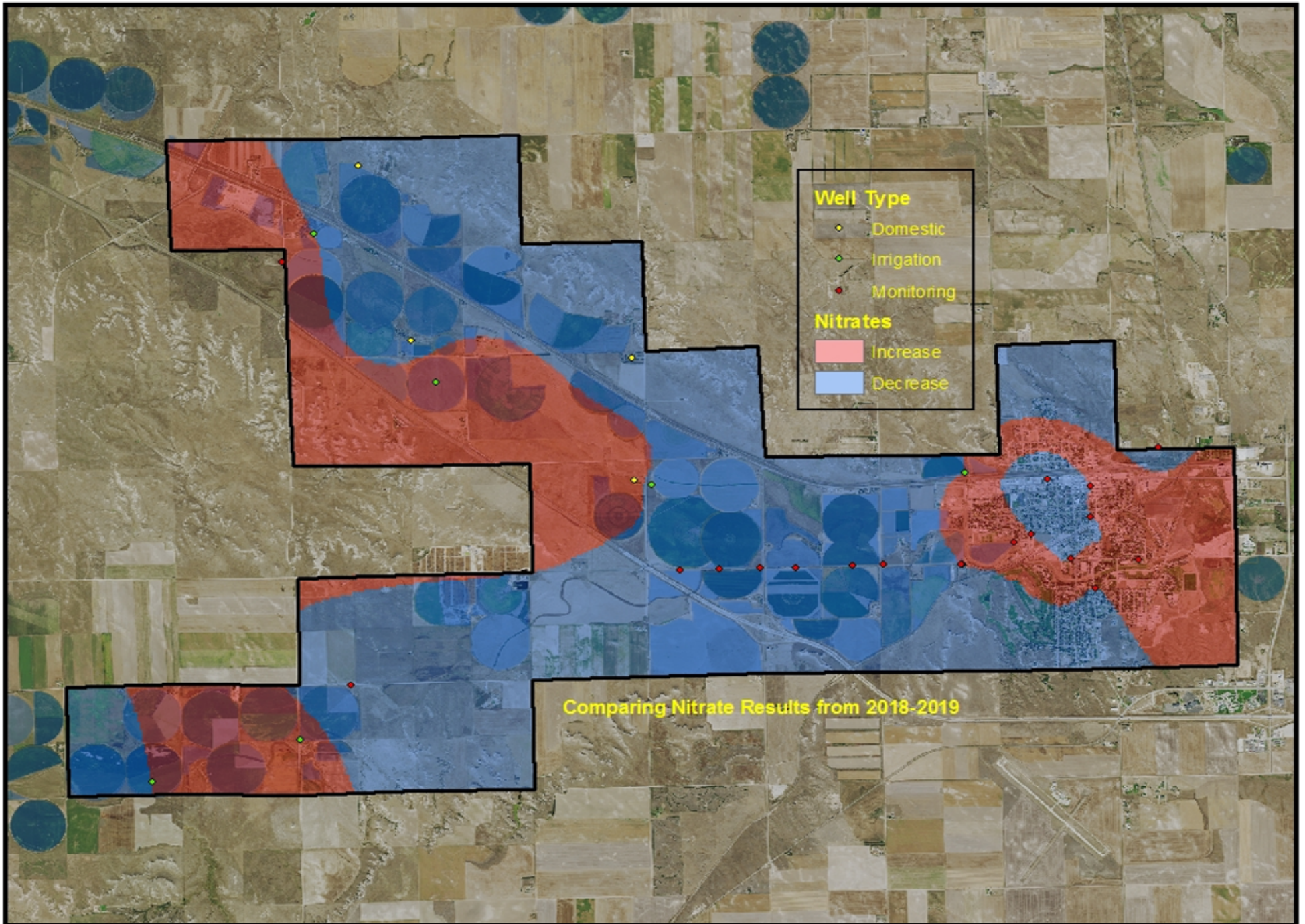
Well Type	Well ID	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Domestic	D068	1.70	1.15	6.20	1.00	2.95	0.95	8.40	7.05	8.15	6.85	9.20
	D060	4.65	1.35	1.35	1.10	1.55	1.20	1.05	0.95	1.70	2.30	1.20
	D058	4.35	4.43	5.00	6.90	5.95	7.40	5.45	6.45	6.60	9.50	8.27
	D069	5.30	5.55	5.30	5.70	5.15	5.95	5.30	10.05	6.65	8.65	6.80
Irrigation	I061	2.60			4.40	3.80	3.40	3.80				
	I063		1.90						5.40			
	I067		4.05	4.01		7.90				9.50	12.50	11.10
	I070											11.75
	I064	5.50	5.30	5.90	5.50		4.50	4.30	8.40		7.10	7.4
	I059	7.05					8.90		10.10	9.70	9.40	11.40
Municipal	SMW-1	11.80	12.47	13.75	13.63	13.85	10.42	10.85	11.87	13.95	14.26	13.65
	SMW-2	11.10	12.07	13.65	13.50	13.90	11.49	11.53	12.10	14.29	14.36	14.31
	SMW-3	12.77	13.10	14.00	14.20	14.70	11.44	11.60	10.51	14.30	16.16	16.09
	SMW-4	7.63	8.23	8.90	8.53	8.75	8.23	8.11	7.30			
	SMW-6	12.77	12.60	14.05	14.17	14.10	12.03	12.15	10.50	7.49		
	SMW-7	8.03	10.13	11.25	10.80	10.35	9.06	8.35	9.90			
	SMW-8	6.60	7.63	8.00	7.87	7.80	7.11	7.49	8.19	8.66	8.57	8.71
	SMW-9	7.53	7.90	8.50	9.13	9.70	8.78	8.58	8.15	9.56	11.12	11.00
	Monitoring	SD-10	11.48	11.90	11.87	9.50	10.30	9.90	10.07	10.05	10.80	10.20
SD-12-D		11.10	12.13	12.20	12.09	12.52	12.30	12.60	11.20	12.10	12.80	.80
SD-4		6.92	7.92	7.37	8.00	8.60	8.24	8.95	11.35	12.40	13.70	10.90
SD-6		9.36	10.03	10.45	9.90	10.40	10.23	11.55	10.53	11.40	12.50	11.40
SD-7-D		8.94	9.07	9.65	9.32	9.30	8.74	9.50	9.30	8.80	9.50	10.90
Average		7.86	7.95	9.02	8.70	9.03	8.01	8.40	8.97	9.77	10.56	10.55



Sidney Ground Water Quality Management Subarea

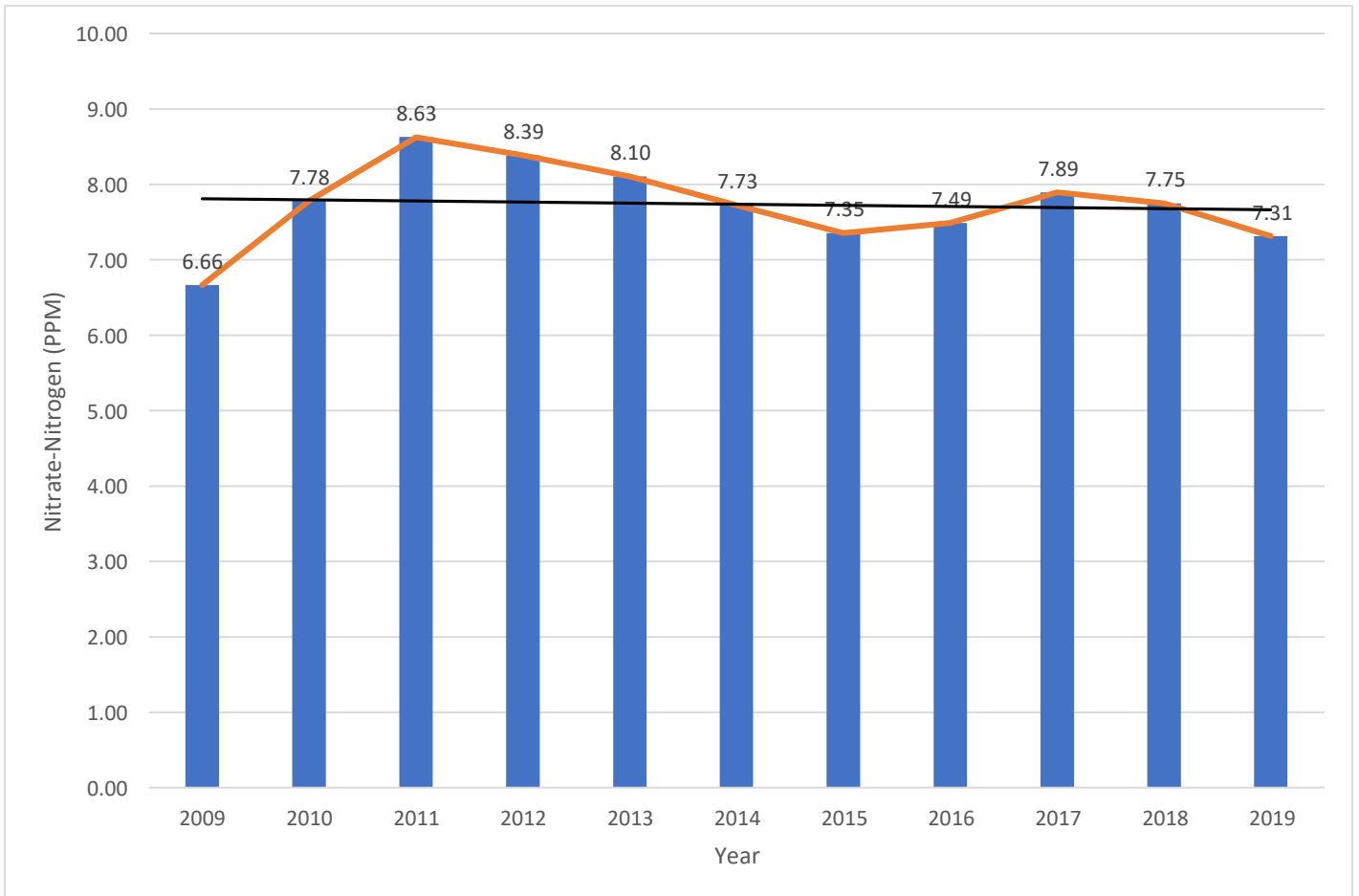


Sidney Ground Water Quality Management Subarea

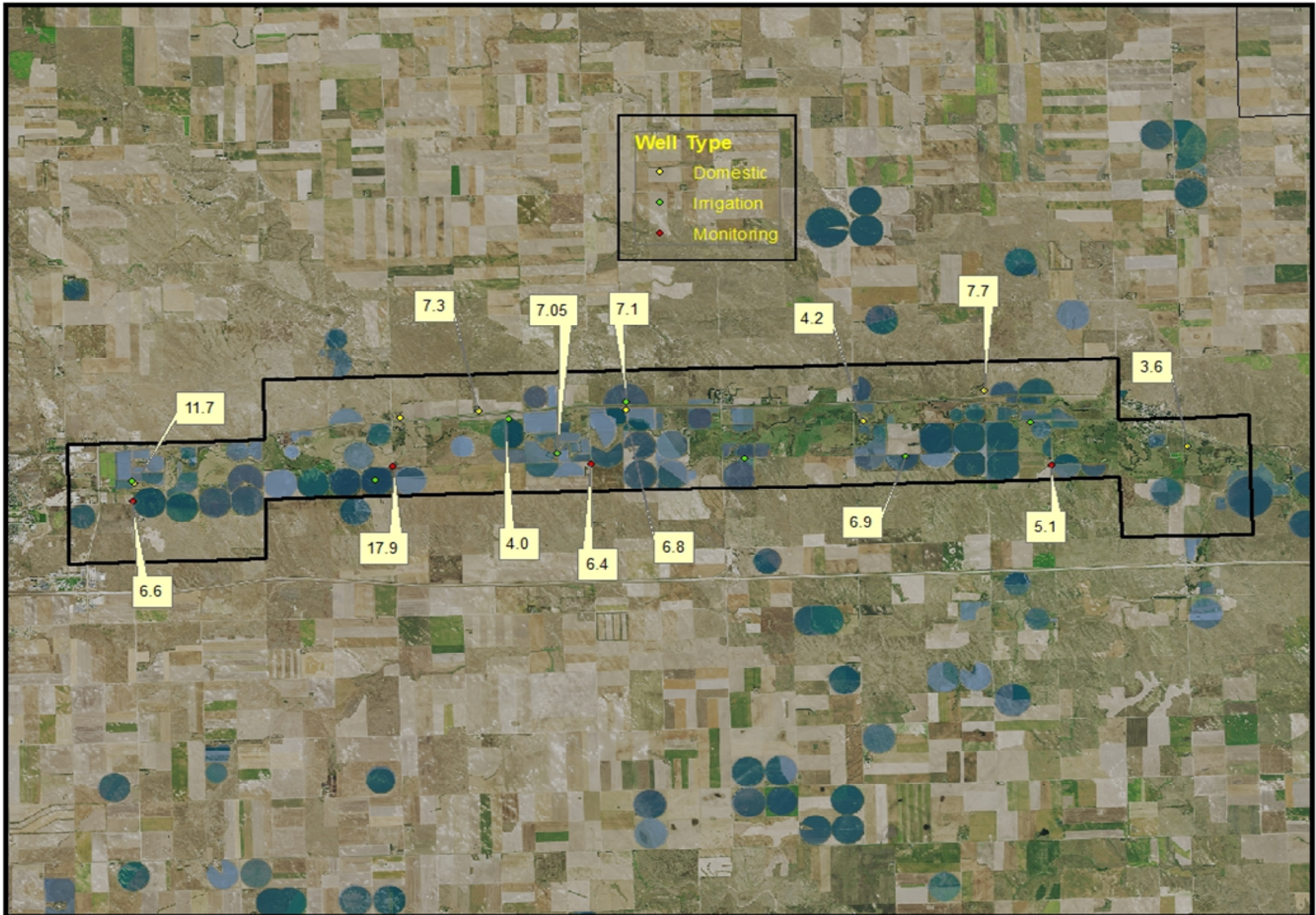


East Lodgepole Valley Ground Water Quality Management Subarea

Well Type	Well ID	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Domestic	D151	7.85	15.25	13.00	7.80	7.70	8.80	8.23	7.45	7.75	7.35	6.85	
	D153	5.70	5.70	6.35	5.40	4.90	4.55	4.50	4.40	6.43	5.40	4.20	
	D150	5.85	5.75	6.80	7.10	6.90	8.55	8.20	7.45	7.95	7.80	7.30	
	D082	12.45	8.25	12.80	13.55	13.25	14.55	10.75	13.60	11.30	10.10	11.70	
	D154	5.90	12.80	8.95	6.80	6.40	8.50	8.50	8.10	8.40	8.00	7.70	
	D146	4.35	4.35	4.20	4.00	3.40	4.20	4.00	4.05	4.50	4.05	3.60	
	D147	4.40	4.90	6.70	7.40	6.65	6.00			7.50			
Irrigation	I157	7.70	11.20	15.50	13.10	11.10	12.60	13.45	9.30	13.60	13.30		
	I087	5.90	7.10	10.70	11.30	11.40	9.45	7.30	6.80	4.30	4.80		
	I130				7.30	6.30	6.30	6.90	6.60	6.20		7.05	
	I151	5.80	3.70	4.27	6.90	6.30	5.70	5.15	9.00		7.90	7.10	
	I148	4.20	5.50	4.76	5.45	6.80	5.20	5.00	6.50	6.70	5.90		
	I085		7.90		6.80	7.30	7.20	7.70	6.00	6.20	6.40	6.90	
	I083	10.60	9.70	9.21	10.00	12.80		10.20					
Monitoring	I156	2.00	3.60	4.20	4.00	2.80	3.20	2.70	3.50	3.40	2.90	4.00	
	E-1		10.15	5.80	5.65	5.10	4.94	3.30	4.10	4.30	5.50	5.10	
	E-2		7.80	5.85	14.05	6.85	6.50	6.00	5.80	5.40	6.00	6.40	
	E-3	10.13	8.60	20.15	16.10	20.95	15.23	14.30	19.10	23.40	21.30	17.90	
	E-4	7.12	7.85	7.40	6.65	7.07	7.60	6.20	5.60	6.85	7.30	6.60	
	Average		6.66	7.78	8.63	8.39	8.10	7.73	7.35	7.49	7.89	7.75	7.31

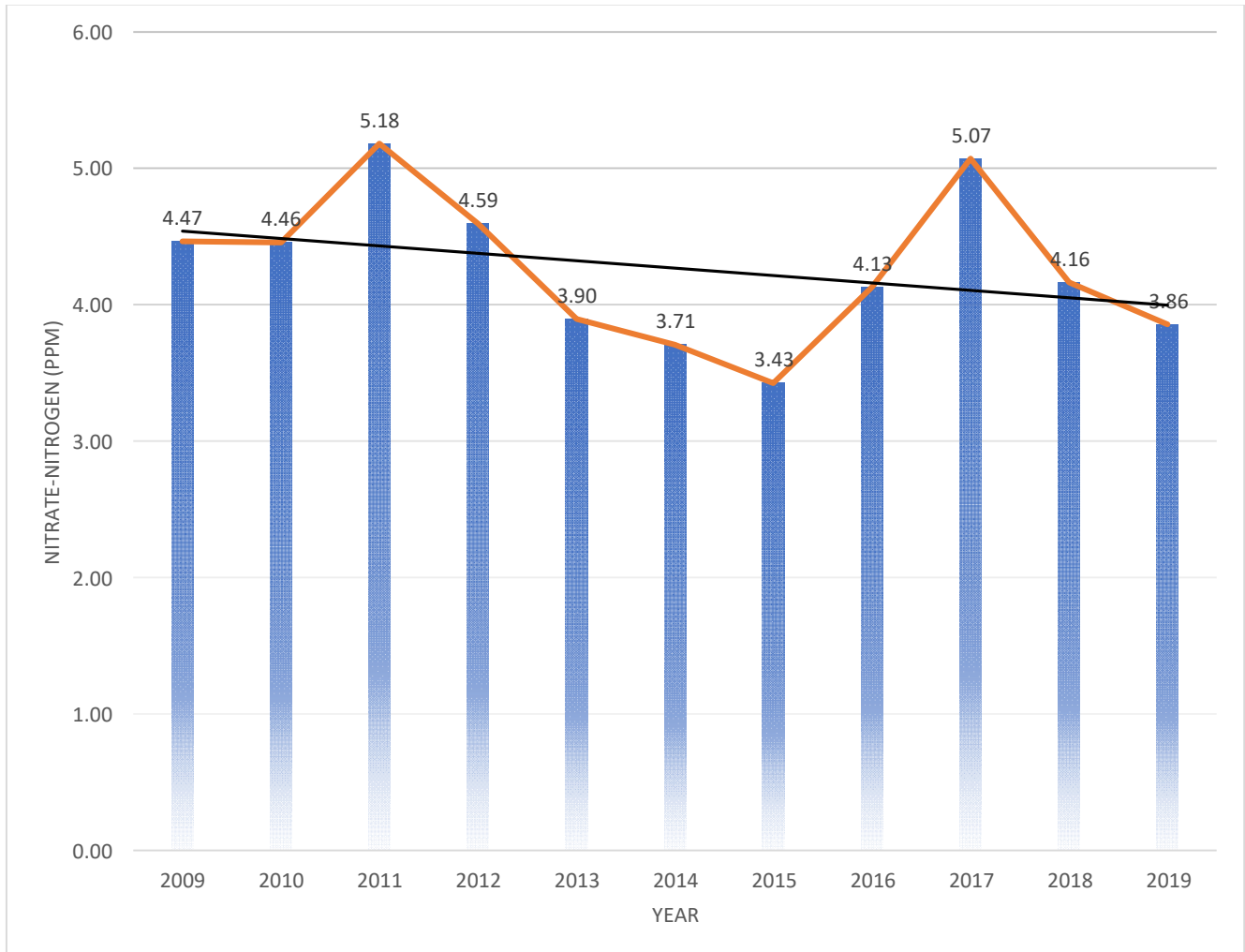


East Lodgepole Valley Ground Water Quality Management Subarea



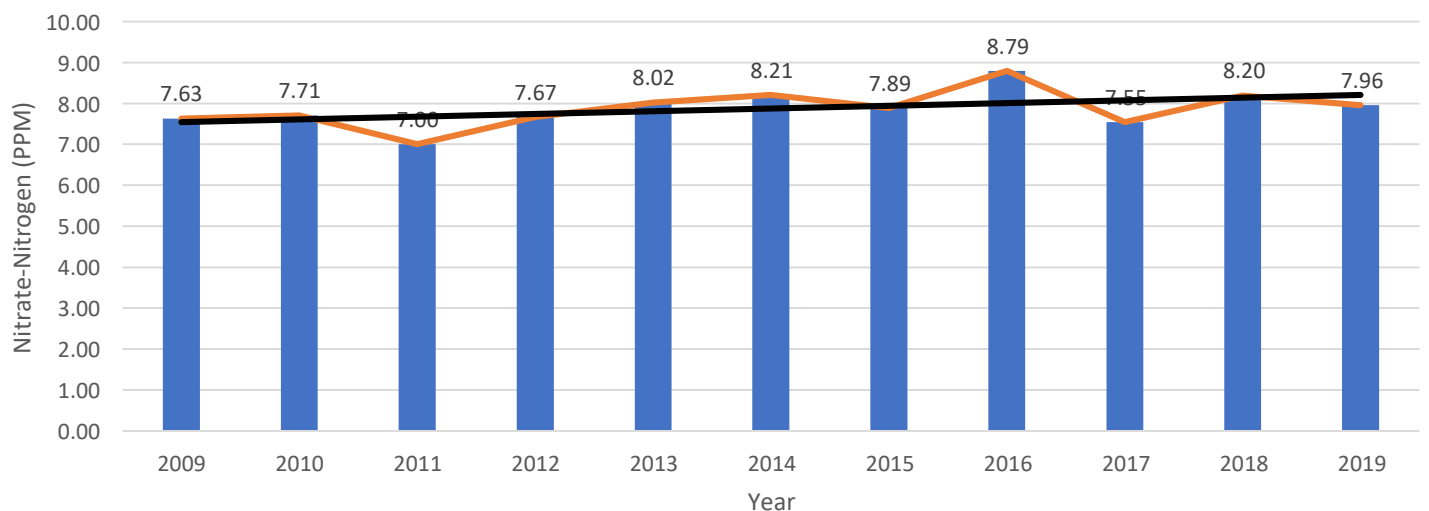
Cheyenne County West Lodgepole Valley

Well Type	Well ID	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Domestic	D051	9.40	10.75	9.90	13.00	10.25	7.70	5.13	6.20	6.80	6.90	5.80
	D048	4.75	4.40	4.20	4.10	3.60	3.50	3.25	3.35	3.90	4.50	3.80
	D056	1.53	1.80	1.60	1.40	1.37	1.35	1.30	1.27	1.97	1.70	1.60
	D049	8.35	6.85	15.10	4.55	4.20	6.47	7.55	8.10	14.90	6.70	7.65
	D053	1.70	1.55	1.40	1.70	1.55	1.45	1.35	1.20	1.70	1.60	1.30
Irrigation	I047	4.10			7.30	3.90	3.70		7.00	5.90	6.30	5.40
	I055		4.20	3.95	3.20	3.60	3.00					
	I057	1.80	1.10	1.00	1.30	1.60	1.20	1.30	1.40	0.80	0.90	0.70
	I050	4.10	5.00	4.30	4.80	5.00	5.00	4.10	4.50	4.60	4.70	4.60
Average		4.47	4.46	5.18	4.59	3.90	3.71	3.43	4.13	5.07	4.16	3.86

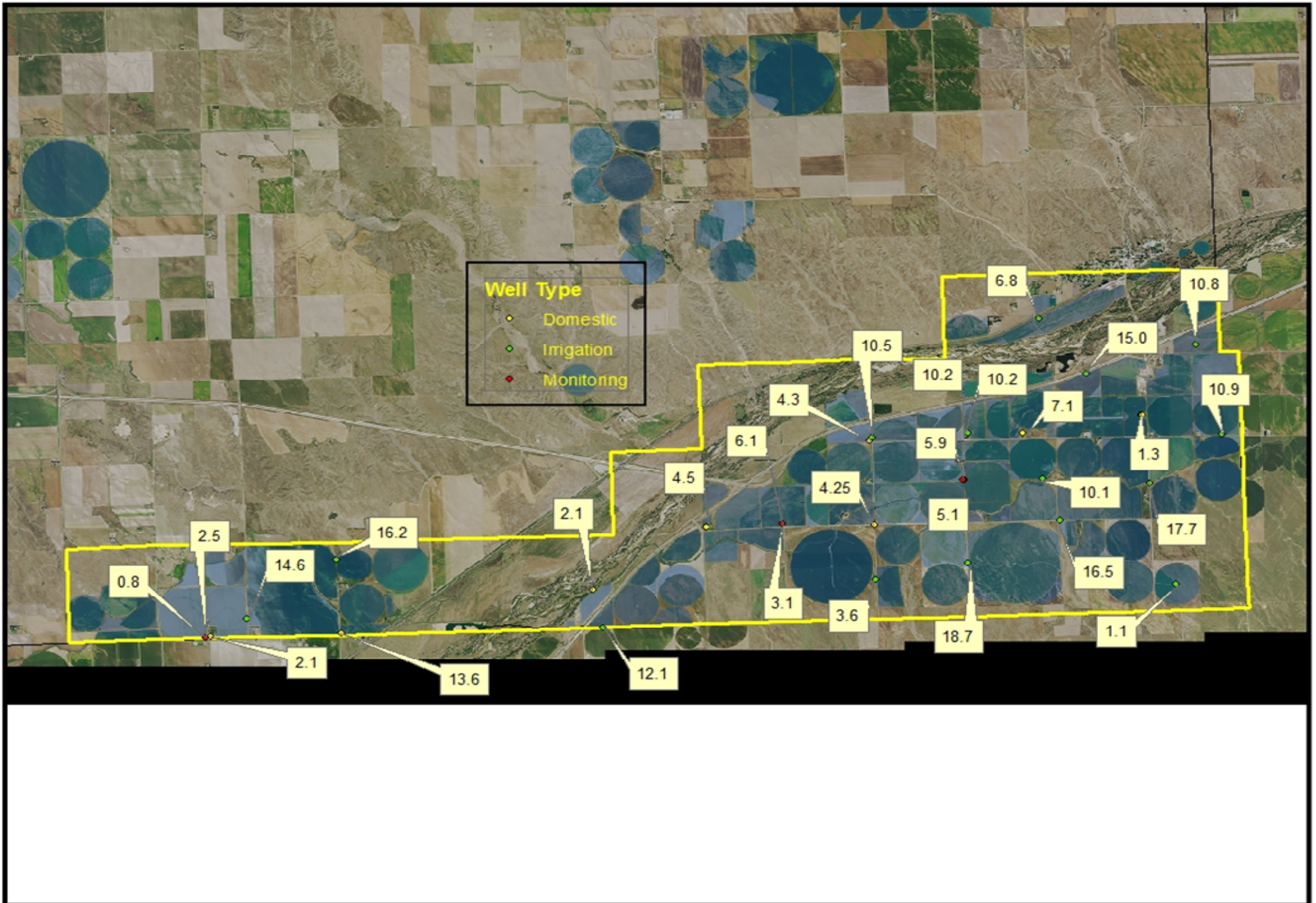


South Platte Valley Ground Water Quality Management Subarea

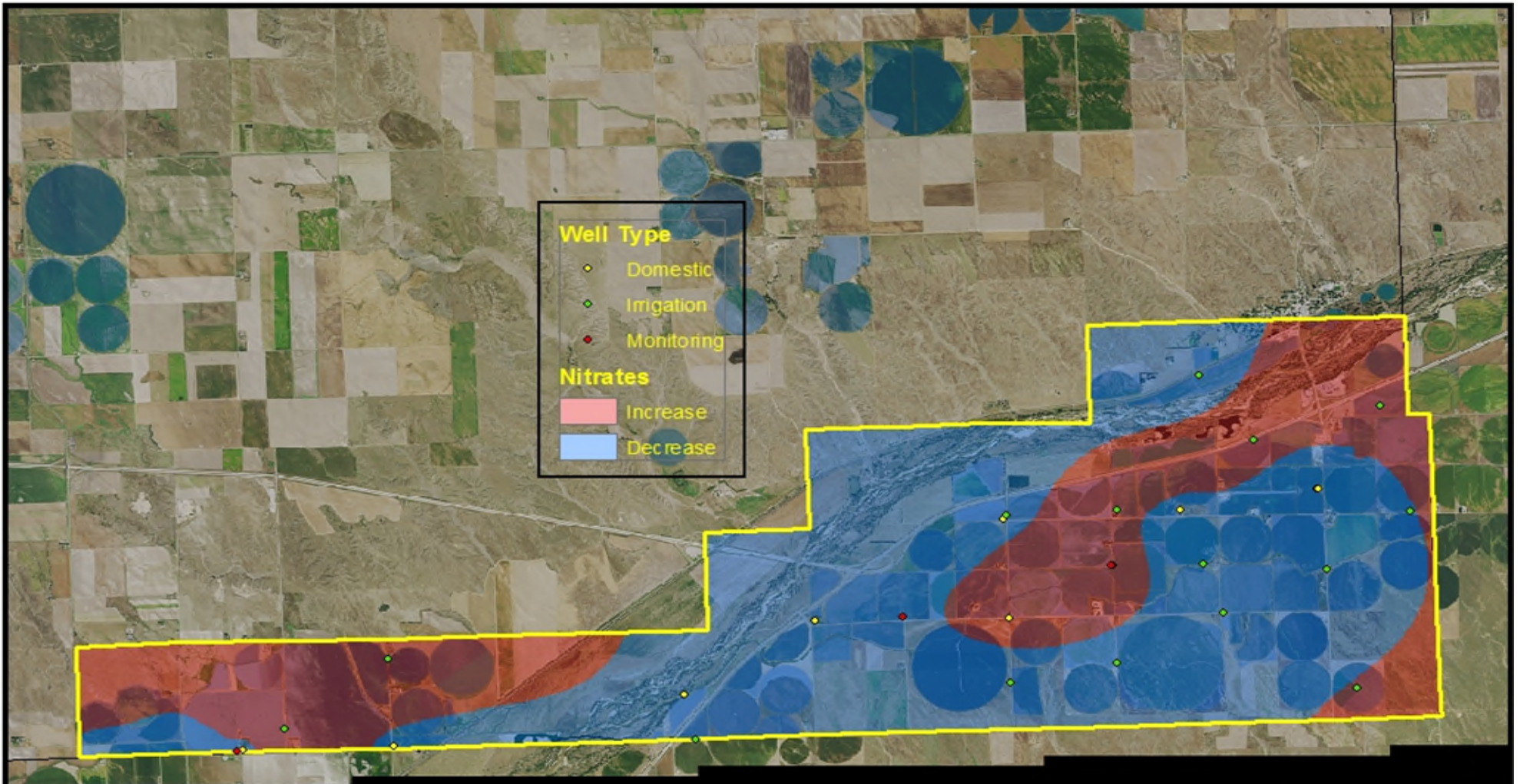
Owner Name	Well ID	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Domestic	D078	3.10	3.05	3.20	4.40	4.20	4.20		3.80		5.80	4.50	
	D077	3.45	3.50	4.00	4.10	5.10	4.60	5.95		4.70	4.85	4.35	
	D110	18.15	13.55		5.55	10.50	15.70	16.10	15.60	12.80	14.90	13.60	
	D076	8.70	8.35	9.80	7.93	7.33	10.20	9.00	8.25	7.97	8.15	7.10	
	D109	3.90	3.15	1.75	4.57	9.65	1.63	2.15	5.50	5.25	3.50	2.10	
	D111	19.50	18.70										
	D075	14.77	13.90	15.00	14.10	9.25	9.60	7.40	5.40	6.70			
	D100											10.60	
	D074	1.20	1.50	1.45	1.30	4.70	1.30	1.15	5.30	2.10	1.15	1.10	
	D113	2.80	2.25	1.95	5.07	2.70	2.30	1.40	1.95	2.43	2.80	2.13	
D079	7.70	8.25	6.95	3.00	3.95	4.80	4.10	3.60	4.60	3.55	4.25		
Irrigation	I119	7.90	11.80	7.30	8.10	5.20	5.20	10.50	14.20	8.50	10.40	6.80	
	I139	7.10	9.40	6.20	8.00	8.10	11.90	12.70	13.90	8.40	11.30	10.50	
	I144	1.10	1.30	1.60	1.50	1.35	1.20	1.40	1.20	1.20	0.90	1.10	
	I112	7.50	7.40	7.28	7.60		19.60	16.20	16.90	12.20	11.50	16.20	
	I143	15.60	6.90	16.90	20.00	19.80	18.90	17.70	20.55	16.90	20.40	17.70	
	I114		7.00	6.87	6.70	6.50	6.20	5.50	11.00	10.00	12.40	12.07	
	I115	2.60											
	I116	11.60	22.90	11.80	12.00				4.00	3.00	4.50	3.60	
	I108	9.40	8.80	9.00	13.40	12.80	10.20	12.30		12.90	9.30	10.70	
	I118	4.20	5.50	7.00	6.50	7.50	5.40	5.20	7.20	6.40	6.20	10.80	
I141	11.20	10.40		10.80	10.20	11.80	9.90	10.60	10.60	10.70	10.10		
I138	6.20	8.20	7.70	7.90	6.80	6.40	6.20	8.60	7.90	9.50	10.20		
I137	8.30	8.70	8.16	8.80	10.90	8.80	9.30	11.10	10.60	12.30	12.40		
I142	12.20	14.20	13.10	14.40	18.60	19.70	15.40	20.00	15.70	17.70	16.50		
I159	15.70		19.10	19.60	16.10	15.70	11.30	14.00	8.90	11.20	10.90		
I145	2.60	3.00	4.10	6.40		10.90	11.60	17.00	15.70	19.40	18.70		
Monitoring	D-3-M	7.18	7.12	6.00	8.70	10.40	10.42	9.40	7.60	5.70	5.10	5.10	
	D-3-S	4.85	5.50	7.80	7.65	8.05	7.90	4.60	3.50	3.20	4.20	5.90	
	D-4-M	5.47	4.58	3.20	3.70	4.25	3.80	6.60	6.50	5.20	6.40	6.10	
	D-4-S	3.32	3.50	4.60	1.79	3.05	2.80	5.20	3.80	6.20	3.50	3.10	
	D-5-M	5.72	5.87	2.30	3.65	7.10	4.90	1.55	3.90	1.90	2.80	2.50	
	D-5-S	3.58	2.97	2.00	2.95	2.55	2.11	1.05	1.20	1.20	0.90	0.80	
Average		7.63	7.71	7.00	7.67	8.02	8.21	7.89	8.79	7.55	8.20	7.96	



South Platte Valley Ground Water Quality Management Subarea

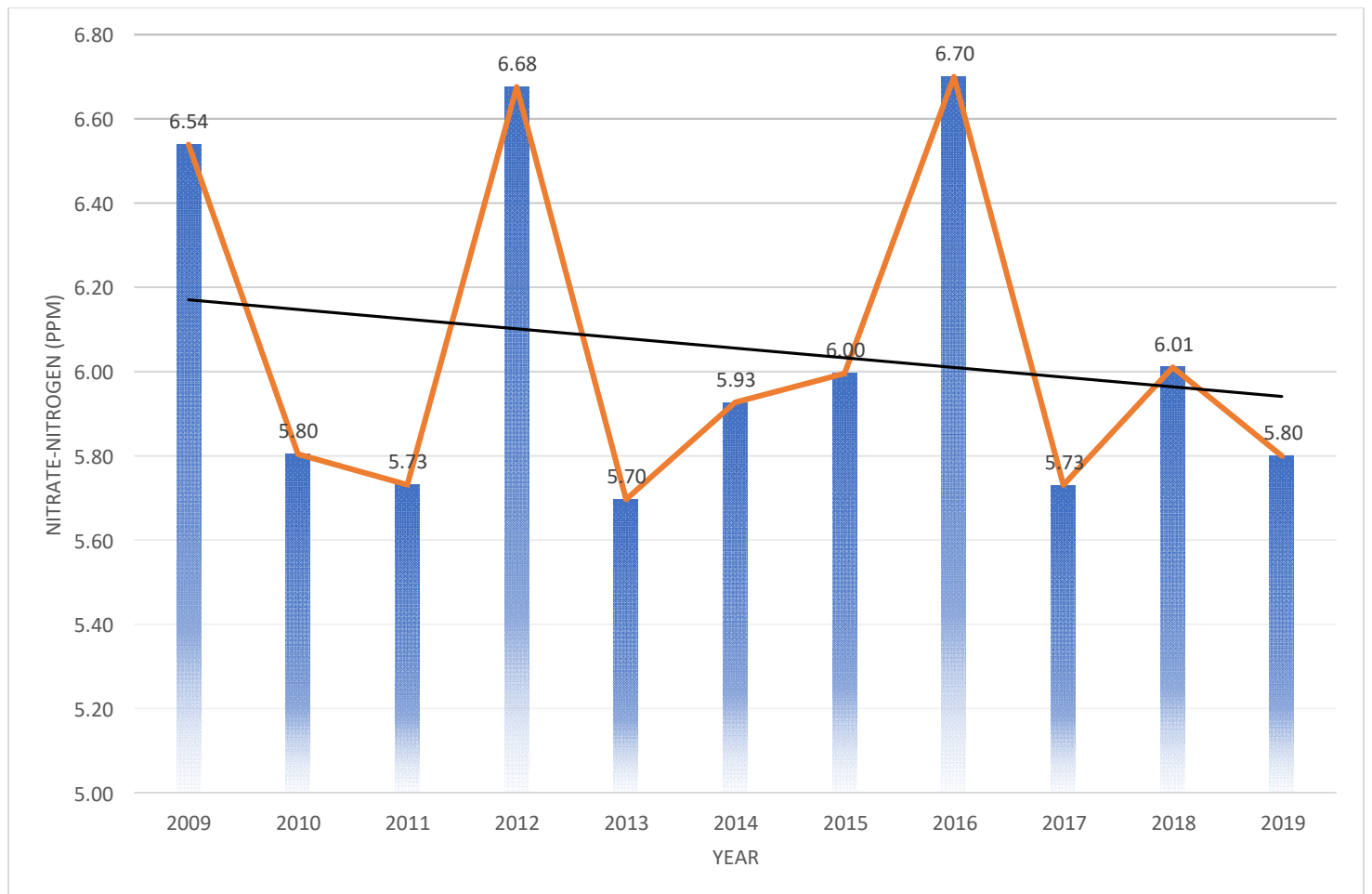


South Platte Valley Ground Water Quality Management Subarea



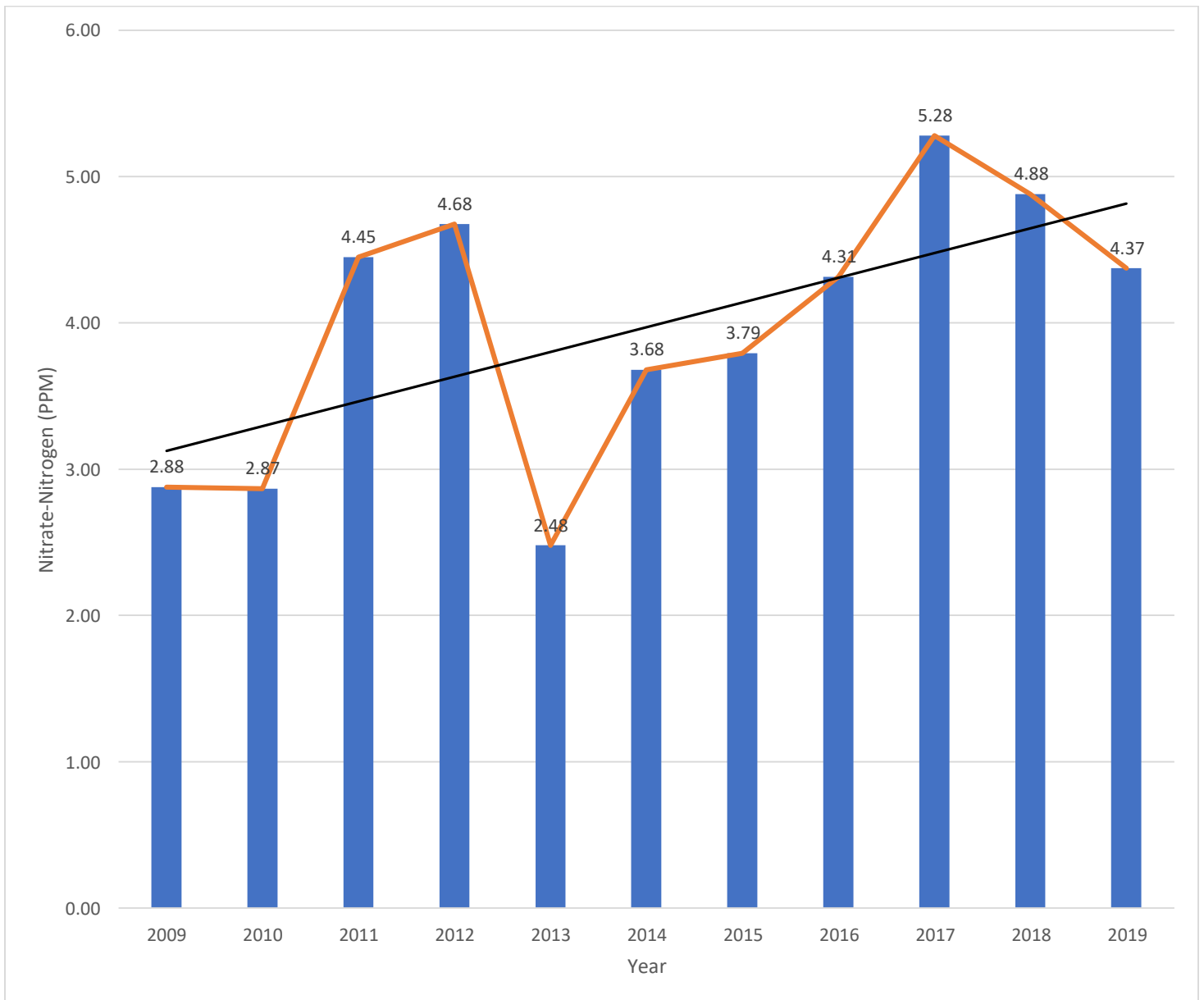
Deuel County Lodgepole Valley Ground Water Quality Management Subarea

Well Type	Well ID	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Domestic	D090	6.45	6.35	5.85	6.90	4.75	4.10	4.70	6.10	6.10	5.00	4.20
	D101	6.15	5.60	6.10	5.33	5.25	8.70	5.70	6.60	3.75	3.00	1.75
	D098	5.97	5.85	6.40	5.53	5.95	5.60	5.00	5.05	5.55	5.25	5.10
	D097	31.55	25.00	21.25	25.57	24.20	15.90	20.00	27.80	20.40	23.15	31.25
	D094	5.50	4.90	5.00	4.10	3.70	4.20	4.20	4.20		4.20	3.85
	D092	2.10	2.45	1.25	2.17	1.85	2.30	1.73	2.05	1.90	1.35	2.75
Irrigation	I088	4.00	2.20	2.50	2.80	3.50	2.60	10.90	10.30			
	I089	3.70	3.60	4.20	4.70	4.10	4.60	4.30	4.30			4.50
	I158	3.60	3.50	3.39	9.70				1.90	4.30		
	I095	8.10		7.95	8.20	8.10	7.90				8.40	
	I132					4.50		4.00	8.20	6.70	6.30	4.00
	I093	5.95	7.60	7.60	9.90	2.30	7.00	8.00	7.80	8.50	9.10	5.40
	I134	5.80	3.30	5.90	7.20	5.30	5.40	6.10	7.60	4.90	6.30	4.80
	I133	3.90	5.10		5.50	5.60	5.60		6.50			
	I091		3.60	3.55	4.30	3.40		1.70				
I135		3.20	3.13	3.30	2.80							
Monitoring	D-6	6.33	8.25	6.25	9.00	10.45	9.10	7.40	3.30	0.90	1.10	2.80
	D-7	7.03	7.28	7.10	6.20	5.85	5.80	5.90	6.00	5.50	5.50	5.40
	D-8	2.53	2.78	2.10	2.45	2.60	2.10	2.30	1.90	2.10	2.00	1.80
	D-9	2.50	3.93	3.65	4.00	4.03	3.93	4.00	4.30	3.90	3.50	3.60
Average		6.54	5.80	5.73	6.68	5.70	5.93	6.00	6.70	5.73	6.01	5.80



Deuel County Tablelands

Owner Name	Well ID	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Domestic	D106	3.43	3.37	2.90	2.95	2.65	2.70	2.30	2.50	3.30	2.80	2.30
	D155							6.90	10.40	10.70	9.30	10.50
	D095							6.35	6.30	7.50	7.85	6.90
Irrigation	D107	3.60	3.30	3.15	2.95	2.67	3.00	2.65	2.50	3.00	2.75	2.45
	I120			9.60	9.80		8.00		3.60			
	I072		2.50	2.15	3.00	2.60	2.90	2.80	2.90			2.5
Monitoring	I102	1.60	2.30			2.00	1.80	1.75	2.00	1.90	1.70	1.8
	DT-10											1.45
	DT-12											1.9
	DT-2											15.6
	DT-6											1.3
	DT-7											1.4
Average		2.88	2.87	4.45	4.68	2.48	3.68	3.79	4.31	5.28	4.88	4.37



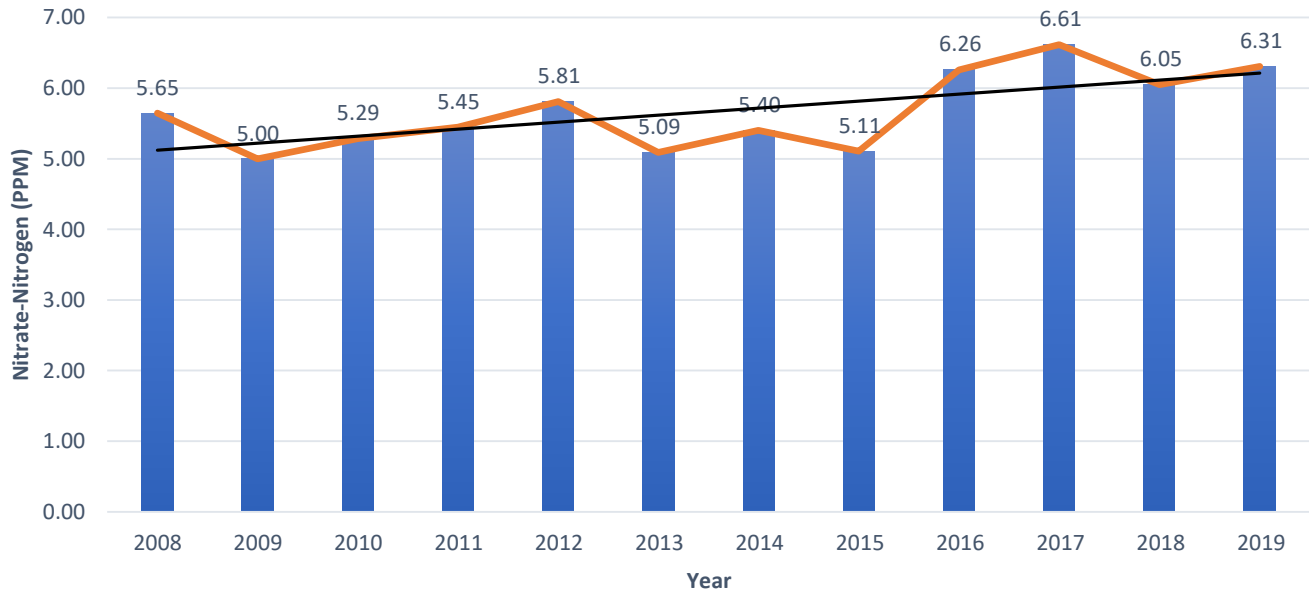
Cheyenne County Tablelands

Well Type	Well ID	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Domestic	D122	7.43	4.90	6.85	7.40	5.40	5.80	6.60	6.85	6.90	7.30	7.70	6.65
Irrigation	I129	3.67			3.42	3.80							
	I128	3.90							3.50		3.30		
	I127			1.90					1.20	1.80	1.60		
	I126				1.48								
	I123			3.10					1.30				1.20
	I125									2.30	2.00	1.90	
	I128	3.90							3.50		3.30		
	Monitoring	CD-10-D			3.8								2.3
CD-10-S				4.1								1.1	
CL-05-S				1								1.1	
CL-09-S				2.7						1.3			
CL-19-D				1									
CT-01-D				1							3		
CT-01-S				2.3							2.8		
CT-02-D				2.8							1.9		
CT-02-M				1.8							1.8		
CT-02-S				1.7							1.9		
CT-03-S				2.3							3.2		
CT-06-S				1.3						1.4			
CT07				1.9									
CT-15-D				1.2							0.2		
CT-15-S				1.6							1.3		
CT-17-D				1.7								2.1	
CT-17-S				2.6								1.4	
CT-18				1.4								1.1	
CT-20				1.9								2.5	
CT-21				2.1								2.3	
CT-24			1.8								1.6		
CT-25			1.4								3.4		
CT-30						2.3					1.7		
CT-31						1.65					1.3		
CT-32						2.6				1.9			
CT-37						4				4.85			
CT-38						4.7				5.6			
CT-39-D						2					3.9		
CT-43										2.8			
CT-45												8.1	
Average		4.73	4.90	2.21	4.10	3.31	5.80	6.60	3.27	3.21	2.58	2.36	5.32

Kimball County Lodgepole Valley Composite Averages

Well Type	Well ID	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Domestic	D017	0.10	0.15	0.30	0.30	0.27	0.15	0.15	0.10	0.10	0.15	0.30	0.10
	D003	3.65	4.05	3.80	4.40	4.80	5.30	5.40	5.65	7.10	9.20	10.00	10.90
	D027	5.85	5.00	5.83	6.30	6.40	5.80	5.65	5.83	5.85	6.30	6.05	6.90
	D030	8.30	8.70	8.35							10.95	10.05	9.85
	D038	7.85	5.70	5.70	8.10	5.40	3.80	4.55	4.20	6.20	7.80	3.77	4.10
	D004	6.40	6.90	6.80	6.85	7.32	7.77	7.97	8.10	9.40	11.90	14.40	18.85
	D029	5.50	3.55	4.35	6.10	4.40	3.40	4.30	7.37	7.20	6.80	5.95	5.35
	D014	9.40	8.85	8.35	6.90	7.30	6.05	5.40	6.00	6.23	9.45	6.40	8.45
	D007	6.10	4.95	6.55	5.30	4.90	5.25	5.65	5.10	5.90	6.00	4.60	4.45
	D022	3.40	4.20	4.05	4.00	3.97	4.05	4.05	3.90	4.15	4.70	4.40	4.20
	D016	0.40	1.05	0.65	0.80	0.80	2.25	2.30	1.80	0.20	0.20	0.25	0.10
	D043	4.25	5.90	8.70	5.65	6.20	6.20	7.30	8.00	7.70	10.45	10.95	11.23
	D033	7.65	7.90	7.55	8.30	8.60	7.60	9.70	8.20	10.20	10.10	9.50	
	D018	1.70	1.45	1.35	3.50	0.90	2.85	0.70	0.70	1.53	0.77	0.90	0.60
	D044	13.50	10.60	12.40	14.20	12.60	10.13	11.03	10.45	13.73	11.00	9.35	8.50
	Irrigation	I011	3.10	2.80									
I013		3.40	2.90	3.00	3.20	3.10				3.40	2.80	2.90	2.20
I032			8.90							5.60	4.60	4.80	
I039		7.60			8.40	7.20	6.80					9.40	
I005		32.20	4.35	4.60	5.20	5.70	5.30	5.20					
I006		5.25	6.30	6.15	5.98	6.20	6.30	7.20		9.00	9.80		13.50
I002		5.75		4.90	5.70	5.40	5.20	8.90			6.10	5.20	
I025		3.55	3.40	4.00	4.00	3.70	3.90	4.40					
I023		3.10		3.30	3.10	2.70	2.40	2.20					
I028		3.40	6.80	6.90	6.52	7.70	5.30	5.40	4.90	7.90	6.60	7.20	6.90
I041		1.40	2.00	2.10	4.58			2.70	2.80			3.10	
I046		3.20				7.00	2.40	2.70	2.20	2.50	3.00	2.50	
I008		3.00	2.60								2.60	2.20	2.70
I037			5.00	5.70	6.00	6.15	5.80	4.80	5.10	6.30	6.60	7.20	
I001		4.35		6.30	2.70		4.60				9.90		
I045		2.85	2.60	3.20	5.90	11.10	2.70	3.30	3.40	3.70	3.50	3.80	
I015		3.10	2.60	3.10	2.90	2.50	3.10	4.00	2.80	4.00	3.00	3.20	2.70
I024		4.60	4.00	5.10	5.20	5.60	4.50	5.00	5.80	5.80	6.10	6.00	
I040				3.80	5.00	4.70	4.10	5.40	5.10	5.80	5.80	6.20	5.00
I042	9.65	7.50	8.50	12.60	13.10	7.20	11.20		17.00	12.00	15.90	14.10	
I031	2.90	2.60	3.20	3.40	4.00	3.20	3.10		3.00	2.80	3.30	3.00	
Monitoring	K-1-D	6.21	6.65	6.43	5.20	5.50	5.60	5.90	4.80	6.00	5.90	4.30	4.50
	K-1-S	9.35	9.30	9.70	9.30	10.80		9.20	8.10	10.50	8.90	8.50	
	K-2	11.21	10.48	10.20	9.60	10.00	11.60	11.21	7.30	8.10	9.40	5.60	5.50
	K-3	5.73	7.07	7.22	5.35	8.35	7.60	6.20	10.50	9.30	12.50	8.70	4.50
	K-4	2.20	2.30	1.93	1.80	2.80	4.20	3.84	2.50	1.95	3.60	2.40	5.10
	K-5	2.65	2.77	3.13	2.50	2.70		2.62	2.40	2.50	2.60	2.30	2.60
	K-6-D	3.77	4.03	4.40	3.80	5.43	5.40	5.50	5.00	6.87	8.00	8.20	7.90
K-6-S	3.89	4.05	4.53	3.80	5.40	5.40	5.70	5.10	8.20	9.50	10.10	9.20	
Average		5.65	5.00	5.29	5.45	5.81	5.09	5.40	5.11	6.26	6.61	6.05	6.31

Kimball County LPV Composite Averages



Kimball County Tablelands

Owner Name	Well ID	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Irrigation	I035	2.50		2.30	2.17	3.10	3.00	2.50	2.40	2.20			2.30
	I034	2.80		2.70	2.67	2.90	2.50	2.90	2.80		2.60		
	I020	3.00	2.00	3.30	2.90	2.30	2.55	2.50	2.70	2.50	2.30	2.60	2.10
	I009	5.00	4.82	4.70	4.30	3.80	3.70	5.20	4.00	4.50			
	I012	2.65	2.40	2.50	2.50	2.80	2.30	3.00	3.80			3.20	3.25
Monitoring	KT-10					4.4					4.1		
	KT-11										3.6		
	KT13										1.1		
	KT-14										1.9		
	KT-15										2.3		
	KT-16										2.9		
	KT-3						2.8				2		
	KT-4-D										1.5		
	KT-4-S										1.8		
	KT-5						1.1				0.8		
	KT-6						3				2.4		
	KT-7						2.9				2.6		
	KT-8						4.4				3.8		
	KT-9						4.3						
Average		3.19	3.07	3.10	2.91	3.15	2.81	3.22	3.14	2.50	2.70	2.93	2.67

Kimball County Composite/Tableland Map

