

Spring 2017

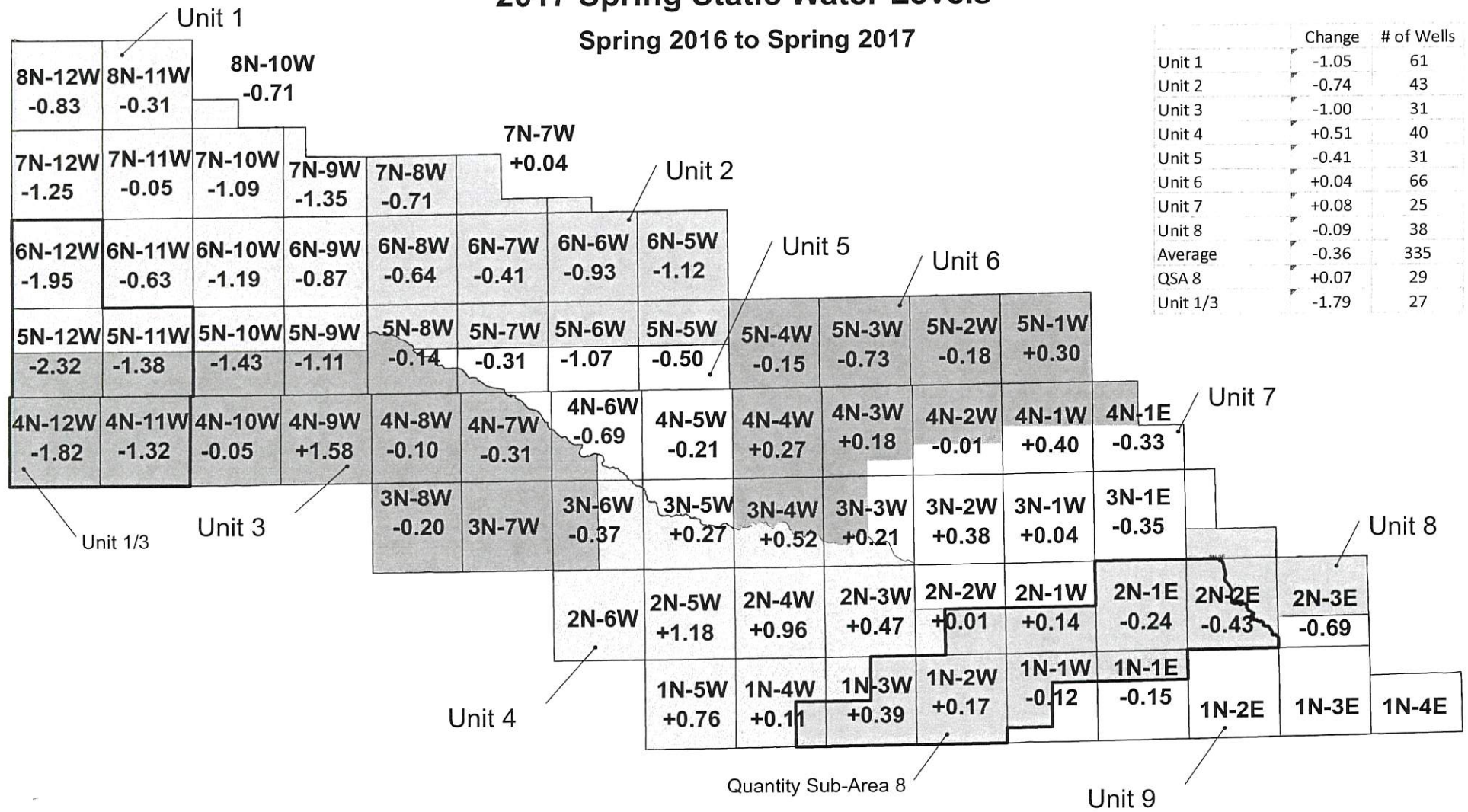
Rainfall was maybe a surprise in 2016, the average for locations reported within the District was only 25.2 inches. A more average rainfall is up around 28 inches per year.

On the township map this lower rainfall correlates to a decline across the District of -0.36 of a foot. Largest declines were in the western portion of the District with more mixed results to the east. The declines in townships in western Webster and southwestern Adams county; Unit 1/3, are really starting to stand out. The graph for that area is quite extreme as compared to Geologic Areas 1, 2, and 3. The graph for Geologic Area 1 seems to hit cyclical highs every 12 years; in 1974, 1988, 2000, and 2012. Unfortunately; that high in 2012 never rebounded to the same levels of the other 3 years.

The final maps and table look at where the individual wells are from their lowest level of record prior to 1994 (Action Level). This is stated in the Groundwater Management Plan as the point where changes in the water levels are measured from. The maps for the spring of 2016 and 2017 locate each well that is monitored and the legend notes where the depth to water is at in relation to the action level. In the spring of 2017 a new high of 228 wells were below their lowest level of record and below allocation levels.

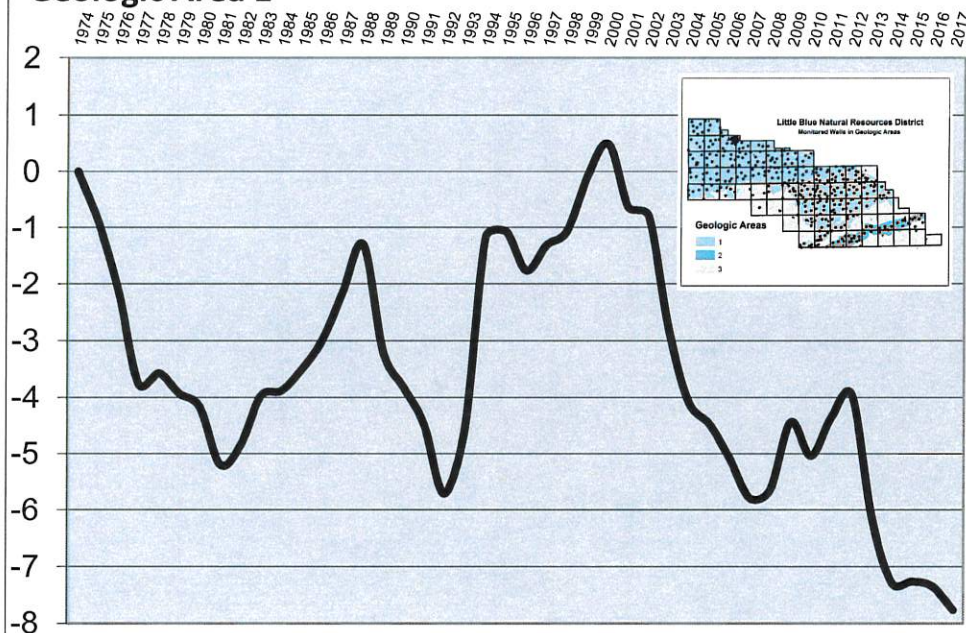
Nitrate sampling for 2016 is also presented. The locations of the samples and their nitrate levels are plotted, the Federal guideline that Cities and Municipalities are to adhere to is a maximum level of 10.0 parts per million (ppm). The chart tracks the nitrate levels in samples collected by the District since 1994.

Little Blue Natural Resources District **2017 Spring Static Water Levels** **Spring 2016 to Spring 2017**



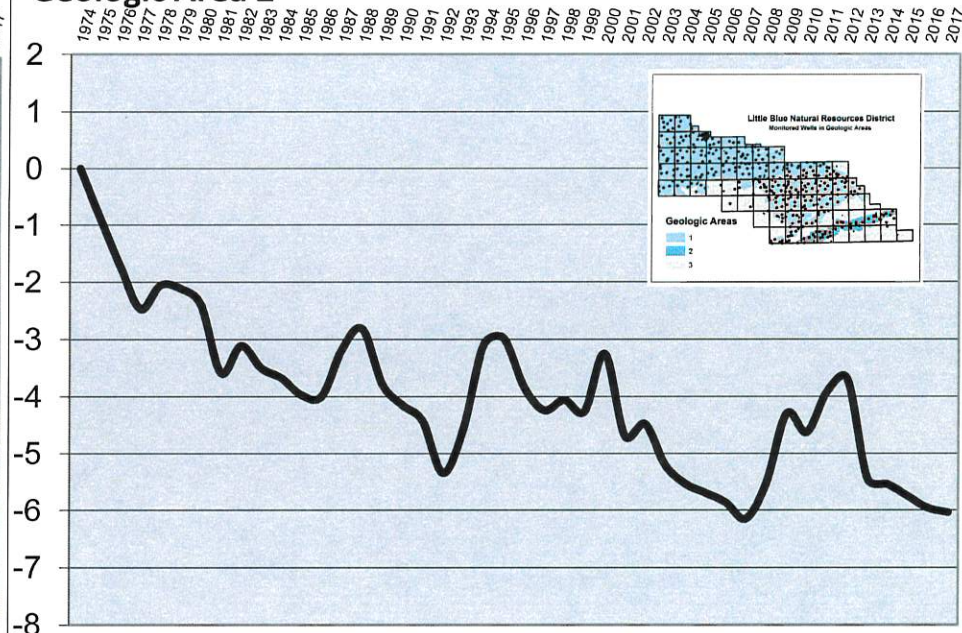
Geologic Area 1

spring to spring



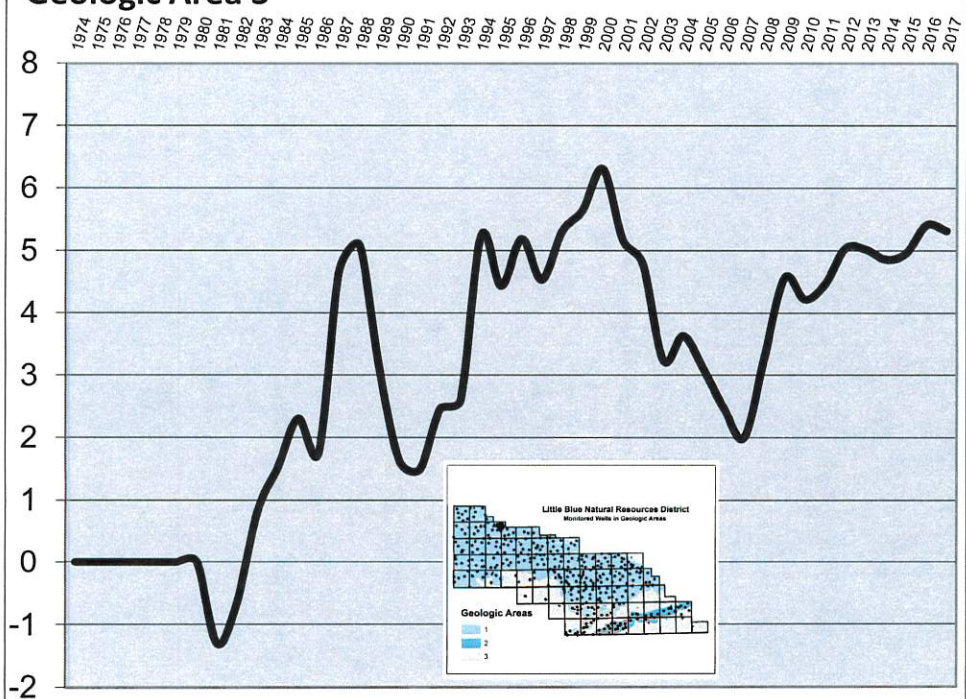
Geologic Area 2

spring to spring



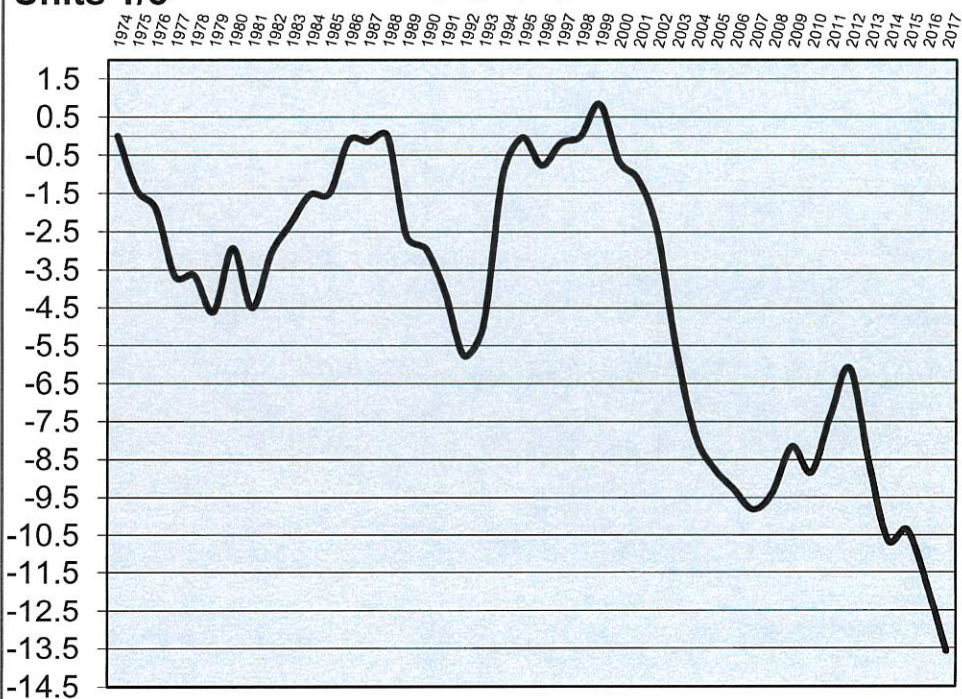
Geologic Area 3

spring to spring



Units 1/3

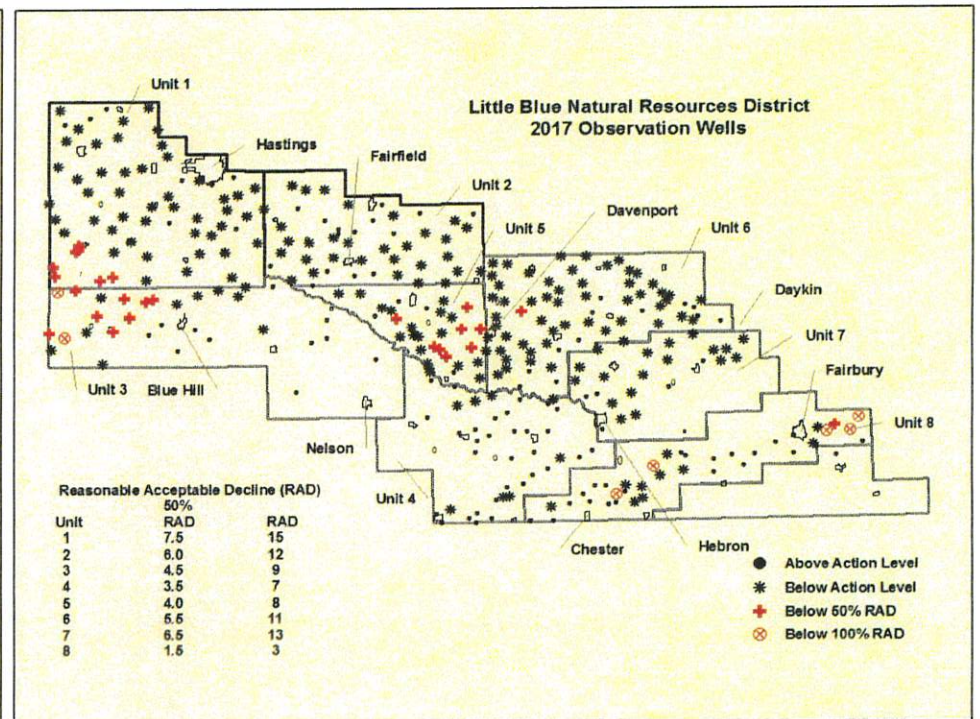
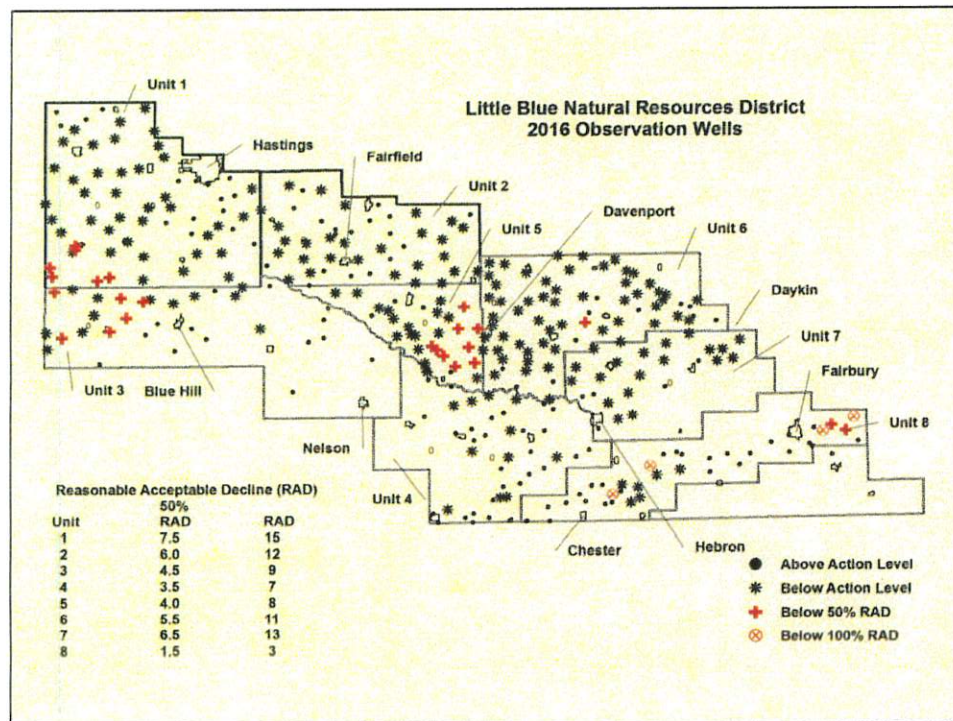
Spring to Spring



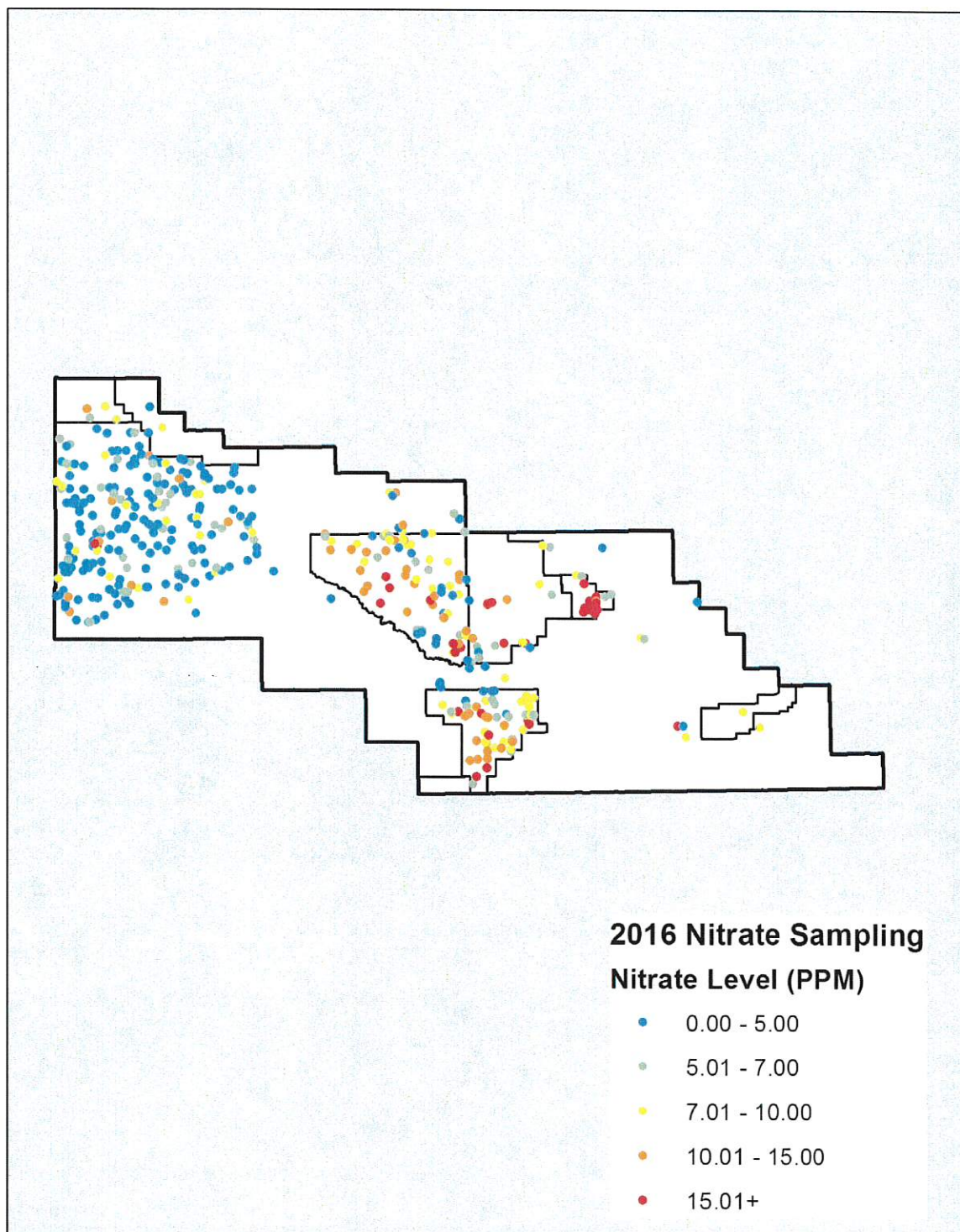
The Action Level is the lowest level prior to 1994 recorded for each monitored well. The 50% Reasonable Acceptable Decline (RAD) is different for each unit and is referenced in the District's Groundwater Management Plan, 50% RAD is measured from the Action Level. The same is true for the 100% RAD. The 50% and 100% RAD are levels in the Groundwater Management Plan where different levels of controls are added to manage the groundwater aquifer. Eighty percent of the monitored wells in any given geographic area are required to be below the respective RAD before moving to Level II or III Quantity Management Activities.

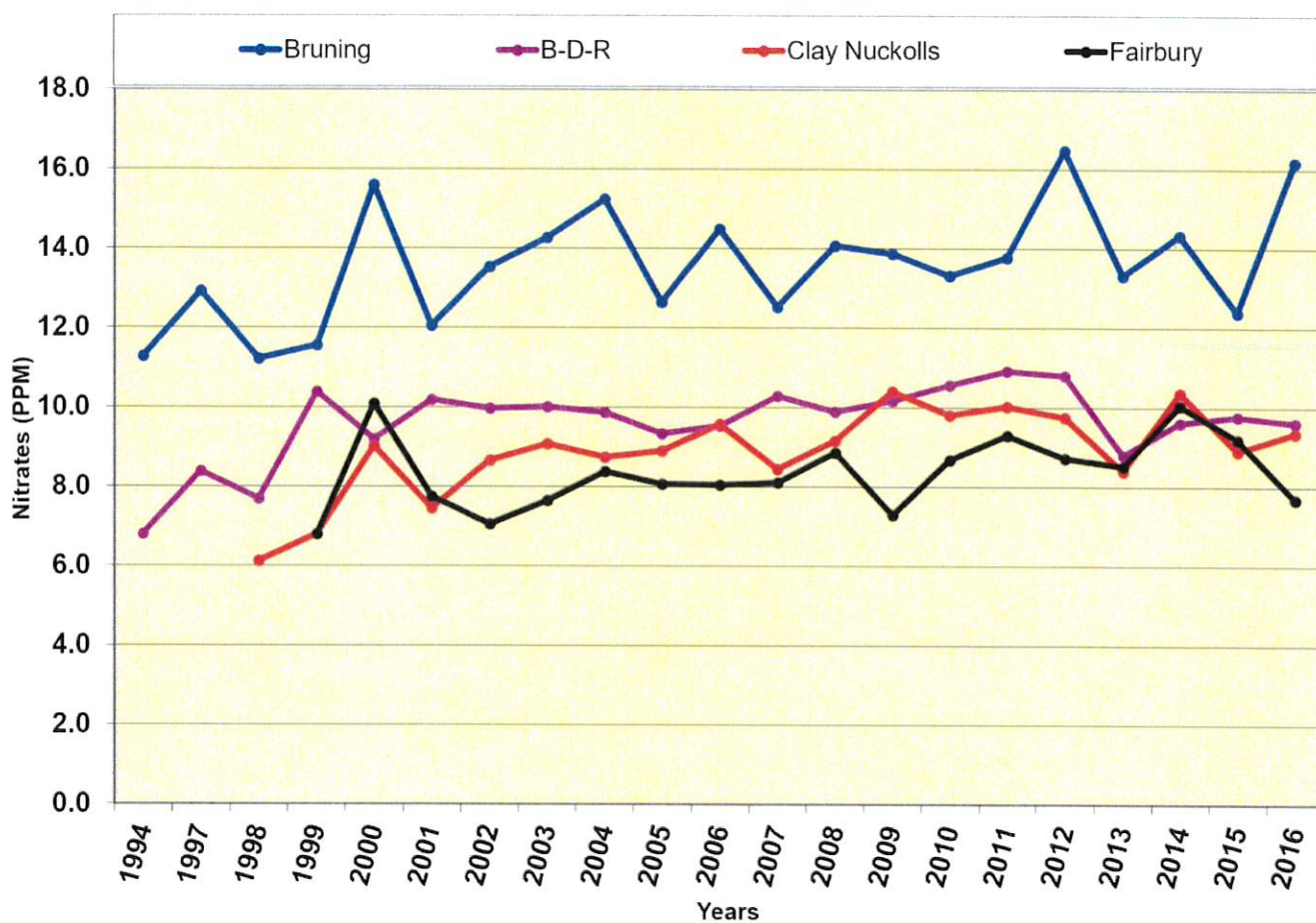
**Spring Water Levels
compared to
Action Level or 100% RAD**

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Above Action Level	301	315	329	308	287	275	223	175	185	274	228	273	277	153	116	115	123	111
Below Action Level	5	10	14	36	58	71	119	164	155	67	109	66	55	182	217	218	212	221
Below 100% RAD	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3	4	7



Maps





2016 Results

Deshler Byron Ruskin Sub-Area – 9.62 ppm (53 samples)

Bruning Sub-Area – 16.17 ppm (15 samples)

Clay-Nuckolls – 9.36 ppm (69 samples)

Fairbury Sub-Area – 7.7 ppm (1 sample)

Carleton Davenport Shickley Sub-Area – 10.23 ppm (19 samples)

Kenesaw Prosser – 9.23 ppm (5 samples)

Outside of Sub-Areas – 4.76 ppm (257 samples)

Total Average-6.85 ppm (419 samples)