

**2011**  
**South Platte Natural Resources District**  
**Ground Water Quality Monitoring Program Report**

The SPNRD has completed its 20th year of monitoring nitrates in the District. Monitoring wells are sampled quarterly while irrigation and domestic wells are sampled twice a year between May and October, if possible.

Of the 212 network wells, 175 were sampled at least once this year. This breaks down to 61 of 64 domestic wells and 63 of 95 irrigation wells. Some irrigation wells were unable to be sampled for the following reasons: enrolled in temporary deferment, EQIP Special Initiative, Pivot Conversion, crop rotations, or the well is no longer used, or no way to collect a sample at the well. Some wells were not used very often, or not used at all throughout the year, and the staff was unable to monitor them. In Cheyenne County, wells that had been sampled in previous years were not sampled as many producers in the area were completely hailed out or they were on a crop rotation. The 45 monitoring wells located within the Lodgepole Creek area were sampled quarterly along with eight City of Sidney Municipal wells. The remainder of the samples taken over the summer included duplicates and samples taken for individuals requesting nitrate analysis.

Quality Assurance/Quality Control (QA/QC) measures were followed during 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 2.3%. According to Ward Laboratories, the most precise data will fall within the 0-10% range.

Items to take into consideration when reviewing the following information are:

- The SPVGWMA qualifies for the Phase III contamination trigger. The Phase III trigger can be initiated when; average nitrate-nitrogen levels exceed 9.5 ppm for three consecutive years during Phase II. Although this subarea should be designated in Phase III, this is the second consecutive year of possibly moving this subarea from a phase II two a phase I. This subarea has been under the 80% MCL trigger for two consecutive years. If the average of the contaminant sampled has declined over three consecutive years below the MCL trigger, then the subarea and its controls may be moved to the next lower phase.
- The number of samples collected in the SGWMA are fewer than in years past because some wells are not currently being used. If these wells become active in the future, the average nitrate-nitrogen level for the area could be affected. Crop rotations and hail damage have resulted in a decrease of samples taken as well. This subarea had hit two consecutive years of a possible phase lowering, however due to this year's data, it will now have to hit three more consecutive years of being under the 80% MCL trigger.
- A Ground Water Quality Management Subarea designation may be removed by the board if it is determined that the ground water contamination problem in the Quality Management Subarea has been reduced to a level below 65% of the MCL trigger. This is the second consecutive year that the Deuel County East Lodgepole Valley GWMA has been under the 65% MCL trigger.

## NITRATE AVERAGES FOR TARGET AREAS OF THE DISTRICT

| Target Area   | 2003         | 2004         | 2005         | 2006         | 2007         | 2008        | 2009        | 2010        | 2011           |
|---|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|----------------|
| City of Sidney Municipal Wells                                | 11.08        | 11.04        | 10.53        | 10.53        | 10.48        | 10.71       | 9.78        | 10.52       | 11.51          |
| Sidney Draw Trigger Monitoring Wells                          | 13.36        | 13.13        | 12.39        | 11.98        | 11.06        | 10.59       | 9.56        | 10.21       | 10.31          |
| Sidney GWMA Network Wells                                     | 5.66         | 6.47         | 4.87         | 4.46         | 5.23         | 4.54        | 4.45        | 3.39        | 4.63           |
| <b>Composite Average SGWMA (Phase II)</b>                     | <b>9.38</b>  | <b>9.38</b>  | <b>8.82</b>  | <b>8.56</b>  | <b>8.79</b>  | <b>8.33</b> | <b>7.86</b> | <b>7.95</b> | <b>9.02</b>    |
| East Lodgepole Valley GWMA Network Wells                      | 7.23         | 7.23         | 6.96         | 7.07         | 6.38         | 6.14        | 6.43        | 7.37        | 8.29           |
| East Lodgepole Valley Monitoring Wells                        | 8.21         | 7.66         | 6.85         | 6.96         | 6.71         | 7.81        | 8.62        | 8.6         | 9.8            |
| <b>Composite Average East Lodgepole Valley GWMA (Phase I)</b> | <b>7.32</b>  | <b>7.24</b>  | <b>6.87</b>  | <b>6.97</b>  | <b>6.29</b>  | <b>6.25</b> | <b>6.61</b> | <b>7.65</b> | <b>8.61*</b>   |
| West Lodgepole Valley Cheyenne County                         | 5.41         | 5.94         | 5.5          | 5.34         | 6.01         | 5.06        | 4.47        | 4.46        | 5.18           |
| South Platte Valley GWMA Network Wells                        | 10.85        | 10.41        | 10.39        | 10.4         | 9.94         | 9.93        | 8.85        | 8.4         | 8.25           |
| South Platte Valley Monitoring Wells                          | 10.6         | 11.03        | 11.08        | 10.89        | 11.54        | 11.04       | 11.41       | 4.92        | 4.32           |
| <b>Composite Average South Platte Valley GWMA (Phase II)</b>  | <b>10.79</b> | <b>10.55</b> | <b>10.55</b> | <b>10.52</b> | <b>10.39</b> | <b>10.2</b> | <b>9.5</b>  | <b>7.71</b> | <b>7.49**</b>  |
| Lodgepole Valley (DC) GWMA Network Wells                      | 6.27         | 6.7          | 7.24         | 7.37         | 7.53         | 7.06        | 7.14        | 5.88        | 6.01           |
| Lodgepole Valley (DC) Monitoring Wells                        | 5.37         | 4.9          | 4.42         | 4.61         | 4.47         | 4.61        | 4.6         | 5.56        | 4.78           |
| <b>Composite Average Lodgepole Valley GWMA (Phase I)</b>      | <b>6.11</b>  | <b>6.36</b>  | <b>6.73</b>  | <b>6.82</b>  | <b>6.76</b>  | <b>6.52</b> | <b>6.54</b> | <b>5.8</b>  | <b>5.73***</b> |
| Lodgepole Valley (KC) Network Wells                           | 5.15         | 5.35         | 5.1          | 4.99         | 4.86         | 5.35        | 4.67        | 4.85        | 5.52           |
| Lodgepole Valley (KC) Monitoring Wells                        | 5.84         | 6.18         | 6.08         | 6.33         | 5.85         | 5.63        | 5.83        | 5.94        | 5.17           |
| <b>Composite Average Lodgepole Valley KC</b>                  | <b>5.26</b>  | <b>5.48</b>  | <b>5.25</b>  | <b>5.2</b>   | <b>5.03</b>  | <b>5.4</b>  | <b>4.88</b> | <b>5.04</b> | <b>5.21</b>    |

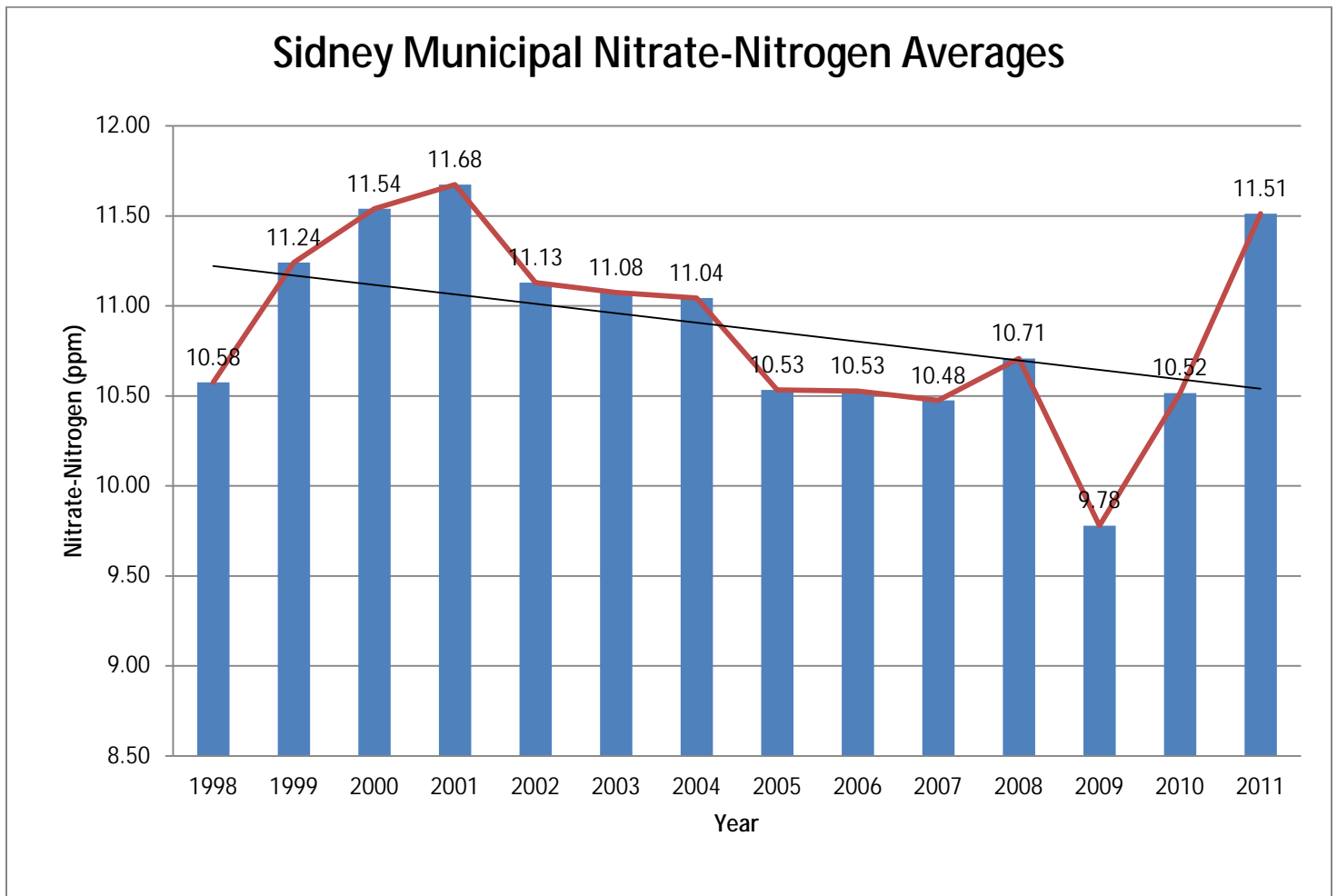
\*Denotes one consecutive year of possibly moving the Cheyenne County East Lodgepole Valley GWMA from a Phase I control to a Phase II. (Has reached the 80% MCL trigger for one consecutive year).

\*\*Denotes two consecutive years of possibly moving the South Platte Valley GWMA from a Phase II control to a Phase I. (Has been under the 80% MCL trigger for two consecutive years).

\*\*\*Denotes two consecutive years of possibly moving the Deuel County East Lodgepole Valley GWMA from being designated a subarea . (Has been under the 65% MCL trigger for two consecutive years).

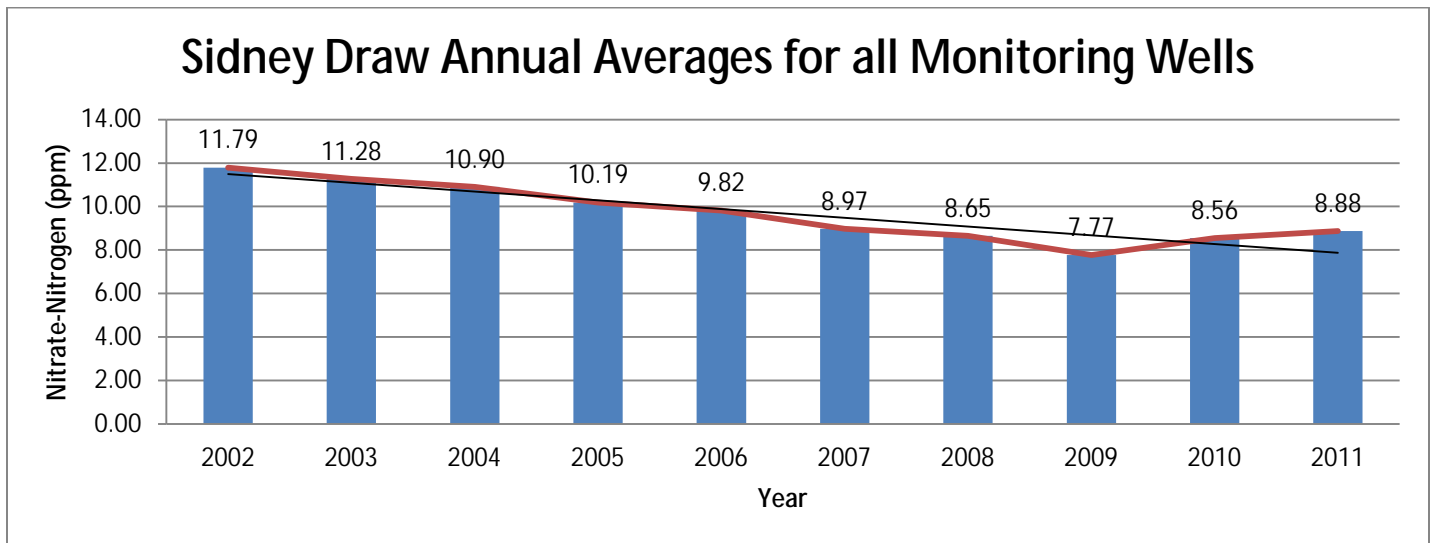
## City of Sidney Municipal Nitrate-Nitrogen Averages

| Well ID    | 1998         | 1999         | 2000         | 2001         | 2002         | 2003         | 2004         | 2005         | 2006         | 2007         | 2008         | 2009        | 2010         | 2011         |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|
| SMW-1      | 12.98        | 13.60        | 13.95        | 13.85        | 13.36        | 13.87        | 13.68        | 12.80        | 13.37        | 12.60        | 12.75        | 11.80       | 12.47        | 13.75        |
| SMW-2      | 13.23        | 14.73        | 14.98        | 15.10        | 14.46        | 14.18        | 13.63        | 12.98        | 12.90        | 12.17        | 12.25        | 11.10       | 12.07        | 13.65        |
| SMW-3      | 11.03        | 12.13        | 12.38        | 12.88        | 12.54        | 13.42        | 13.50        | 13.38        | 13.20        | 13.93        | 13.57        | 12.77       | 13.10        | 14.00        |
| SMW-4      | 7.78         | 8.00         | 8.30         | 8.45         | 7.50         | 7.85         | 8.08         | 8.08         | 7.75         | 7.60         | 8.10         | 7.63        | 8.23         | 8.90         |
| SMW-6      | 14.73        | 15.40        | 15.58        | 14.90        | 14.86        | 13.42        | 14.33        | 13.28        | 14.33        | 13.80        | 14.35        | 12.77       | 12.60        | 14.05        |
| SMW-7      | 11.08        | 11.53        | 12.03        | 12.50        | 10.76        | 10.23        | 9.70         | 8.68         | 8.45         | 8.23         | 8.67         | 8.03        | 10.13        | 11.25        |
| SMW-8      | 8.20         | 7.70         | 7.78         | 7.88         | 7.80         | 7.47         | 6.90         | 6.83         | 6.65         | 6.88         | 7.15         | 6.60        | 7.63         | 8.00         |
| SMW-9      | 5.60         | 6.85         | 7.35         | 7.85         | 7.76         | 8.17         | 8.55         | 8.28         | 7.58         | 8.60         | 8.83         | 7.53        | 7.90         | 8.50         |
| <b>AVG</b> | <b>10.58</b> | <b>11.24</b> | <b>11.54</b> | <b>11.68</b> | <b>11.13</b> | <b>11.08</b> | <b>11.04</b> | <b>10.53</b> | <b>10.53</b> | <b>10.48</b> | <b>10.71</b> | <b>9.78</b> | <b>10.52</b> | <b>11.51</b> |



## Sidney Draw Monitoring Wells

| Well ID    | 2002         | 2003         | 2004         | 2005         | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        |
|------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|
| SD-1       | 10.35        | 9.50         | 9.28         | 9.22         | 9.30        | 8.93        | 8.43        | 8.03        | 8.96        | 7.90        |
| SD-10      | 14.40        | 14.47        | 14.18        | 13.66        | 13.45       | 12.23       | 12.45       | 11.48       | 11.90       | 11.87       |
| SD-12-D    | 16.10        | 15.40        | 15.05        | 14.35        | 14.18       | 13.70       | 13.17       | 11.10       | 12.13       | 12.20       |
| SD-12-S    | 16.63        | 16.73        | 16.48        | 15.45        | 15.08       | 14.53       | 13.77       | 11.85       | 13.07       | 13.40       |
| SD-14      | 14.40        |              |              |              |             |             |             |             |             |             |
| SD-15      | 5.05         | 5.98         | 5.16         | 4.48         | 4.30        | 3.80        | 3.60        | 4.22        | 5.60        | 6.93        |
| SD-16      | 2.02         | 1.70         | 2.06         | 1.94         | 2.03        | 1.85        | 3.26        | 1.95        | 2.08        | 1.70        |
| SD-2       | 10.72        | 9.06         | 7.50         | 7.10         | 6.68        | 5.28        | 4.95        | 4.15        | 5.78        | 7.97        |
| SD-3       | 11.68        | 10.80        | 9.60         | 8.32         | 7.45        | 6.06        | 5.40        | 5.10        | 5.53        | 4.80        |
| SD-4       | 11.00        | 10.80        | 10.33        | 9.40         | 8.80        | 7.88        | 7.18        | 6.92        | 7.92        | 7.37        |
| SD-6       | 13.65        | 13.75        | 13.48        | 12.43        | 11.68       | 10.68       | 9.97        | 9.36        | 10.03       | 10.45       |
| SD-7-D     | 12.30        | 12.40        | 12.63        | 12.13        | 11.78       | 10.83       | 10.20       | 8.94        | 9.07        | 9.65        |
| SD-7-S     | 15.00        | 14.73        | 15.12        | 13.78        | 13.15       | 11.94       | 11.48       | 10.10       | 10.63       | 12.30       |
| <b>AVG</b> | <b>11.79</b> | <b>11.28</b> | <b>10.90</b> | <b>10.19</b> | <b>9.82</b> | <b>8.97</b> | <b>8.65</b> | <b>7.77</b> | <b>8.56</b> | <b>8.88</b> |

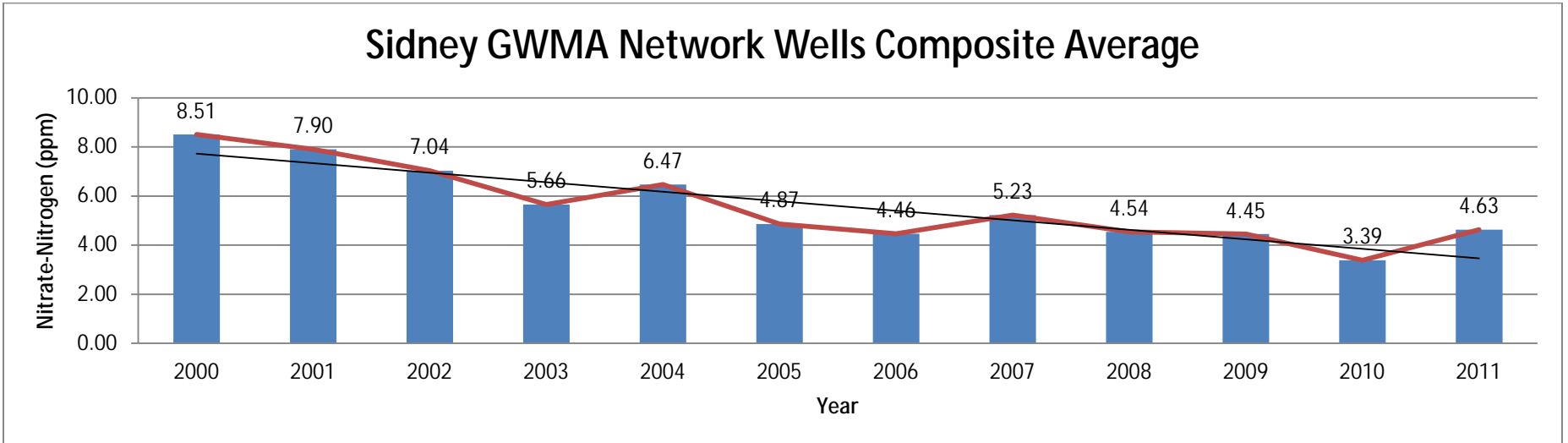


## Wells Included in Triggers

| Well ID    | 2001         | 2002         | 2003         | 2004         | 2005         | 2006         | 2007         | 2008         | 2009        | 2010         | 2011         |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|
| SD-10      | 14.78        | 14.40        | 14.47        | 14.18        | 13.66        | 13.45        | 12.23        | 12.45        | 11.48       | 11.90        | 11.87        |
| SD-12-D    | 16.20        | 16.10        | 15.40        | 15.05        | 14.35        | 14.18        | 13.70        | 13.17        | 11.10       | 12.13        | 12.20        |
| SD-4       | 11.13        | 11.00        | 10.80        | 10.33        | 9.40         | 8.80         | 7.88         | 7.18         | 6.92        | 7.92         | 7.37         |
| SD-6       | 14.13        | 13.65        | 13.75        | 13.48        | 12.43        | 11.68        | 10.68        | 9.97         | 9.36        | 10.03        | 10.45        |
| SD-7-D     | 12.03        | 12.30        | 12.40        | 12.63        | 12.13        | 11.78        | 10.83        | 10.20        | 8.94        | 9.07         | 9.65         |
| <b>AVG</b> | <b>13.65</b> | <b>13.49</b> | <b>13.36</b> | <b>13.13</b> | <b>12.39</b> | <b>11.98</b> | <b>11.06</b> | <b>10.59</b> | <b>9.56</b> | <b>10.21</b> | <b>10.31</b> |

## Sidney Ground Water Management Area

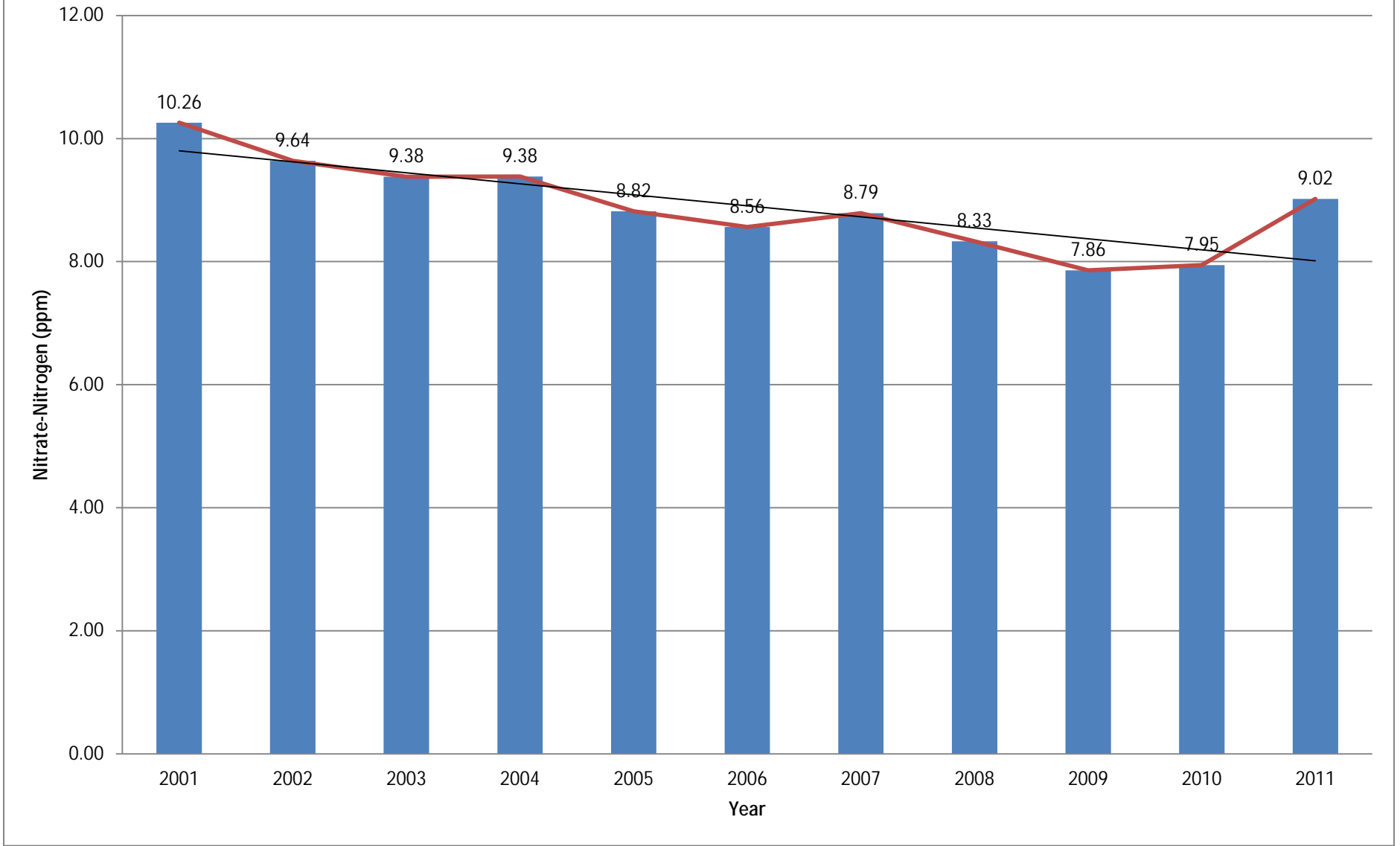
| Owner Name          | Well ID | Legal       | 2000        | 2001        | 2002        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        |
|---------------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Chris Schilz        | D068    | 14-50-33A   | 7.30        | 5.80        | 1.15        | 1.10        | 1.10        | 1.20        | 1.10        | 1.20        | 1.05        | 1.70        | 1.15        | 6.20        |
| Elizabeth Beyer     | D060    | 14-50-18ACD |             | 5.07        | 2.80        | 1.65        | 1.85        | 1.70        | 1.55        | 1.30        | 1.20        | 4.65        | 1.35        | 1.35        |
| Sharon Travis       | D058    | 14-50-20CC  | 4.50        | 3.95        | 4.60        | 4.55        | 4.60        | 4.50        | 4.65        | 5.10        | 3.75        | 4.35        | 4.43        | 5.00        |
| Wanda Rezac         | D069    | 14-50-28A   | 7.47        | 5.90        | 6.05        | 5.70        | 5.55        | 5.75        | 5.55        | 5.50        | 4.55        | 5.30        | 5.55        | 5.30        |
| Dan Phelps          | I061    | 14-50-18CC  | 2.90        | 2.90        | 3.25        | 3.50        | 3.45        | 2.93        | 3.05        |             |             | 2.60        |             |             |
| Dinklage Feed Yards | I067    | 14-50-34BBB | 8.65        | 10.05       | 8.25        | 8.77        | 7.75        | 7.50        | 6.50        |             |             |             | 4.05        | 4.01        |
| Frank Rauner        | I071    | 14-50-36BD  | 11.85       | 12.20       | 12.80       |             |             |             |             |             |             |             |             |             |
| John Hinrichs       | I070    | 14-50-36AA  | 12.48       | 12.90       | 11.35       |             | 13.00       |             |             | 8.30        | 8.30        |             |             |             |
| Mark Ernst          | I063    | 13-51-11DD  | 8.90        | 9.00        | 8.55        | 7.57        | 7.40        |             | 6.80        |             | 3.90        |             | 1.90        |             |
| Paul Hutchison      | I064    | 13-50-7B    | 8.10        | 7.50        | 8.03        | 7.90        | 7.95        | 7.05        | 6.50        | 6.60        | 5.50        | 5.50        | 5.30        | 5.90        |
| Richard Mohatt      | I066    | 13-50-4AB   | 9.43        | 9.27        | 7.60        |             | 7.40        | 8.30        |             |             |             |             |             |             |
| Vern Beyer          | I059    | 14-50-29BA  | 12.00       | 10.25       | 10.00       | 10.20       | 11.17       |             |             | 8.60        | 8.10        | 7.05        |             |             |
| <b>AVG</b>          |         |             | <b>8.51</b> | <b>7.90</b> | <b>7.04</b> | <b>5.66</b> | <b>6.47</b> | <b>4.87</b> | <b>4.46</b> | <b>5.23</b> | <b>4.54</b> | <b>4.45</b> | <b>3.39</b> | <b>4.63</b> |



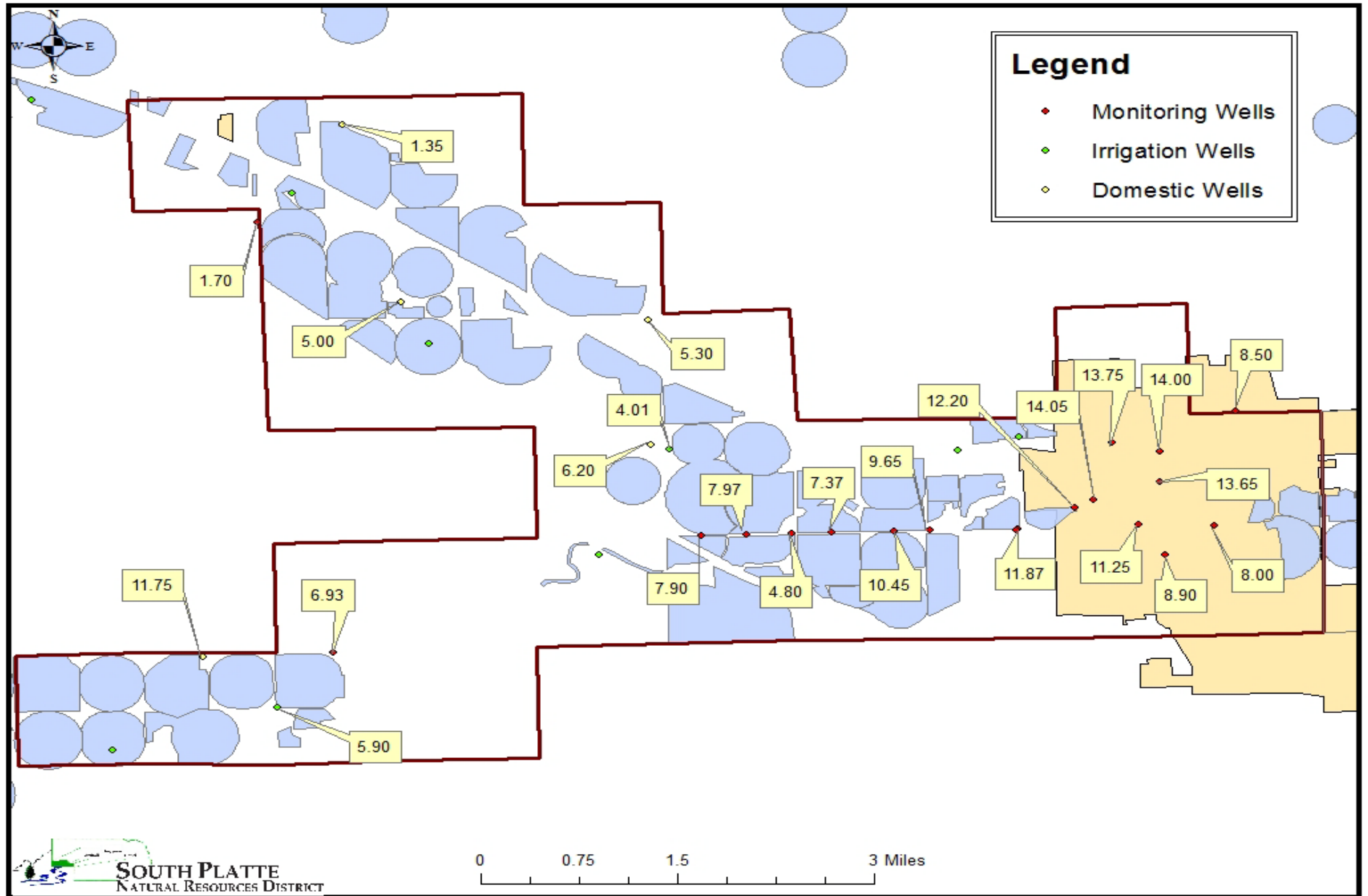
## Sidney Ground Water Management Composite Averages

| Owner Name            | Well ID |             | 2001         | 2002        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        |
|-----------------------|---------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Chris Schilz          | D068    | 14-50-33A   | 5.80         | 1.15        | 1.10        | 1.10        | 1.20        | 1.10        | 1.20        | 1.05        | 1.70        | 1.15        | 6.20        |
| Elizabeth Beyer       | D060    | 14-50-18ACD | 5.07         | 2.80        | 1.65        | 1.85        | 1.70        | 1.55        | 1.30        | 1.20        | 4.65        | 1.35        | 1.35        |
| Sharon Travis         | D058    | 14-50-20CC  | 3.95         | 4.60        | 4.55        | 4.60        | 4.50        | 4.65        | 5.10        | 3.75        | 4.35        | 4.43        | 5.00        |
| Wanda Rezac           | D069    | 14-50-28A   | 5.90         | 6.05        | 5.70        | 5.55        | 5.75        | 5.55        | 5.50        | 4.55        | 5.30        | 5.55        | 5.30        |
| Dan Phelps            | I061    | 14-50-18CC  | 2.90         | 3.25        | 3.50        | 3.45        | 2.93        | 3.05        |             |             | 2.60        |             |             |
| Dinklage Feed Yards   | I067    | 14-50-34BBB | 10.05        | 8.25        | 8.77        | 7.75        | 7.50        | 6.50        |             |             |             | 4.05        | 4.01        |
| Frank Rauner          | I071    | 14-50-36BD  | 12.20        | 12.80       |             |             |             |             |             |             |             |             |             |
| John Hinrichs         | I070    | 14-50-36AA  | 12.90        | 11.35       |             | 13.00       |             |             | 8.30        | 8.30        |             |             |             |
| Mark Ernst            | I063    | 13-51-11DD  | 9.00         | 8.55        | 7.57        | 7.40        |             | 6.80        |             | 3.90        |             | 1.90        |             |
| Paul Hutchison        | I064    | 13-50-7B    | 7.50         | 8.03        | 7.90        | 7.95        | 7.05        | 6.50        | 6.60        | 5.50        | 5.50        | 5.30        | 5.90        |
| Richard Mohatt        | I066    | 13-50-4AB   | 9.27         | 7.60        |             | 7.40        | 8.30        |             |             |             |             |             |             |
| Vern Beyer            | I059    | 14-50-29BA  | 10.25        | 10.00       | 10.20       | 11.17       |             |             | 8.60        | 8.10        | 7.05        |             |             |
| SPNRD                 | SD-10   |             | 14.78        | 14.40       | 14.47       | 14.18       | 13.66       | 13.45       | 12.23       | 12.45       | 11.48       | 11.90       | 11.87       |
|                       | SD-12-D |             | 16.20        | 16.10       | 15.40       | 15.05       | 14.35       | 14.18       | 13.70       | 13.17       | 11.10       | 12.13       | 12.20       |
|                       | SD-4    |             | 11.13        | 11.00       | 10.80       | 10.33       | 9.40        | 8.80        | 7.88        | 7.18        | 6.92        | 7.92        | 7.37        |
|                       | SD-6    |             | 14.13        | 13.65       | 13.75       | 13.48       | 12.43       | 11.68       | 10.68       | 9.97        | 9.36        | 10.03       | 10.45       |
|                       | SD-7-D  |             | 12.03        | 12.30       | 12.40       | 12.63       | 12.13       | 11.78       | 10.83       | 10.20       | 8.94        | 9.07        | 9.65        |
| City of Sidney        | SMW-1   |             | 13.85        | 13.36       | 13.87       | 13.68       | 12.80       | 13.37       | 12.60       | 12.75       | 11.80       | 12.47       | 13.75       |
|                       | SMW-2   |             | 15.10        | 14.46       | 14.18       | 13.63       | 12.98       | 12.90       | 12.17       | 12.25       | 11.10       | 12.07       | 13.65       |
|                       | SMW-3   |             | 12.88        | 12.54       | 13.42       | 13.50       | 13.38       | 13.20       | 13.93       | 13.57       | 12.77       | 13.10       | 14.00       |
|                       | SMW-4   |             | 8.45         | 7.50        | 7.85        | 8.08        | 8.08        | 7.75        | 7.60        | 8.10        | 7.63        | 8.23        | 8.90        |
|                       | SMW-6   |             | 14.90        | 14.86       | 13.42       | 14.33       | 13.28       | 14.33       | 13.80       | 14.35       | 12.77       | 12.60       | 14.05       |
|                       | SMW-7   |             | 12.50        | 10.76       | 10.23       | 9.70        | 8.68        | 8.45        | 8.23        | 8.67        | 8.03        | 10.13       | 11.25       |
|                       | SMW-8   |             | 7.88         | 7.80        | 7.47        | 6.90        | 6.83        | 6.65        | 6.88        | 7.15        | 6.60        | 7.63        | 8.00        |
|                       | SMW-9   |             | 7.85         | 7.76        | 8.17        | 8.55        | 8.28        | 7.58        | 8.60        | 8.83        | 7.53        | 7.90        | 8.50        |
| <b>Annual Average</b> |         |             | <b>10.26</b> | <b>9.64</b> | <b>9.38</b> | <b>9.38</b> | <b>8.82</b> | <b>8.56</b> | <b>8.79</b> | <b>8.33</b> | <b>7.86</b> | <b>7.95</b> | <b>9.02</b> |

# SGWMA Composite Averages

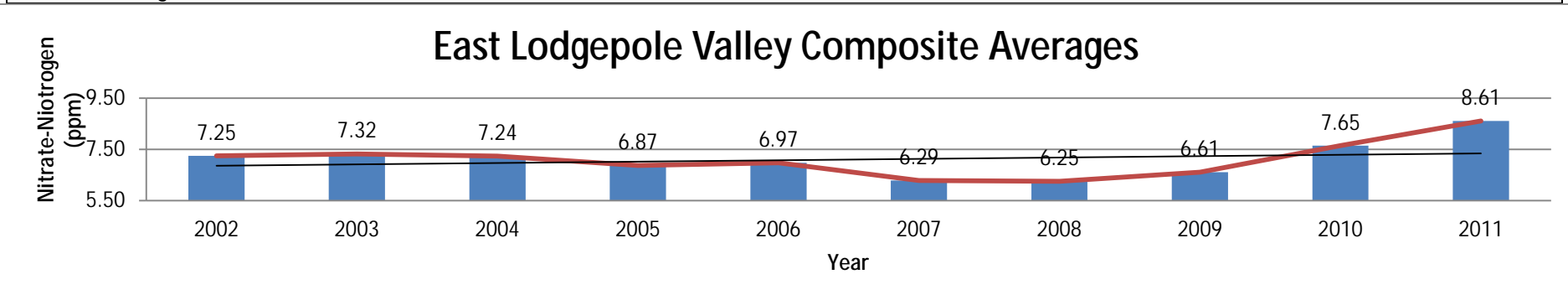


# Sidney Ground Water Management Area Map

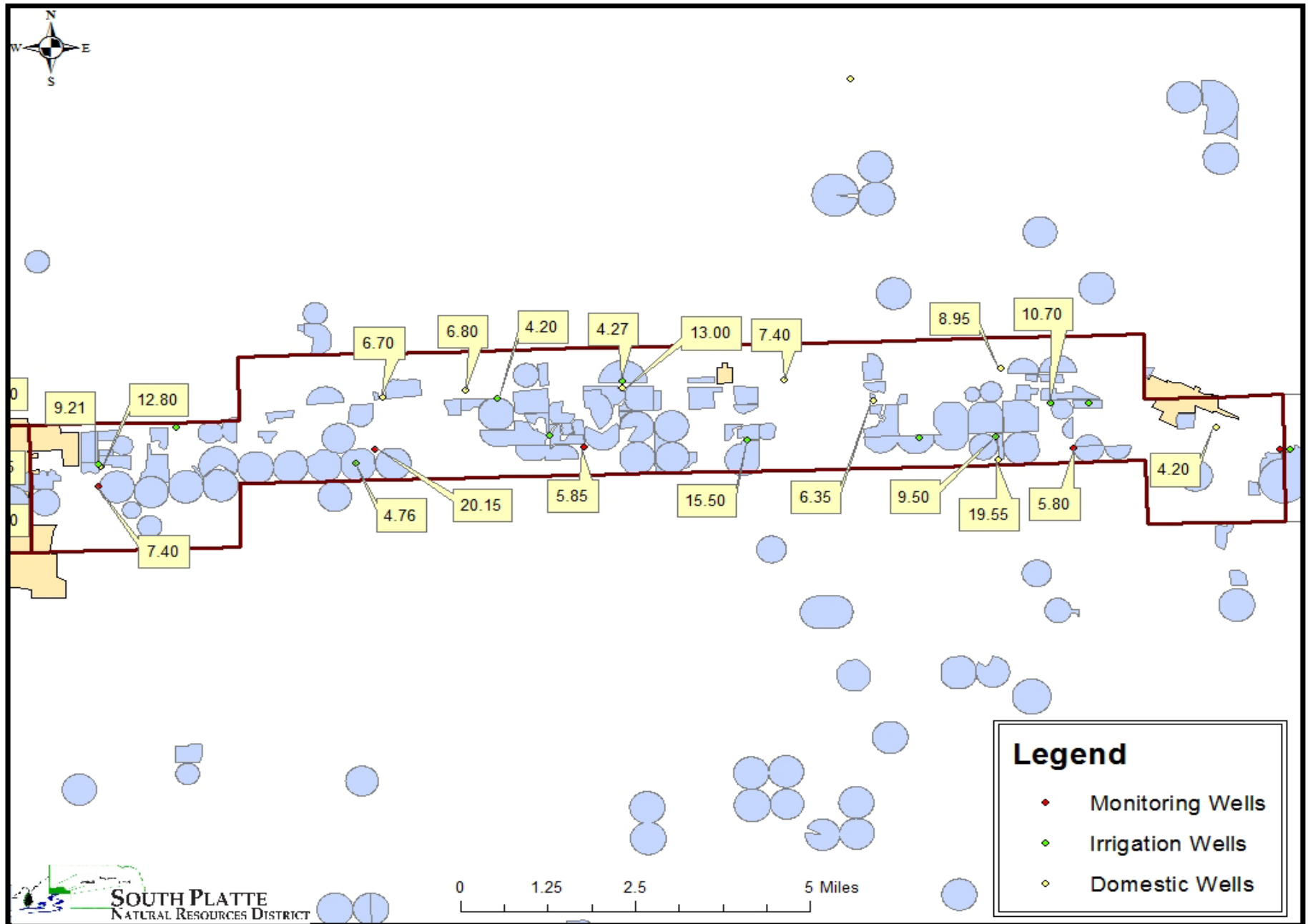


### East Lodgepole Valley Subarea for Ground Water Quality

| Owner Name            | Well ID | Legal        | 2002        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        |
|-----------------------|---------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| B & Dk-Lawn           | D152    | 14-47-30DA   | 7.43        | 7.40        | 8.00        | 8.35        | 8.45        | 8.40        | 7.30        | 7.70        | 6.80        | 7.40        |
| Dave Johnson          | D151    | 14-48-26DBB1 | 7.70        | 7.00        | 7.95        | 7.70        | 7.50        | 7.90        | 7.35        | 7.85        | 15.25       | 13.00       |
| Don Sharman           | D153    | 14-47-28CC   | 4.55        | 5.00        | 4.30        | 4.60        | 4.65        | 4.20        | 4.80        | 5.70        | 5.70        | 6.35        |
| Doyle Misegadis       | D150    | 14-48-28BD   | 6.30        | 6.27        | 5.93        | 5.60        | 5.75        | 5.40        | 5.00        | 5.85        | 5.75        | 6.80        |
| Gene White            | D082    | 14-49-34B    | 13.90       | 15.15       | 15.10       | 14.40       | 13.67       | 13.50       | 10.70       | 12.45       | 8.25        | 12.80       |
| Jim From              | D154    | 14-47-27DA   | 6.30        | 6.35        | 6.20        | 6.15        | 6.03        | 5.90        | 5.30        | 5.90        | 12.80       | 8.95        |
| Richard Krueger       | D147    | 14-48-29C    | 6.50        |             |             |             |             |             | 4.60        | 4.40        | 4.90        | 6.70        |
| Scott Hendrickson     | D146    | 14-46-32CA   | 4.13        | 4.23        | 4.05        | 4.27        | 4.30        | 4.15        | 3.85        | 4.35        | 4.35        | 4.20        |
| Bill Behrends         | I086    | 14-47-34DAA  | 5.25        | 5.20        | 5.50        | 4.73        | 4.95        | 2.20        | 4.90        | 4.80        | 6.00        | 9.50        |
| Bill Steele Jr.       | I156    | 14-48-28DCA  | 4.13        | 4.10        | 3.90        | 3.60        | 3.80        | 3.55        | 3.20        | 2.00        | 3.60        | 4.20        |
| Darrell Sharman       | I157    | 14-47-31CAB  | 7.90        | 7.80        | 7.85        | 7.65        | 7.50        |             | 8.50        | 7.70        | 11.20       | 15.50       |
| Don Soucie            | I087    | 14-47-35ABA  | 8.15        | 7.35        | 5.70        | 5.75        | 6.10        | 6.30        | 6.30        | 5.90        | 7.10        | 10.70       |
| Glassburn Farms       | I130    | 14-48-34ACB  | 7.80        | 7.55        | 7.60        | 6.85        | 6.75        | 6.50        | 4.20        |             |             |             |
| John Williams         | I155    | 14-47-36BBA  | 7.45        | 7.75        |             |             |             |             |             |             |             |             |
| Ken Peetz             | I084    | 14-49-35BBD  | 5.33        | 5.20        |             |             |             |             |             |             |             |             |
| Miller Wheat Farms    | I151    | 14-48-26DBB2 | 7.05        | 7.15        | 7.00        | 6.60        | 6.70        | 6.60        | 6.40        | 5.80        | 3.70        | 4.27        |
| Randy Faessler        | I148    | 14-48-31DBD  | 5.15        | 4.95        | 5.13        | 4.55        | 5.65        |             | 2.90        | 4.20        | 5.50        | 4.76        |
| Ron Hadeen            | I085    | 14-47-33DAB  | 6.45        | 6.80        |             | 6.40        |             |             | 5.95        |             | 7.90        |             |
| Rosalie Kielian       | I083    | 14-49-34CBC  | 14.05       | 14.77       | 13.50       | 12.80       | 12.80       |             | 11.90       | 10.60       | 9.70        | 9.21        |
| SPNRD                 | E-1     | 14N47W35DDA  | 4.70        |             |             |             |             |             |             |             | 10.15       | 5.80        |
|                       | E-2     | 14N48W35CBB  | 8.00        |             |             |             |             |             |             |             | 7.80        | 5.85        |
|                       | E-3     | 14N48W32CBB  | 10.12       | 7.85        | 6.73        | 5.90        | 6.30        | 6.40        | 9.17        | 10.13       | 8.60        | 20.15       |
|                       | E-4     | 14N49W34CCC  | 8.40        | 8.58        | 8.60        | 7.80        | 7.63        | 7.03        | 6.45        | 7.12        | 7.85        | 7.40        |
| <b>Annual Average</b> |         |              | <b>7.25</b> | <b>7.32</b> | <b>7.24</b> | <b>6.87</b> | <b>6.97</b> | <b>6.29</b> | <b>6.25</b> | <b>6.61</b> | <b>7.65</b> | <b>8.61</b> |

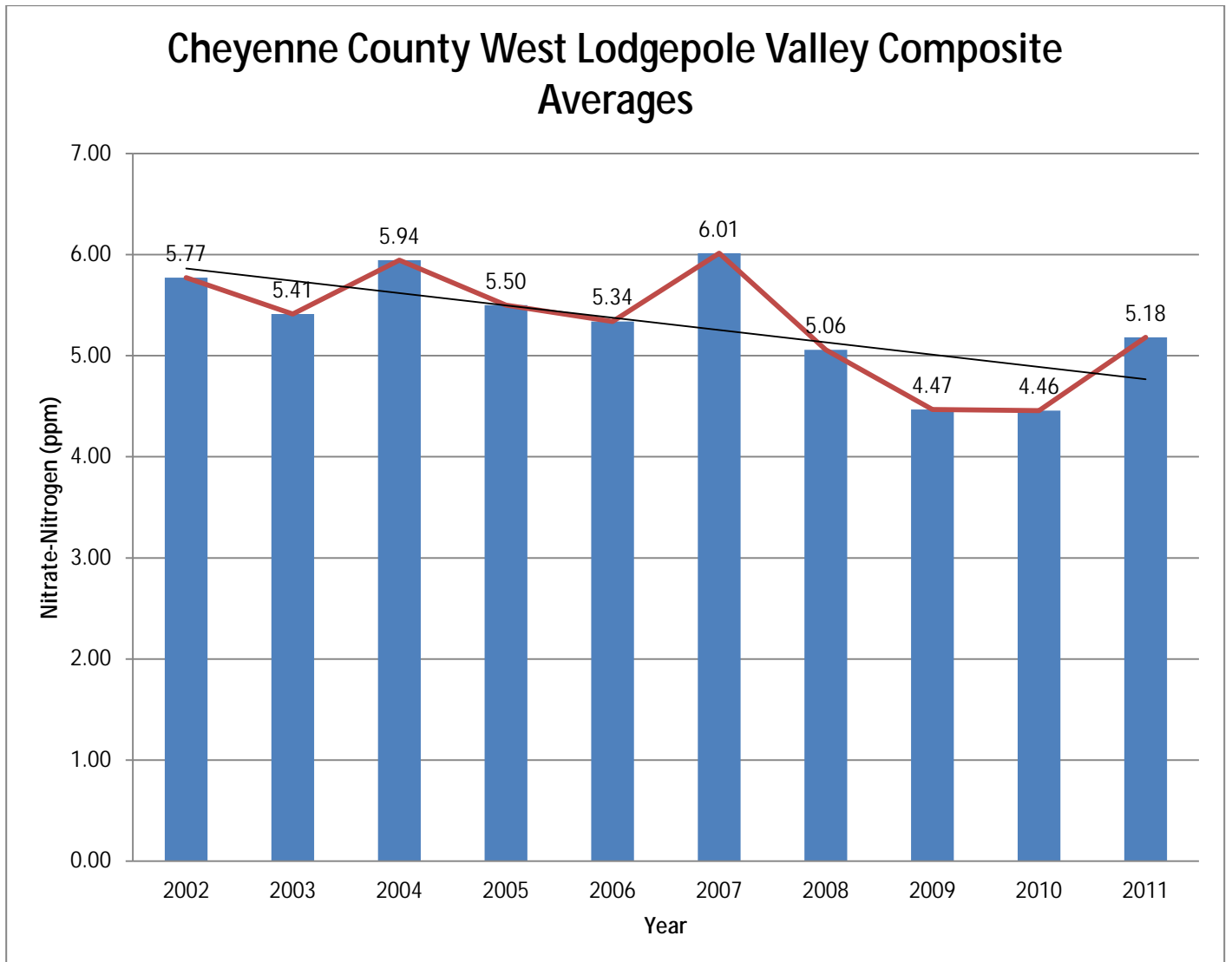


# East Lodgepole Valley Subarea Map

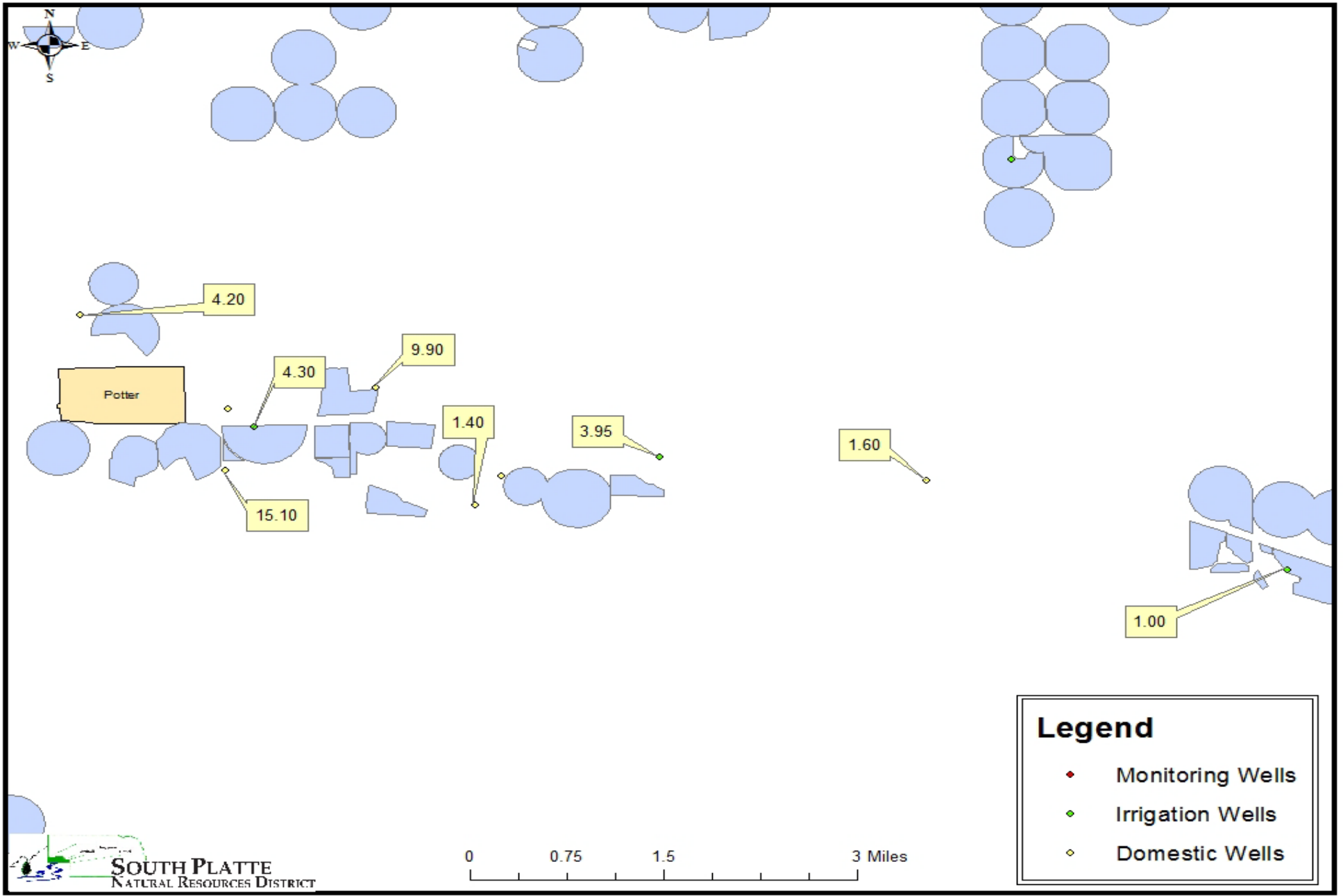


## Cheyenne County West Lodgepole Valley

| Owner Name       | Well ID | Legal      | 2002        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        |
|------------------|---------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Arvin Nielsen    | D049    | 14-52-4C   | 12.05       | 5.70        | 8.20        | 11.75       | 9.00        | 9.00        | 10.40       | 8.35        | 6.85        | 15.10       |
| Elmer Jung       | D048    | 15-52-31AD | 5.87        | 5.83        | 5.70        | 5.55        | 5.33        | 5.00        | 2.90        | 4.75        | 4.40        | 4.20        |
| Kenneth Cook     | D056    | 14-51-8AB  | 2.55        | 4.10        | 2.50        | 1.90        | 2.03        | 1.80        | 1.60        | 1.53        | 1.80        | 1.60        |
| Rhonda Shaw      | D054    | 14-52-11B  | 3.90        | 3.63        | 3.95        | 3.50        |             |             |             |             |             |             |
| Rhonda Whartman  | D051    | 14-52-3BB  | 13.05       | 14.10       | 15.70       | 14.25       | 13.85       | 19.70       | 14.05       | 9.40        | 10.75       | 9.90        |
| Roland R. Madden | D053    | 14-52-10A  | 1.60        | 1.60        | 1.60        | 1.60        | 1.65        | 1.50        | 1.45        | 1.70        | 1.55        | 1.40        |
| Brad Hicks       | I047    | 15-53-35DA | 4.60        | 4.75        | 4.60        | 4.45        | 4.33        |             | 2.90        | 4.10        |             |             |
| Robert Hostetler | I055    | 14-52-12BA | 4.50        | 4.45        | 4.20        | 4.00        | 3.75        | 3.80        |             |             | 4.20        | 3.95        |
| Russ McMillen    | I057    | 14-51-14BB | 2.60        | 2.70        |             | 1.90        | 1.50        | 1.30        | 2.00        | 1.80        | 1.10        | 1.00        |
| Russell Nielsen  | I050    | 14-52-4CA  | 7.00        | 7.27        | 7.05        | 6.10        | 6.60        |             | 5.17        | 4.10        | 5.00        | 4.30        |
| <b>Average</b>   |         |            | <b>5.77</b> | <b>5.41</b> | <b>5.94</b> | <b>5.50</b> | <b>5.34</b> | <b>6.01</b> | <b>5.06</b> | <b>4.47</b> | <b>4.46</b> | <b>5.18</b> |



# Cheyenne County West Lodgepole Valley Map



### Cheyenne County Wells Outside Lodgepole Valley North Tablelands

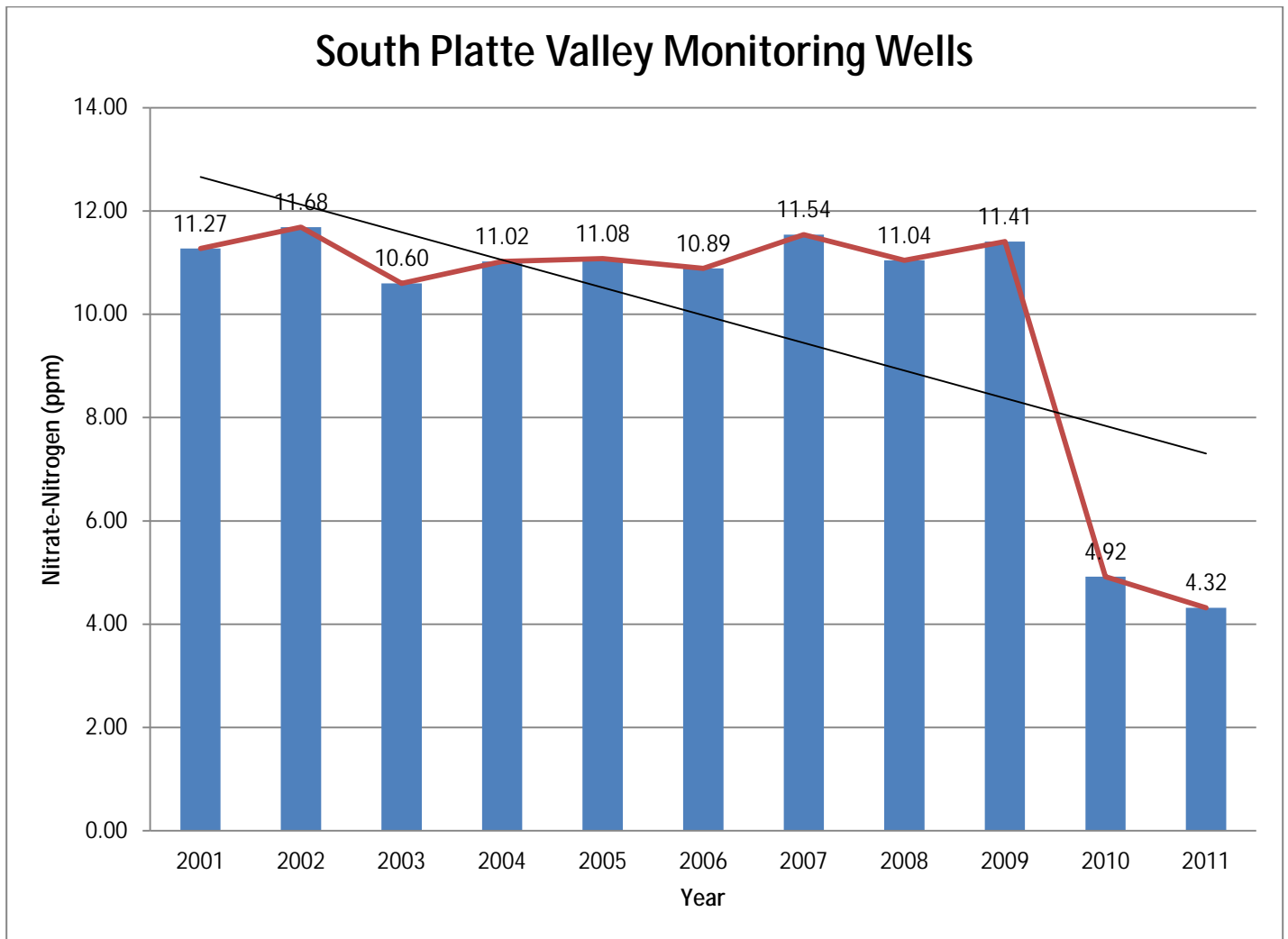
| Owner Name  | Well ID | Legal              | 2002        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        |
|---|---------|--------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Gerald Wittrock   | D122    | 15-47-32DD         | 5.35        | 5.43        | 5.97        | 6.75        | 6.23        | 6.80        | 7.43        | 4.90        | 6.85        | 7.40        |
| James Higgins   | I124    | 16-51-33AA         | 1.40        | 1.20        |             |             |             |             |             |             |             |             |
| Marvin Meyer  | I127    | 15-51-28BB         | 2.05        | 2.20        | 2.20        |             | 2.15        |             |             |             | 1.90        |             |
| Patsy Nichols   | I126    | 15-52-14BO         | 1.50        | 1.55        | 1.65        |             | 1.60        |             |             |             |             | 1.48        |
| Steve Hopkins   | I123    | 16-50-27BO         | 1.93        | 1.95        | 2.00        | 2.35        | 1.90        |             |             |             | 3.10        |             |
| Tim Maas  | I125    | 16-52-14DO         | 2.50        | 2.55        | 2.60        | 2.55        |             |             |             |             |             |             |
| SPNRD*  | CI-05-S | 14N 50W 20DAAA     |             |             |             |             |             |             |             |             | 1           |             |
| *Wells are only<br>sampled once<br>every 5-10<br>years. | CL-09-S | 14N 50W 26CCCC     |             |             |             |             |             |             |             |             | 2.7         |             |
|   | CL-19-D | 14N 50W 27CDCD2    |             |             |             |             |             |             |             |             | 1           |             |
|   | CL-19-D | 14N 50W 27CDCD2    |             |             |             |             |             |             |             |             | 1           |             |
|   | CT-01-D | 14N 50W 5ADDD2     |             |             |             |             |             |             |             |             | 1           |             |
|   | CT-01-S | 14N 50W 5ADDD1     |             |             |             |             |             |             |             |             | 2.3         |             |
|   | CT-02-D | 14N 50W 2DC03      |             |             |             |             |             |             |             |             | 2.8         |             |
|   | CT-02-M | 14N 50W 2DC02      |             |             |             |             |             |             |             |             | 1.8         |             |
|   | CT-02-S | 14N 50W 2DC01      |             |             |             |             |             |             |             |             | 1.7         |             |
|   | CT-03-S | 14N 50W 1DDDA2     |             |             |             |             |             |             |             |             | 2.3         |             |
|   | CT-06-S | 14N 50W 14CDCA     |             |             |             |             |             |             |             |             | 1.3         |             |
|   | CT07    | 14N 50W 13DAAA     |             |             |             |             |             |             |             |             | 1.9         |             |
|   | CT-15-S | 14N 50W<br>01AADD1 |             |             |             |             |             |             |             |             | 1.6         |             |
|   | CT-15-D | 14N 50W<br>01AADD2 |             |             |             |             |             |             |             |             | 1.2         |             |
|   | CT-17-S | 15N 50W 35ACC1     |             |             |             |             |             |             |             |             | 2.6         |             |
|   | CT-17-D | 15N 50W 35ACC2     |             |             |             |             |             |             |             |             | 1.7         |             |
|   | CT-18   | 14N 50W 7AADD0     |             |             |             |             |             |             |             |             | 1.4         |             |
|   | CT-20   | 16N 52W 22DCC      |             |             |             |             |             |             |             |             | 1.9         |             |
|   | CT-21   | 15N 51W 21DCC      |             |             |             |             |             |             |             |             | 2.1         |             |
|   | CT-24   | 16N 51W 32DDD      |             |             |             |             |             |             |             |             | 1.8         |             |
|   | CT-25   | 16N 51W 24CCD      |             |             |             |             |             |             |             |             | 1.4         |             |
| <b>Average</b>  |         |                    | <b>2.46</b> | <b>2.48</b> | <b>2.88</b> | <b>3.88</b> | <b>2.97</b> | <b>6.80</b> | <b>7.43</b> | <b>4.90</b> | <b>2.01</b> | <b>4.44</b> |

### Cheyenne County Wells Outside Lodgepole Valley South Tablelands

| Owner Name      | Well ID | Legal          | 2002        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009 | 2010 | 2011        |
|-----------------|---------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|------|-------------|
| Alvin Narjes    | I129    | 12-49-3BC      | 3.15        | 3.20        | 3.15        |             | 3.55        | 3.10        | 3.67        |      |      | 3.42        |
| Tyler Nienhuser | I128    | 12-49-<br>17AC | 3.60        | 3.80        | 3.70        | 3.83        | 3.90        |             | 3.90        |      |      |             |
| <b>Average</b>  |         |                | <b>3.38</b> | <b>3.50</b> | <b>3.43</b> | <b>3.83</b> | <b>3.73</b> | <b>3.10</b> | <b>3.78</b> |      |      | <b>3.42</b> |

## South Platte Valley Monitoring Wells

| Well ID    | 2001         | 2002         | 2003         | 2004         | 2005         | 2006         | 2007         | 2008         | 2009         | 2010        | 2011        |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|
| D-1-D      | 6.86         | 7.05         | 8.08         | 9.08         | 9.12         | 8.62         | 10.75        | 13.75        | 16.65        |             |             |
| D-1-M      | 13.10        | 15.28        | 17.18        | 18.32        | 19.02        | 21.23        | 24.63        | 24.35        | 25.30        |             |             |
| D-1-S      | 25.08        | 31.28        | 24.80        | 26.94        | 26.73        | 28.16        | 29.98        | 29.60        | 30.60        |             |             |
| D-3-M      | 11.13        | 10.72        | 10.35        | 11.38        | 11.50        | 9.07         | 7.66         | 7.42         | 7.18         | 7.12        | 6.00        |
| D-3-S      | 12.63        | 10.70        | 10.20        | 12.25        | 12.34        | 9.30         | 6.95         | 5.83         | 4.85         | 5.50        | 7.80        |
| D-4-M      | 6.18         | 6.22         | 6.38         | 5.83         | 6.08         | 6.58         | 5.38         | 5.00         | 5.47         | 4.58        | 3.20        |
| D-4-S      | 5.80         | 7.25         | 6.02         | 5.68         | 5.25         | 7.55         | 4.45         | 4.90         | 3.32         | 3.50        | 4.60        |
| D-5-M      | 12.78        | 14.18        | 8.68         | 6.45         | 5.42         | 4.05         | 5.82         | 4.66         | 5.72         | 5.87        | 2.30        |
| D-5-S      | 7.90         | 2.50         | 3.70         | 3.30         | 4.23         | 3.45         | 8.25         | 3.88         | 3.58         | 2.97        | 2.00        |
| <b>AVG</b> | <b>11.27</b> | <b>11.68</b> | <b>10.60</b> | <b>11.02</b> | <b>11.08</b> | <b>10.89</b> | <b>11.54</b> | <b>11.04</b> | <b>11.41</b> | <b>4.92</b> | <b>4.32</b> |

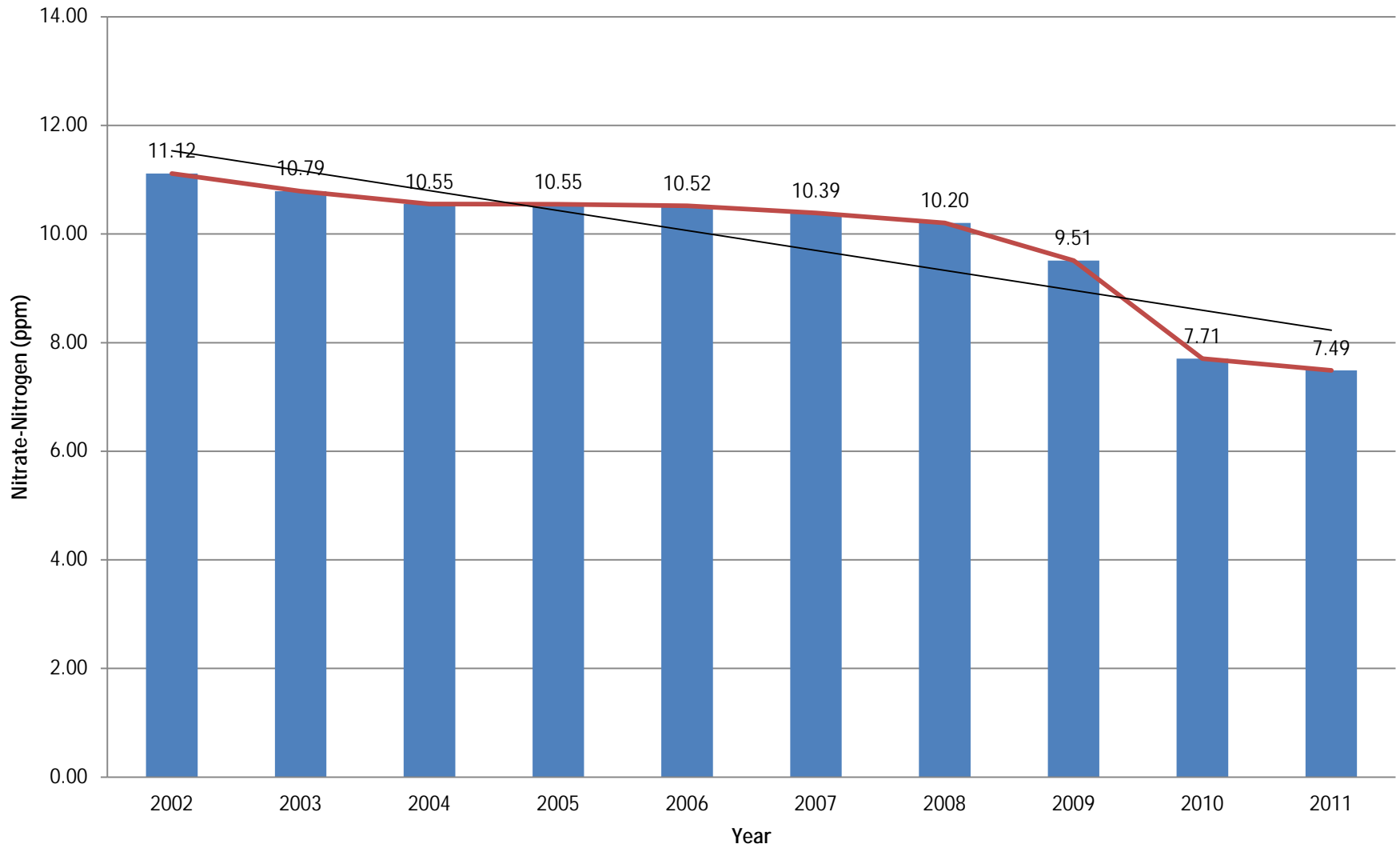


\* D-1-D, D-1-M, and D-1-S, are decommissioned. As noted, the composite average for the South Platte valley has been affected by this loss of data.

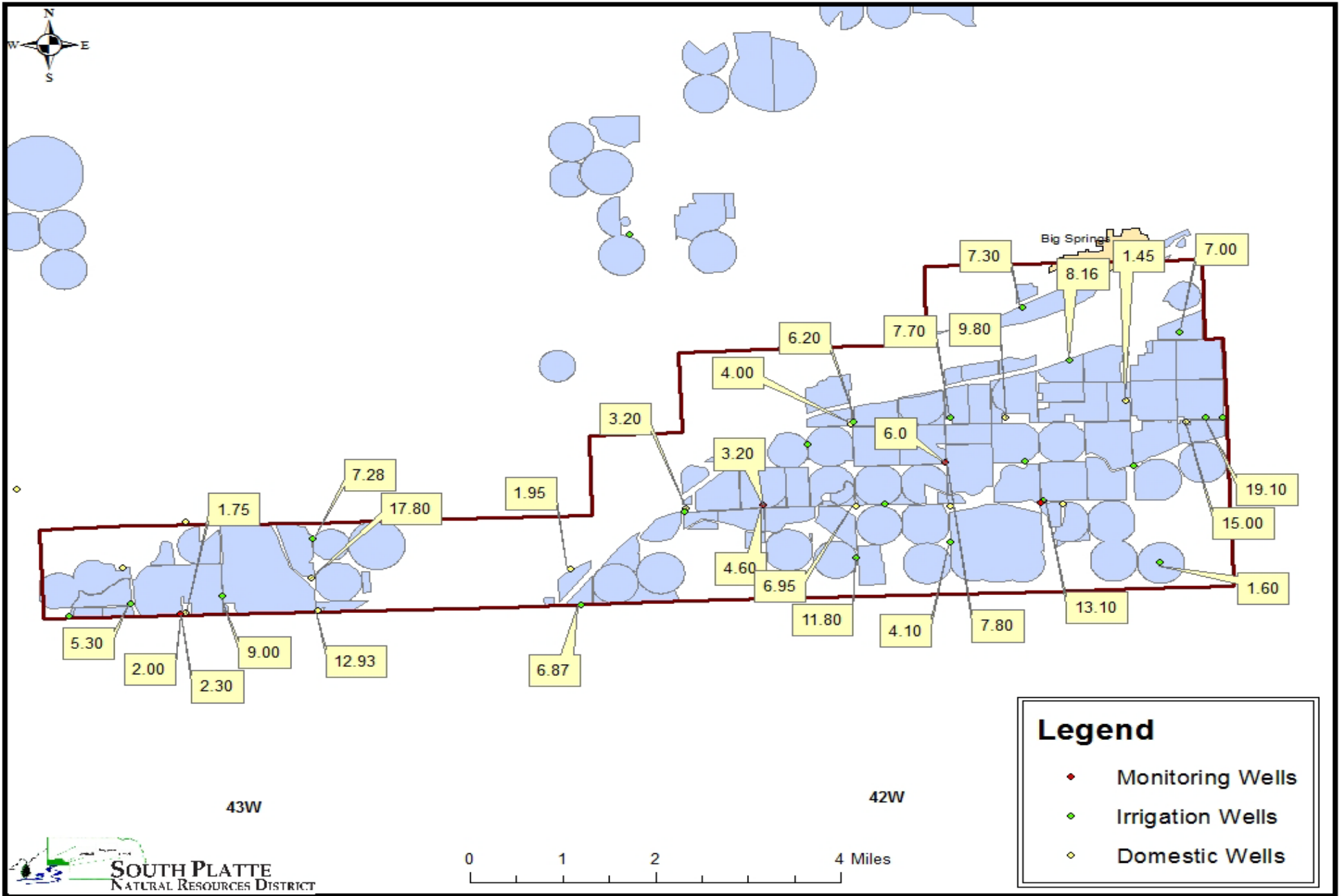
## South Platte Valley Subarea for Ground Water Quality

| Owner Name           | Well ID | Legal     | 2002         | 2003         | 2004         | 2005         | 2006         | 2007         | 2008         | 2009        | 2010        | 2011        |
|----------------------|---------|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|
| Calvin McClung       | D074    | 12-42-2D  | 7.00         | 6.97         | 7.60         | 8.80         | 9.20         | 7.40         | 1.00         | 1.20        | 1.50        | 1.45        |
| Calvin McClung       | D075    | 12-42-12A | 13.85        | 16.10        | 15.75        | 19.40        | 19.20        | 18.10        | 16.20        | 14.77       | 13.90       | 15.00       |
| Charles Julius Farms | D105    | 12-44-13A | 4.33         | 13.87        | 3.85         |              |              | 11.50        |              |             |             |             |
| Current Resident     | D077    | 12-42-5DD | 4.50         | 5.60         | 4.65         | 4.55         | 4.50         | 4.60         | 4.45         | 3.45        | 3.50        | 4.00        |
| Delbert Harris       | D078    | 12-42-7CC | 4.00         | 4.05         | 4.20         | 4.83         | 4.43         | 3.90         | 3.20         | 3.10        | 3.05        | 3.20        |
| Ira Orth             | D110    | 12-43-21B | 15.20        | 10.55        | 14.15        | 18.35        | 14.15        | 17.00        | 16.70        | 18.15       | 13.55       | 12.93       |
| Max Soper            | D076    | 12-42-3D  | 11.53        | 11.65        | 11.20        | 10.95        | 11.10        | 10.70        | 9.70         | 8.70        | 8.35        | 9.80        |
| Roland Duensing      | D111    | 12-43-17D | 19.75        | 23.05        | 25.20        | 25.65        | 23.10        | 23.00        | 25.50        | 19.50       | 18.70       | 17.80       |
| Vera Johnson         | D109    | 12-43-19A | 13.95        | 8.25         | 5.85         | 5.45         | 6.10         | 6.40         | 7.05         | 3.90        | 3.15        | 1.75        |
| Western Irrigation   | D113    | 12-43-14D | 3.00         | 4.40         | 2.47         | 2.55         | 2.35         | 4.20         | 3.15         | 2.80        | 2.25        | 1.95        |
| WH Palser Farms      | D079    | 12-42-9C  | 7.50         | 9.35         | 10.13        | 9.60         | 10.15        | 12.80        | 10.70        | 7.70        | 8.25        | 6.95        |
| Alan Bieber          | I119    | 13-42-36C | 6.00         | 6.55         | 5.70         | 4.10         | 4.00         | 3.30         | 4.25         | 7.90        | 11.80       | 7.30        |
| Alan Bieber          | I139    | 12-42-4C  | 8.30         | 7.30         | 6.60         | 6.45         | 6.55         |              | 4.75         | 7.10        | 9.40        | 6.20        |
| Ascension Jimenez    | I116    | 12-42-17  | 19.90        | 20.33        | 24.50        | 25.10        | 25.90        |              | 25.35        | 11.60       | 22.90       | 11.80       |
| Calvin McClung       | I144    | 12-42-13C | 1.50         | 1.40         | 1.70         | 1.45         | 1.60         | 1.50         | 0.40         | 1.10        | 1.30        | 1.60        |
| CG Farms Inc.        | I112    | 12-43-16B | 22.70        | 14.85        | 14.90        | 10.25        | 7.85         | 11.30        | 8.90         | 7.50        | 7.40        | 7.28        |
| Charles Julius Farms | I103    | 12-44-24B | 4.17         | 4.40         | 4.17         | 2.00         | 3.80         |              |              |             |             |             |
| Charles Julius Farms | I104    | 12-44-13D | 11.00        | 10.40        | 7.35         | 8.95         | 8.90         | 7.40         | 5.90         |             |             | 5.30        |
| Charles Steward      | I143    | 12-42-12C | 17.80        | 17.15        | 18.10        | 19.10        | 17.78        | 17.70        | 15.80        | 15.60       | 6.90        | 16.90       |
| Delbert Harris       | I115    | 12-42-18B | 4.35         | 4.15         | 3.70         | 3.45         | 3.40         | 2.80         | 2.70         | 2.60        |             |             |
| Joyce Beaver         | I108    | 12-43-17C | 10.85        | 11.05        | 12.05        | 11.20        | 11.70        |              | 11.10        | 9.40        | 8.80        | 9.00        |
| Lyle Dehning         | I118    | 13-41-31D | 18.00        | 17.70        | 17.00        | 15.70        | 12.63        | 8.20         | 5.15         | 4.20        | 5.50        | 7.00        |
| Martin Flaming       | I141    | 12-42-10A | 15.65        | 13.70        | 13.00        | 12.10        |              |              | 12.05        | 11.20       | 10.40       |             |
| Max Soper            | I138    | 12-42-3C  | 11.00        | 11.00        | 9.10         | 8.80         | 8.97         | 8.40         | 9.00         | 6.20        | 8.20        | 7.70        |
| Mike/Mark McGreer    | I137    | 12-42-2B  | 16.26        | 14.65        | 12.05        | 11.85        | 11.65        |              | 9.05         | 8.30        | 8.70        | 8.16        |
| Philip Armstrong     | I136    | 12-42-1D  |              |              |              |              |              |              |              |             |             |             |
| Philip Armstrong     | I142    | 12-42-11C | 16.58        | 16.85        | 17.90        | 17.00        | 16.40        | 16.90        | 14.50        | 12.20       | 14.20       | 13.10       |
| Philip Armstrong     | I159    | 12-42-1D  | 15.35        | 15.30        | 17.40        | 16.95        | 17.35        | 17.20        | 15.70        | 15.70       |             | 19.10       |
| Ruby Porter          | I114    | 12-43-23A | 5.80         | 5.15         | 5.25         | 7.30         | 8.60         | 9.90         | 10.20        |             | 7.00        | 6.87        |
| WH Palser Farms      | I117    | 12-42-9C  | 17.75        | 20.15        | 17.20        | 10.20        | 14.05        |              | 22.95        | 23.70       |             |             |
| WH Palser Farms      | I140    | 12-42-8A  | 5.80         | 5.50         | 4.30         | 4.70         |              |              |              |             |             |             |
| WH Palser Farms      | I145    | 12-42-15B | 6.10         | 4.83         | 5.80         | 4.95         | 5.75         | 4.40         | 2.75         | 2.60        | 3.00        | 4.10        |
| SPNRD                | D-1-D   |           | 7.05         | 8.08         | 9.08         | 9.12         | 8.62         | 10.75        | 13.75        | 16.65       |             |             |
|                      | D-1-M   |           | 15.28        | 17.18        | 18.32        | 19.02        | 21.23        | 24.63        | 24.35        | 25.30       |             |             |
|                      | D-1-S   |           | 31.28        | 24.80        | 26.94        | 26.73        | 28.16        | 29.98        | 29.60        | 30.60       |             |             |
|                      | D-3-M   |           | 10.72        | 10.35        | 11.38        | 11.50        | 9.07         | 7.66         | 7.42         | 7.18        | 7.12        | 6.00        |
|                      | D-3-S   |           | 10.70        | 10.20        | 12.25        | 12.34        | 9.30         | 6.95         | 5.83         | 4.85        | 5.50        | 7.80        |
|                      | D-4-M   |           | 6.22         | 6.38         | 5.83         | 6.08         | 6.58         | 5.38         | 5.00         | 5.47        | 4.58        | 3.20        |
|                      | D-4-S   |           | 7.25         | 6.02         | 5.68         | 5.25         | 7.55         | 4.45         | 4.90         | 3.32        | 3.50        | 4.60        |
|                      | D-5-M   |           | 14.18        | 8.68         | 6.45         | 5.42         | 4.05         | 5.82         | 4.66         | 5.72        | 5.87        | 2.30        |
|                      | D-5-S   |           | 2.50         | 3.70         | 3.30         | 4.23         | 3.45         | 8.25         | 3.88         | 3.58        | 2.97        | 2.00        |
| <b>Average</b>       |         |           | <b>11.12</b> | <b>10.79</b> | <b>10.55</b> | <b>10.55</b> | <b>10.52</b> | <b>10.39</b> | <b>10.20</b> | <b>9.51</b> | <b>7.71</b> | <b>7.49</b> |

## South Platte Valley Subarea Composite Average



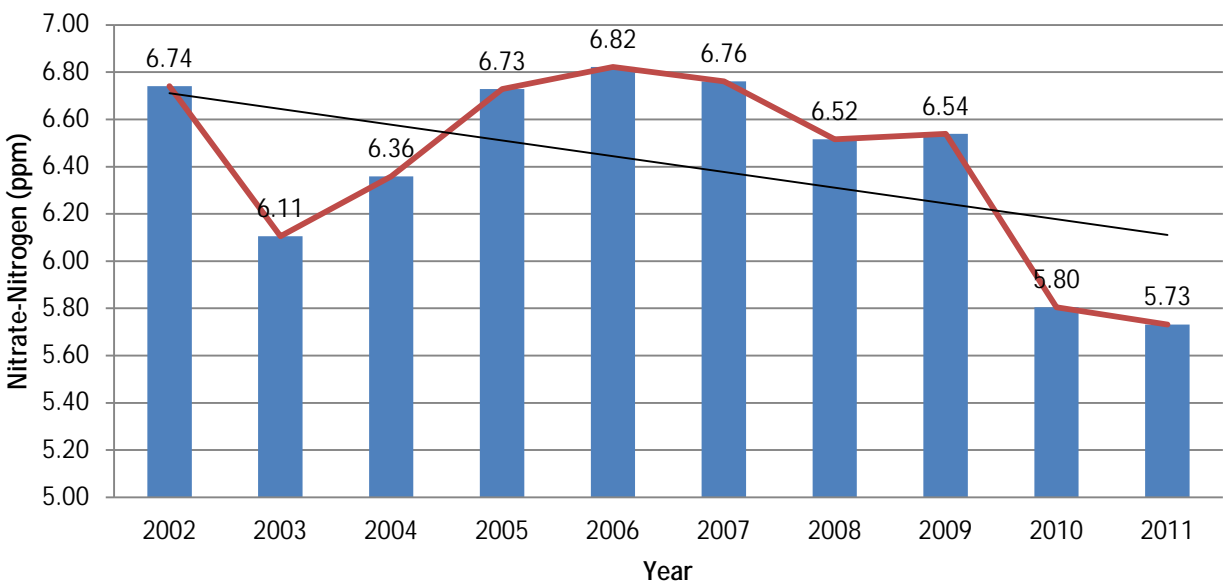
# South Platte Valley Subarea Map



## Lodgepole Valley: Deuel County Composite Averages

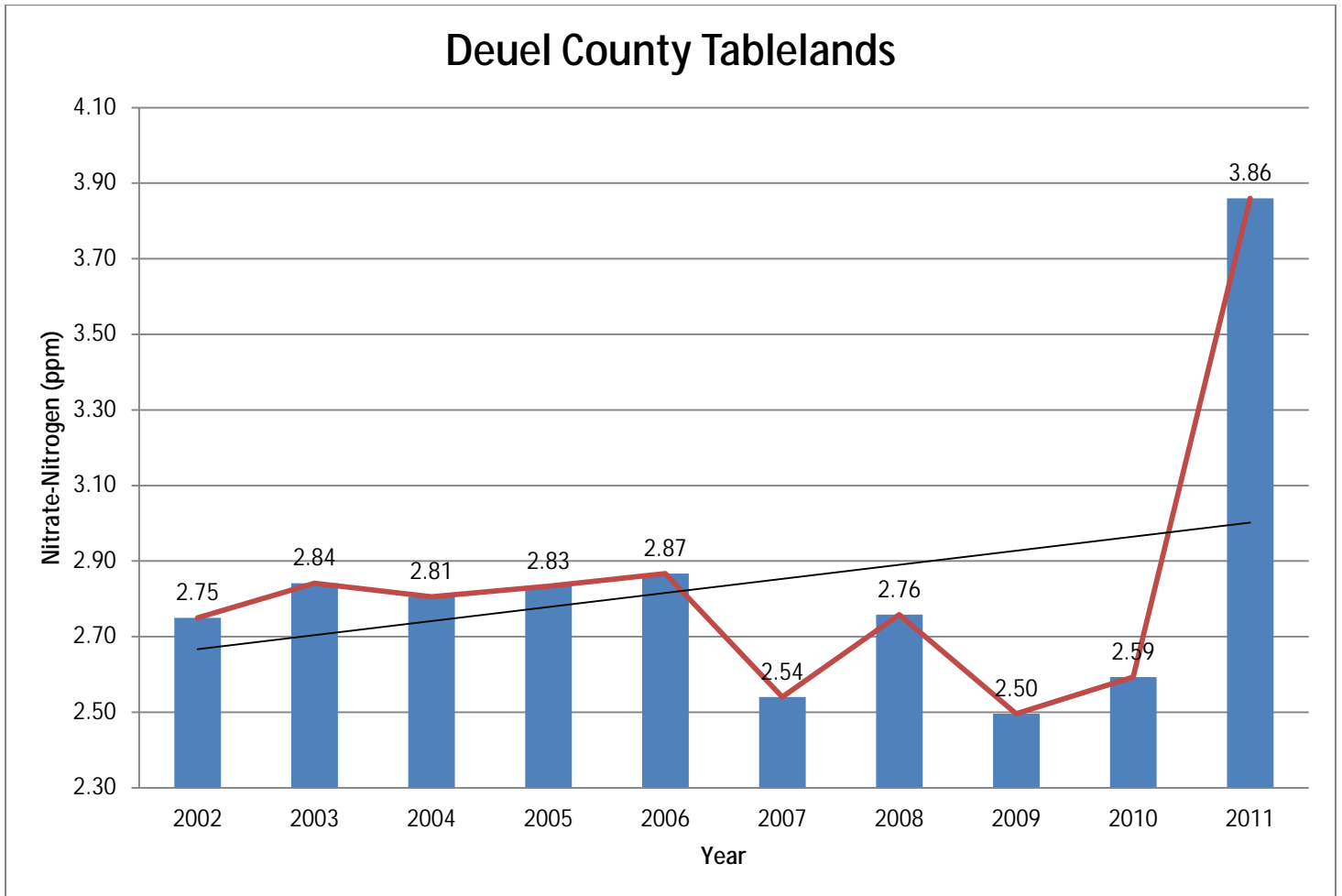
| Owner Name           | Well ID | Legal       | 2002        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        |
|----------------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Dale Hummermeier     | D098    | 13-45-36DAC | 5.75        | 5.80        | 5.80        | 5.77        | 5.70        | 5.80        | 4.55        | 5.97        | 5.85        | 6.40        |
| Doris Freeman        | D097    | 13-45-24BA  | 13.95       | 15.35       | 19.00       | 24.75       | 29.45       | 20.60       | 38.20       | 31.55       | 25.00       | 21.25       |
| Garrett Brandt       | D101    | 12-45-24A   | 5.90        | 7.35        | 5.75        | 5.73        | 5.55        | 4.20        | 4.95        | 6.15        | 5.60        | 6.10        |
| Louis Freeman        | D099    | 12-45-12DB  | 9.05        | 8.60        | 8.73        | 8.80        | 8.35        |             |             |             |             |             |
| Milton Peterson      | D094    | 13-45-16DDD | 7.37        | 6.50        | 6.35        | 6.70        | 6.75        | 5.80        | 5.43        | 5.50        | 4.90        | 5.00        |
| Ron & Nancy Vetter   | D092    | 13-45-7CC2  | 2.50        | 2.75        | 2.40        | 6.50        | 2.27        | 2.50        | 1.70        | 2.10        | 2.45        | 1.25        |
| SandPoint Cattle Co. | D090    | 13-46-4BA   | 4.80        | 4.30        | 3.93        | 6.30        | 6.15        | 6.20        | 5.95        | 6.45        | 6.35        | 5.85        |
| Cordell Boss         | I131    | 12-45-1MD   |             |             |             |             |             | 6.50        |             |             |             |             |
| Cordell Boss         | I158    | 12-45-1BCD  | 6.55        | 6.27        | 7.57        | 6.87        |             |             | 4.50        | 3.60        | 3.50        | 3.39        |
| Craig Kinoshita      | I095    | 13-45-26AD  | 9.30        | 9.50        | 11.10       | 10.90       | 12.15       | 13.70       | 7.35        | 8.10        |             | 7.95        |
| Dave Kalb            | I132    | 12-45-2AB   | 4.70        | 4.00        | 5.65        | 7.60        | 3.70        |             | 3.30        |             |             |             |
| Kevin Derry          | I093    | 13-45-18CA  | 8.40        | 7.60        | 6.90        | 7.65        | 7.18        | 6.90        | 6.55        | 5.95        | 7.60        | 7.60        |
| Kevin Derry          | I134    | 13-45-23BC  | 7.30        | 6.75        | 7.17        | 7.10        | 6.33        | 8.10        | 6.05        | 5.80        | 3.30        | 5.90        |
| Ron & Nancy Vetter   | I091    | 13-45-7CC1  |             | 2.80        | 2.70        | 2.20        | 2.80        |             |             |             | 3.60        | 3.55        |
| Ron & Nancy Vetter   | I135    | 13-46-12BD  | 4.00        | 3.43        |             | 3.30        |             |             |             |             | 3.20        | 3.13        |
| SandPoint Cattle Co. | I088    | 14-46-33CC  | 3.05        | 3.45        | 3.45        | 4.10        | 4.05        | 4.60        | 2.10        | 4.00        | 2.20        | 2.50        |
| SandPoint Cattle Co. | I089    | 13-46-3CC   | 3.50        | 3.60        | 3.60        | 3.55        | 3.70        |             | 3.60        | 3.70        | 3.60        | 4.20        |
| Sandpoint Cattle Co. | I133    | 13-45-17BA  | 4.43        | 4.13        | 4.35        | 4.10        | 4.60        | 5.40        | 4.60        | 3.90        | 5.10        |             |
| Tony Christensen     | I100    | 12-45-13AA  | 18.70       | 10.65       | 9.50        | 8.47        | 9.27        |             |             |             |             |             |
| SPNRD                | D-6     |             | 9.13        | 8.38        | 7.35        | 5.53        | 5.33        | 6.15        | 7.11        | 6.33        | 8.25        | 6.25        |
|                      | D-7     |             | 6.30        | 6.85        | 6.42        | 6.68        | 7.00        | 6.68        | 6.78        | 7.03        | 7.28        | 7.10        |
|                      | D-8     |             | 2.94        | 2.98        | 3.00        | 2.65        | 2.78        | 2.64        | 2.39        | 2.53        | 2.78        | 2.10        |
|                      | D-9     |             | 3.95        | 3.28        | 2.83        | 2.80        | 3.34        | 2.40        | 2.17        | 2.50        | 3.93        | 3.65        |
| <b>Average</b>       |         |             | <b>6.74</b> | <b>6.11</b> | <b>6.36</b> | <b>6.73</b> | <b>6.82</b> | <b>6.76</b> | <b>6.52</b> | <b>6.54</b> | <b>5.80</b> | <b>5.73</b> |

### Lodgepole Deuel Subarea Composite Average



## Deuel County Tablelands

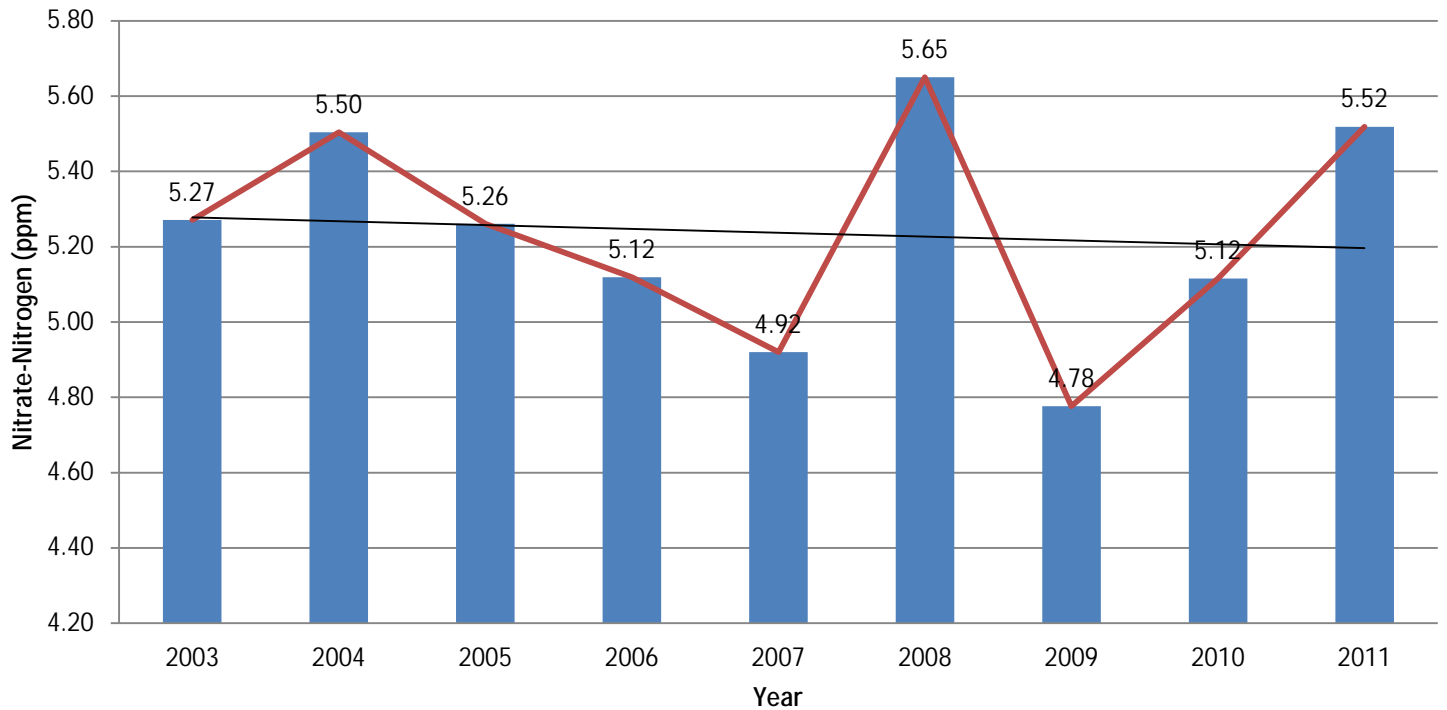
| Owner Name          | Well ID | Legal       | 2002        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        |
|---------------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Avis Leach          | D106    | 12-44-11AD  | 3.20        | 3.15        | 3.23        | 3.20        | 3.20        | 3.10        | 3.20        | 3.43        | 3.37        | 3.00        |
| Raymond Nitzel      | D107    | 12-43-7DCD  | 3.40        | 4.05        | 3.40        | 3.55        | 3.55        | 3.50        | 3.50        | 3.60        | 3.30        | 3.15        |
| Dennis Zimmerman    | I120    | 13-42-30DA  | 3.70        | 3.60        | 3.65        | 3.80        | 3.75        |             | 3.30        |             |             | 9.60        |
| Leo Jessen          | I072    | 13-44-9CD   | 2.30        | 2.50        | 2.50        | 2.50        | 2.65        | 2.40        | 1.60        |             | 2.50        | 2.15        |
| Ray Agency          | I102    | 12-45-6AD   | 2.10        | 2.00        | 2.15        | 2.15        | 2.25        | 2.10        | 2.10        | 1.60        | 2.30        |             |
| Thomas Land Company | I073    | 13-42-3CCCC | 1.80        | 1.75        | 1.90        | 1.80        | 1.80        | 1.60        | 2.85        | 1.35        | 1.50        | 1.40        |
| <b>Average</b>      |         |             | <b>2.75</b> | <b>2.84</b> | <b>2.81</b> | <b>2.83</b> | <b>2.87</b> | <b>2.54</b> | <b>2.76</b> | <b>2.50</b> | <b>2.59</b> | <b>3.86</b> |



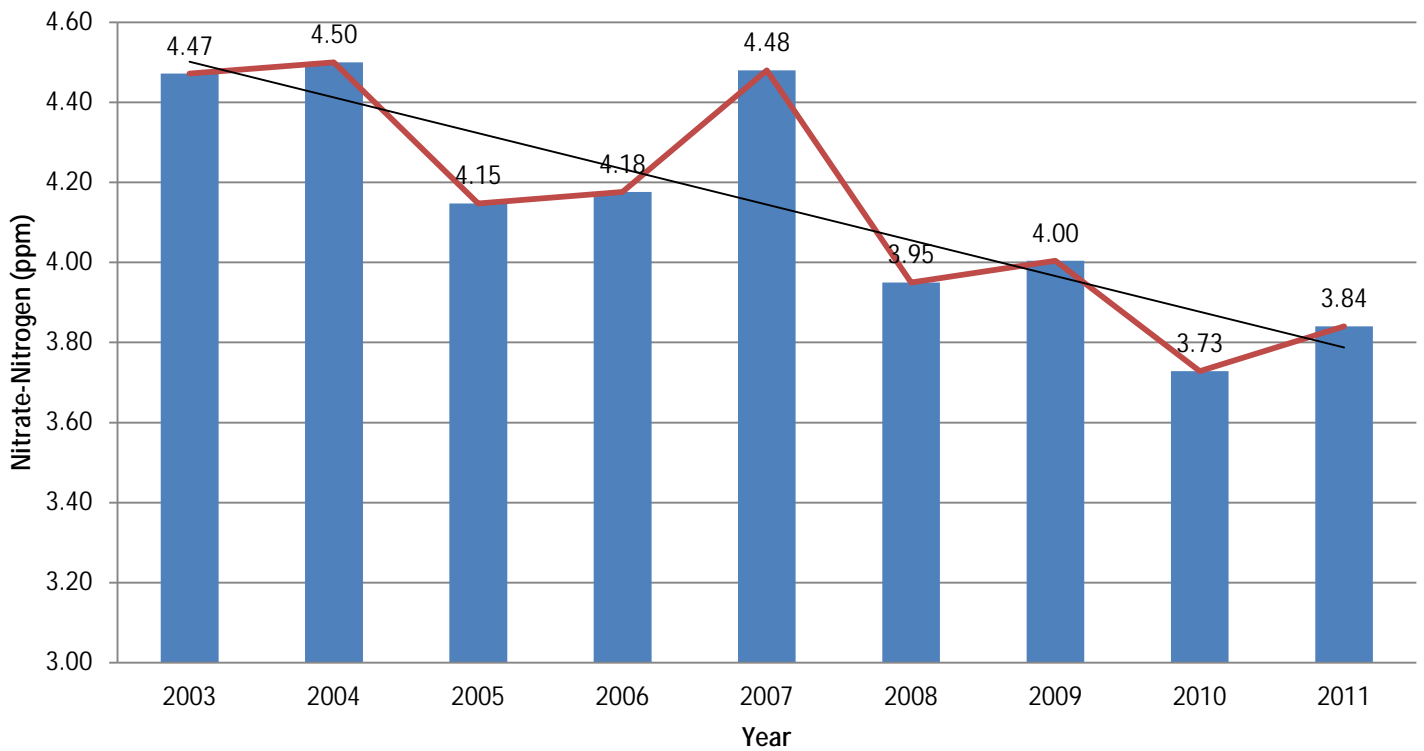
### Kimball County Composite Averages

| Owner Name           | Well ID | Legal        | 2003        | 2004        | 2005        | 2006        | 2007        | 2008        | 2009        | 2010        | 2011        |
|----------------------|---------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Barry Frederick      | D017    | 15-57-36DA   | 4.95        | 1.00        | 0.50        | 0.65        | 0.30        | 0.10        | 0.15        | 0.30        | 0.30        |
| Bill Gross           | D003    | 14-59-12CC   | 4.30        | 4.13        | 4.15        | 4.23        | 4.15        | 3.65        | 4.05        | 3.80        | 4.40        |
| Bill Mueller         | D027    | 15-55-19AD   | 6.07        | 6.10        | 6.37        | 6.50        | 6.10        | 5.85        | 5.00        | 5.83        | 6.30        |
| Cindy Rasmussen      | D029    | 15-55-28C    | 5.35        | 10.40       | 6.55        | 6.40        | 6.90        | 5.50        | 3.55        | 4.35        | 6.10        |
| Dave Allison         | D036    | 16-53-18CCC  | 5.85        | 5.97        | 2.60        | 2.57        | 2.50        | 3.10        | 2.40        | 2.50        |             |
| Dennis Cauley        | D033    | 15-55-25DDD  | 7.65        | 9.43        | 8.35        | 8.20        | 7.90        | 7.65        | 7.90        | 7.55        | 8.30        |
| Kendall Atkins       | D038    | 15-54-28BCCC | 5.65        | 5.85        | 7.23        | 3.30        | 2.90        | 7.85        | 5.70        | 5.70        | 8.10        |
| Kenneth Rageth       | D004    | 14-59-13A    | 8.65        | 8.10        | 7.80        | 7.45        | 7.20        | 6.40        | 6.90        | 6.80        | 6.85        |
| Kenton Taylor        | D010    | 13-57-4A     | 9.60        | 9.30        | 10.10       | 9.87        | 9.60        | 8.60        | 8.40        | 8.10        | 8.50        |
| Mike Harroun         | D014    | 15-57-34BB   | 9.90        | 8.65        | 8.75        | 9.30        | 8.80        | 9.40        | 8.85        | 8.35        | 6.90        |
| Monte Herboldsheimer | D007    | 14-58-2C     | 4.27        | 4.25        | 4.50        | 4.60        | 4.80        | 6.10        | 4.95        | 6.55        | 5.30        |
| Mrs. John Ferguson   | D022    | 15-56-34AA   | 4.07        | 4.17        | 4.20        | 4.13        | 3.90        | 3.40        | 4.20        | 4.05        | 4.00        |
| Oliver Reservoir     | D016    | 15-57-35BA   | 0.10        | 0.10        | 0.10        | 0.10        | 0.20        | 0.40        | 1.05        | 0.65        | 0.80        |
| Rosalie Kielian      | D043    | 15-53-30B    | 5.25        | 4.90        | 10.55       | 5.10        | 7.10        | 4.25        | 5.90        | 8.70        | 5.65        |
| Scott Lockwood       | D018    | 15-57-36DD   | 4.65        | 6.20        | 4.73        | 3.60        | 1.90        | 1.70        | 1.45        | 1.35        | 3.50        |
| Steve Watson         | D030    | 15-55-33AC   | 8.60        | 8.70        | 8.40        | 8.40        | 7.90        | 8.30        | 8.70        | 8.35        |             |
| Tim Lukassen         | D044    | 15-54-36BB   | 14.25       | 13.60       | 9.10        | 13.35       | 14.70       | 13.50       | 10.60       | 12.40       | 14.20       |
| Alan Adamson         | I011    | 15-57-31AA   | 3.37        | 3.50        | 3.37        | 3.40        | 3.00        | 3.10        | 2.80        |             |             |
| Alan Adamson         | I013    | 15-57-33BC   | 3.30        | 6.80        | 3.60        | 3.55        | 3.60        | 3.40        | 2.90        | 3.00        | 3.20        |
| Dave Norberg         | I026    | 14-56-17ABB  | 5.67        | 5.70        | 6.00        | 6.00        |             |             | 4.90        | 4.50        | 4.32        |
| Dennis Cauley        | I032    | 15-54-30DC   | 9.10        | 10.33       | 5.15        | 5.90        | 5.60        |             | 8.90        |             |             |
| George Bricker       | I035    | 15-54-7BO    | 2.50        | 2.60        | 2.50        | 2.45        |             | 2.50        |             | 2.30        | 2.17        |
| Gordon Poss          | I034    | 16-54-30DD   | 3.03        | 3.10        | 3.10        | 3.10        |             | 2.80        |             | 2.70        | 2.67        |
| Gross Wilkinson Inc. | I005    | 14-58-7CDA   | 5.95        | 6.10        | 6.15        | 5.95        | 5.20        | 32.20       | 4.35        | 4.60        | 5.20        |
| Gross Wilkinson Inc. | I006    | 14-58-18BA   | 8.90        | 7.47        | 7.23        | 6.55        | 6.40        | 5.25        | 6.30        | 6.15        | 5.98        |
| Jack Hockersmith     | I002    | 14-58-8BD    | 6.60        | 6.50        | 6.23        | 6.10        | 5.70        | 5.75        |             | 4.90        | 5.70        |
| Jennifer Lynn        | I020    | 15-56-12CB   | 3.07        | 3.03        | 3.15        | 3.65        | 2.90        | 3.00        | 2.00        | 3.30        | 2.90        |
| Jennifer Lynn        | I025    | 15-56-21DO   | 3.15        | 3.35        | 3.60        | 3.80        | 3.70        | 3.55        | 3.40        | 4.00        | 4.00        |
| Jerry Gregory        | I023    | 15-56-25DA   | 3.20        |             |             | 5.20        | 3.50        | 3.10        |             | 3.30        | 3.10        |
| Jerry Gregory        | I028    | 15-55-19DC   | 6.35        | 6.05        | 6.20        | 6.30        | 4.60        | 3.40        | 6.80        | 6.90        | 6.52        |
| Jim Beranek          | I009    | 14-57-30DD   | 4.55        | 4.60        | 4.75        | 4.70        | 4.90        | 5.00        | 4.82        | 4.70        | 4.30        |
| John Miller          | I041    | 15-54-26BA   | 2.15        | 2.20        | 2.35        | 2.20        |             | 1.40        | 2.00        | 2.10        | 4.58        |
| John Perry           | I019    | 14-56-6BB    | 1.40        | 1.45        |             | 6.70        |             |             |             |             |             |
| Ken Johnson          | I046    | 15-53-34CB   | 3.15        | 3.00        | 2.85        | 2.75        | 2.90        | 3.20        |             |             |             |
| Kendall Atkins       | I039    | 15-54-28BD   | 4.40        |             | 5.80        | 6.40        |             | 7.60        |             |             | 8.40        |
| Klent Schnell        | I008    | 14-58-1DC    | 2.95        | 2.95        | 2.90        | 3.13        | 2.85        | 3.00        | 2.60        |             |             |
| Lennard Fornstrom    | I037    | 15-54-27DD   | 5.10        | 5.45        | 5.90        | 3.25        |             |             | 5.00        | 5.70        | 6.00        |
| Marquart Farms Inc.  | I001    | 14-59-11DD   |             | 5.20        | 5.00        | 4.90        | 4.60        | 4.35        |             | 6.30        | 2.70        |
| Michael Reuter       | I045    | 15-54-36CA   | 4.33        | 4.10        | 4.05        | 3.85        | 3.70        | 2.85        | 2.60        | 3.20        | 5.90        |
| Mike Harroun         | I015    | 15-57-34BD   | 3.65        | 4.00        | 3.75        |             | 3.47        | 3.10        | 2.60        | 3.10        | 2.90        |
| Mrs. John Ferguson   | I024    | 15-56-34AC   | 4.75        | 4.70        | 4.55        | 4.55        | 4.50        | 4.60        | 4.00        | 5.10        | 5.20        |
| Ray Gunderson        | I040    | 15-54-34ACC  | 4.45        | 4.40        | 4.50        | 4.80        | 4.40        |             |             | 3.80        | 5.00        |
| Rosalie Kielian      | I042    | 15-53-29DC   | 6.13        | 6.17        | 6.00        | 6.08        | 6.40        | 9.65        | 7.50        | 8.50        | 12.60       |
| Terry Madden         | I012    | 15-57-6AAAA  | 2.70        | 2.90        | 2.83        | 2.90        | 2.50        | 2.65        | 2.40        | 2.50        | 2.50        |
| Vowers & Sons        | I031    | 15-55-35BB   | 3.67        | 3.35        | 3.65        | 3.60        | 3.50        | 2.90        | 2.60        | 3.20        | 3.40        |
|                      | K-1-D   | 15N53W30CCC2 | 5.05        | 5.58        | 6.12        | 6.52        | 6.32        | 6.21        | 6.65        | 6.43        | 5.20        |
|                      | K-1-S   | 15N53W30CCC1 | 8.33        | 8.93        | 8.38        | 9.15        | 8.53        | 9.35        | 9.30        | 9.70        | 9.30        |
|                      | K-2     | 15N55W26CBB  | 14.10       | 13.20       | 13.30       | 12.62       | 12.23       | 11.21       | 10.48       | 10.20       | 9.60        |
|                      | K-3     | 15N56W27CDD  | 6.55        | 8.72        | 7.62        | 8.50        | 6.80        | 5.73        | 7.07        | 7.22        | 5.35        |
|                      | K-4     | 15N57W36ADD  | 2.12        | 2.18        | 2.35        | 2.65        | 2.38        | 2.20        | 2.30        | 1.93        | 1.80        |
|                      | K-5     | 14N58W11AAA  | 2.88        | 2.95        | 2.88        | 2.90        | 2.70        | 2.65        | 2.77        | 3.13        | 2.50        |
|                      | K-6-D   | 14N59W11DAD2 | 3.77        | 3.88        | 3.97        | 4.14        | 3.88        | 3.77        | 4.03        | 4.40        | 3.80        |
|                      | K-6-S   | 14N59W11DAD1 | 3.88        | 4.02        | 4.00        | 4.18        | 3.93        | 3.89        | 4.05        | 4.53        | 3.80        |
| <b>Average</b>       |         |              | <b>5.26</b> | <b>5.48</b> | <b>5.25</b> | <b>5.20</b> | <b>5.03</b> | <b>5.40</b> | <b>4.88</b> | <b>5.04</b> | <b>5.21</b> |

## Kimball County Lodgepole Valley Composite Averages



## Kimball County Tablelands



# Kimball County Composite Average Map

