



# Annual Report of Water Use Activities in the South Platte Natural Resources District

For the 2017 Basin-Wide Meeting

**Report Years: 2016**  
**Meeting Date: July 19, 2017**

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**ANNUAL REPORT OF WATER USE ACTIVITIES  
IN THE SOUTH PLATTE NATURAL RESOURCES DISTRICT  
TO MEET THE REQUIREMENTS OF THE INTEGRATED MANAGEMENT PLAN  
FOR THE 2017 BASIN-WIDE MEETING**

I. GENERAL SUMMARY

- A. The following is a compilation of records, statistics and historic conditions of water use which have been tracked by the South Platte Natural Resources District (SPNRD) for 2016. Information in this report summarizes all irrigation related activities for calendar year 2016, and all municipal and industrial activities from August 1, 2015 through July 31, 2016. All information supplied for this summary is available within a GIS database, complete with the locations and attributes. This report has been compiled for the July 19, 2017 Basin-Wide meeting.

II. INTRODUCTION

- A. This report is intended to satisfy the SPNRD tracking and reporting requirements as described by the Monitoring and Studies section of the SPNRD Integrated Management Plan (IMP). The SPNRD will be responsible for tracking the following activities within the District on an annual basis: (1) certification of ground water uses and any changes to these certifications; (2) approved transfers, including all of the information provided with the application and used in the approval of the transfer; (3) any flow meter data collected; (4) any water well construction permits issued; (5) any other permits issued by the SPNRD; (6) any conditions associated with any permits issued; (7) information gathered through the municipal and non-municipal industrial accounting process; (8) any variances issued, including: the purpose, the location, any required offset, the length of time for which the variance is applicable and the reasoning behind approval of the variance; (9) any retirements of irrigated acres or other activities by the SPNRD for the purpose of returning to a fully appropriated condition; (10) information related to any water banking transactions; and (11) offsets provided for depletions resulting from increased consumptive use related to the above listed items.

The items tracked and reported will subsequently be used by the SPNRD and the Department of Natural Resources (DNR) to measure the success of the controls, incentive measures and other action items contained in the IMP at meeting the goals and objectives of the IMP. Two evaluation processes for measuring success are described in the IMP. The first is an annual evaluation that will forecast the balance of depletions and accretions from the report year through 2048. The second evaluation occurs periodically and will be more robust, including updating and running ground water models. These evaluation processes will be carried out by the SPNRD and the DNR after the annual basin-wide meeting. The tracking, reporting, and evaluation processes are described in more detail in the Monitoring and Studies section of the IMP. In addition to the evaluation processes, the information that is tracked and reported will also be used by the

State to help meet requirements of the Platte River Recovery Implementation Program (Program).

### III. CERTIFIED ACRES

- A. The SPNRD began certifying ground water irrigated acres in October 2002 and ended the certification process in the first half of 2006. The SPNRD certified irrigated acres are based on historically irrigated acres proven by Farm Service Agency (FSA) maps, tax records or other appropriate documentation.

The SPNRD has two types of certified acres; active and inactive. Inactive acres are any certified acres that belong to wells that are inactive and do not have a flow meter installed and do not receive an allocation. These unused wells are enrolled in a SPNRD program called Temporary Deferment. Active acres are all acres that are being irrigated or have a flow meter installed and therefore receive an allocation. Detailed data regarding the number of certified irrigated acres can be found in Appendix A. Map 1 provides a look at the state designated areas in the SPNRD.

### IV. APPROVED TRANSFERS

- A. For 2016, the District approved six (6) transfers. See Appendix B, Table 1 for a more detailed look at the transfers.
  - 1. Four transfers that the SPNRD Board approved all dealt with industrial transfers. Three transfers were for irrigation allocation to be used as an offset to an industrial use. The other transfer is a retirement of certified irrigated acres where a portion the historical use will be used as an offset for a new industrial use and the remainder of the historical use was credited to the SPNRD Water Bank.
  - 2. Two transfers involved moving irrigation allocation between separate certified irrigated acre tracts as farm management decisions by the producer.

### V. WELL CONSTRUCTION PERMITS

- A. Supplemental Ground Water Wells

- 1. The SPNRD issued no supplemental ground water wells.

- B. Supplemental Surface Water Wells

- 1. The SPNRD issued no supplemental surface water well permits.

- C. Replacement Wells

- 1. The SPNRD issued no replacement well permits.

- D. Temporary Wells

- 1. The SPNRD issued one (1) temporary well permit. The well will remain a high capacity well (greater than 50 gallons per minute) during 2017 and 2018. After 2018 the

well will be decommissioned or modified and equipped to pump less than 50 gallons per minute and be used for livestock use.

E. De-Watering Wells

1. The SPNRD issued no de-watering well permits.

F. Other Permits

1. The SPNRD issued no other permits.

VI. VARIANCES

A. The SPNRD considers any request that is contrary to existing rules or regulations of the SPNRD or DNR as a variance. The SPNRD has a Variance Advisory Group that reviews and makes recommendations to the SPNRD Board of Directors on all irrigation related variances requested. All industrial and municipal variance requests go directly to the SPNRD Board of Directors. The Board reviews variances on a case-by-case basis, and as the elected governing body; the Board makes the final determination.

In 2016 there was one (1) approved variance. The variance approved allowed for a temporary well to be drilled and used during 2017 and 2018, contrary to the moratorium. The temporary well has an offset in place by temporarily retiring a nearby irrigation well and the certified irrigated acres associated with said well. See Appendix B, Table 2 for more information.

VII. MUNICIPAL AND INDUSTRIAL ACCOUNTING

A. The SPNRD began implementing the Industrial Accounting portion of the IMP in early 2010. Industrial wells were identified through the DNR registered well database and had to pump greater than 50 gallons per minute. The SPNRD decided that for an industrial user to obtain a baseline certification they must have pumping history for every year during the five-year period from August 1, 2001 through July 31, 2006. Unless a variance is granted, a user that has not met this five-year pumping history criterion will be given a non-baseline certification, and that user will be responsible for offsetting the water use. The SPNRD allows industrial users who have a non-baseline certification to offset new or expanded uses through transfers including irrigation allocation(s), certified irrigated acres or the District's water bank.

Currently, the SPNRD has twenty-three (23) non-baseline certifications. Nine of the twenty-three had or could have had an active industrial use in 2016 and all water pumped will be offset by an existing irrigation allocation as agreed upon by the user and the SPNRD Board of Directors. Non-baseline certifications can change annually as temporary transfers expire and get removed from the list, and new temporary transfers are approved by the Board and are added to the list. See Appendix C table for a breakdown of non-baseline industrial uses.

In 2010, the SPNRD granted variances from the baseline certification process. These variances were made for established industries in the SPNRD who were unable to document water usage back to August 1, 2001. Two of these industries remain within the SPNRD and they were required to install a flow meter and allowed to go forward three years from the time of installation. After three years, a baseline will be issued based on the highest amount pumped during the three-year period. This baseline will then be used as the amount pumped from August 1, 2001 until the time of establishment. After the baseline becomes established regular accounting will start from that point forward. See Appendix D for further information on active industrial variances.

Seventeen industries now have established baselines. These industries either had records of water sales, tax receipts, flow meter readings, electrical power records, previous irrigation pumping history, etc. which could be documented back to August 1, 2001 and used to establish the approved baseline, or have had baselines approved through a variance. The baselines were determined in one of three ways. First was by figuring the amount of water consumed by the industry between August 1, 2001 and July 31, 2006; second was by converting certified irrigated acres into an industrial baseline by board approval; and third was by board approval of a variance request. These industries now currently have flow meters installed which are read monthly. None of the previously mentioned industries discharge any water and all pumping is looked at as one hundred (100) percent consumptive use. The SPNRD tracks both industrial and municipal use on an August 1<sup>st</sup> to July 31<sup>st</sup> timeframe. See Appendix E for a list of existing industries and how their baselines compare with current pumping.

- B. The SPNRD has certified baselines for all ten municipal water systems in the District. Municipal baselines include information from all wells the municipality uses that pump over 50 gallons per minute. The Chappell, Potter, and Sidney golf courses are all figured into their municipal baselines. Baselines were figured with the best-known data at the time.

Sidney and Kimball discharge some of or all their waste water back into Lodgepole Creek. Chappell stopped discharging waste water on December 22, 2015, approximately half way through this accounting year. Lodgepole previously had discharged waste water back into the creek but in 2012 went to full retention lagoons. The rest of the remaining municipalities' waste water is held in full retention lagoons.

Like industrial baselines, municipal baselines were calculated by documenting usage between August 1, 2001 and July 31, 2006. The highest one year period (August 1<sup>st</sup> to July 31<sup>st</sup>) during this time was then used as that municipality's baseline. Appendix F shows the municipal baselines, per capita use, and current year usage.

## VII. IRRIGATION FLOW METER DATA

- A. The SPNRD Board in January 2004 required flow meters to be installed on all irrigation wells. Flow meters were then installed incrementally through March 2009. All certified

irrigated acres located in the Lodgepole Creek Valley have had an allocation in place beginning in 2007. The remainder of the District (Tablelands and South Platte Valley) has had an allocation in place since 2009.

The SPNRD Board in October 2015 decided the irrigation allocations for all subareas within the district for the years 2016-2018. The Board lowered the allocation in all fully appropriated subareas from fourteen acre-inches to thirteen acre-inches (39 acre-inches over three years); this area is also known as the Tablelands.

The allocation in all four Lodgepole Creek overappropriated subareas remained the same as the previous 2013-2015 allocation period: Pine Bluffs to Oliver, Oliver to Buffalo Bend, and Buffalo Bend to Sidney subareas remained at fourteen acre-inches (42 acre-inches over three years), and Sidney to Colorado subarea remained at sixteen acre-inches (48 acre-inches over three years). The South Platte Valley overappropriated subarea was lowered from eighteen acre-inches to sixteen acre-inches (48 acre-inches over three years).

Appendix G summarizes the allocation history of the SPNRD. See Map 2 for a breakdown of allocation amounts per subarea through the end of 2018. Appendix H provides a detailed look at irrigation water usage for the entire SPNRD from 2013 through 2016.

#### IX. RETIRED ACRES AND OTHER STREAM FLOW ACCRETION ACTIVITIES

- A. The SPNRD will implement measures within the first ten (10) year increment of the IMP to offset an average annual depletion rate of one hundred fifty (150) acre-feet to the North Platte River, four hundred (400) acre-feet to the South Platte River, and one hundred fifty (150) acre-feet to Lodgepole Creek for the period 2043-2048. These rates are the current best estimates and are subject to change based upon new data and information.

Through 2016, the SPNRD retired or decertified 2,003 acres equating to an estimated 763 acre-feet of water benefitting the Lodgepole Creek. The acres retired include 1,700.2 acres located in the over appropriated Lodgepole Creek Valley and 302.8 acres located in the fully appropriated area. See Appendix I for a complete breakdown of all retirement activities.

#### X. OTHER ACTIVITIES

- A. The SPNRD and North Platte Natural Resources District (NPNRD) began work on a regional ground water model, Western Water Use Model (WWUM), for the two Districts in 2009. This regional model builds upon the modeling work that was completed during SPNRD and NPNRD's time spent participating in COHYST. The SPNRD and NPNRD share a ground water modeler, Thad Kuntz, P.G., with Adaptive Resources, Inc.
- B. The SPNRD, Twin Platte Natural Resources District (TPNRD), and NDNR worked together on a recharge project with Western Irrigation District. During the spring of 2016 the SPNRD diverted water thirty-six (36) days for the recharge project during excess

flows on the South Platte River. A project summary for the TPNRD and SPNRD Re-use pits and canal recharge projects for 2016 has not yet been prepared.

- C. The SPNRD, NPNRD and the TPNRD in September of 2013 applied for a Nebraska Environmental Trust grant for the Hydrogeology of Western Nebraska. This grant will be used to evaluate oil and gas logs to help better determine the base of the Ogallala Aquifer.

#### XI. GROUND WATER LEVELS

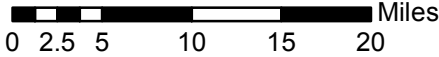
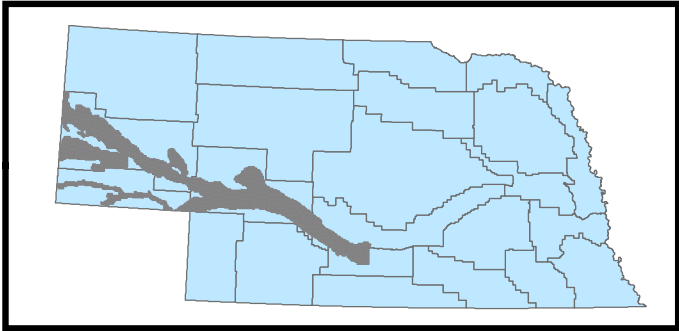
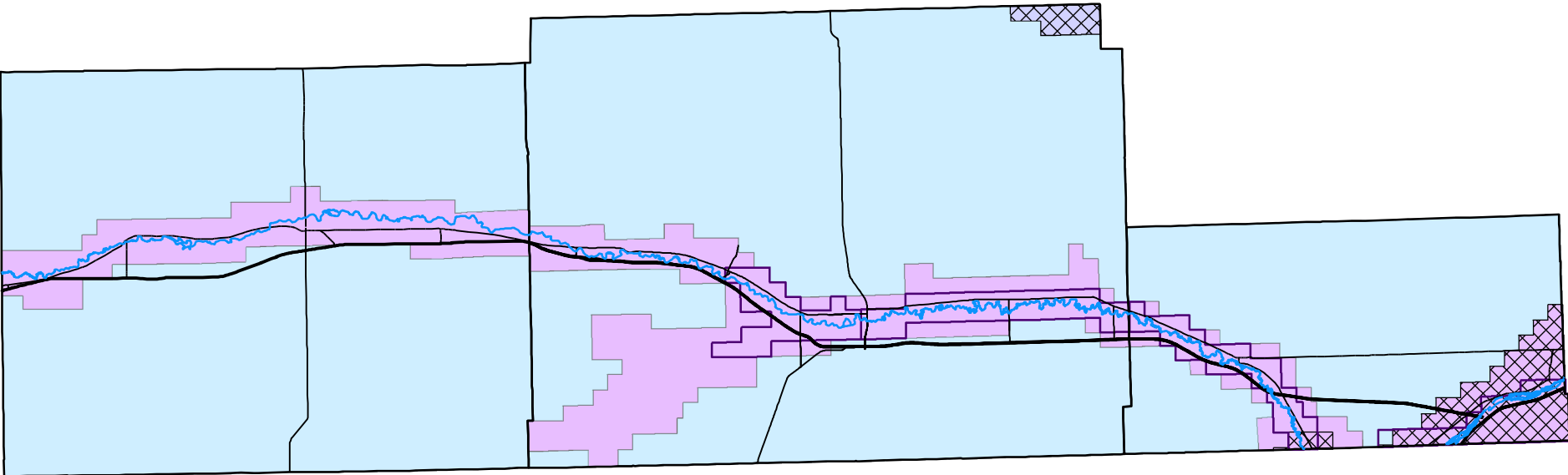
- A. Tracking and reporting of ground water levels is not required in the IMP. The SPNRD measures 203 observation wells in the spring and fall annually.



# Overappropriated, Fully Appropriated and Nebraska New Depletion Plan Areas

**Explanation**

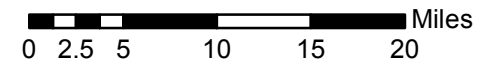
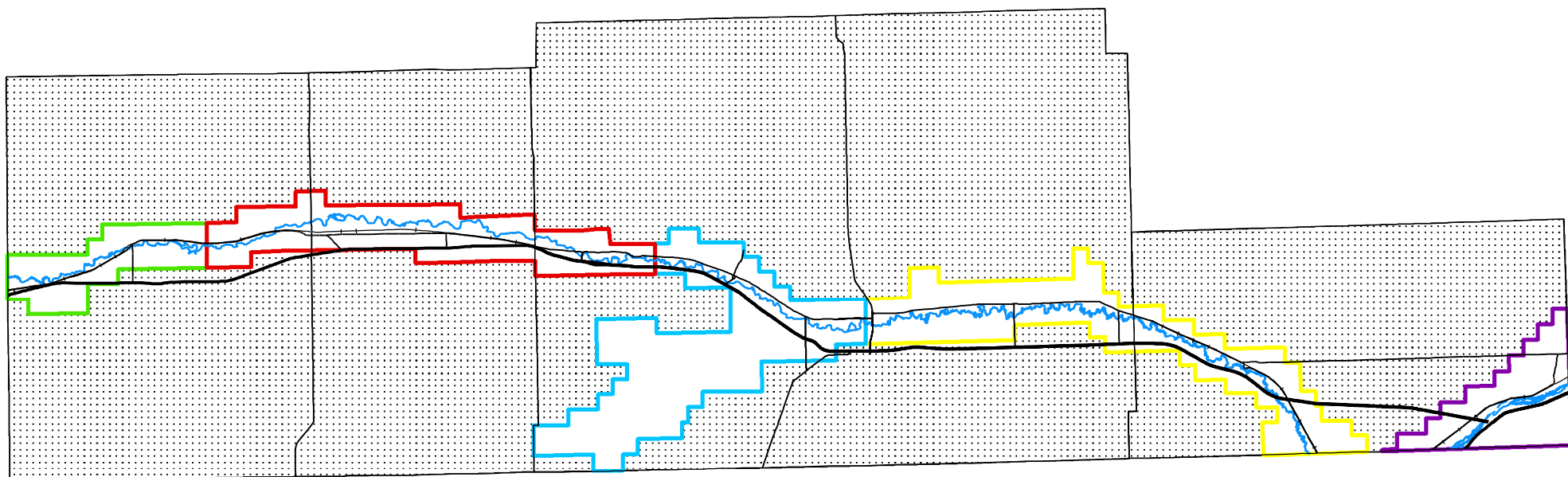
- GW Quality Subareas
- Nebraska New Depletion Plan 28%/40-year Area
- Fully Appropriated
- Over Appropriated



# Allocation Subareas and Allocations for 2016 through 2018



Explanation	
	Pine Bluffs to Oliver Reservoir; 14"/year or 42" for 2016 through 2018
	Oliver Reservoir to Buffalo Bend; 14"/year or 42" for 2016 through 2018
	Buffalo Bend to Sidney; 14"/year or 42" for 2016 through 2018
	Sidney to Colorado; 16"/year or 48" for 2016 through 2018
	South Platte Valley; 16"/year or 48" for 2016 through 2018
	Tablelands; 13"/year or 39" for 2016 through 2018



## Appendix A

### SPNRD Certified Irrigated Acres

	Kimball	Cheyenne	Deuel	Total	Percentage
Active Overappropriated	16,416	18,682	14,583	49,681	38%
Inactive Overappropriated	489	940	511	1,940	1%
Active Fully-Appropriated	25,424	43,897	9,429	78,750	60%
Inactive Fully-Appropriated	276	993	494	1,763	1%
Total Certified	42,605	64,512	25,017	132,134	100%
Total Cert. Acres in Nebraska New Depletion Plan 28%/40- year Area	0	56	10,499	10,555	

## Appendix B

**Table 1**  
**2016 SPNRD Approved Transfers**

<b>NRD PERMIT #</b>	<b>To/From</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>SECTION</b>	<b>ACRES</b>
TR-IND-Bruns/Apex-16	To	13	46	7	0
	From	13	46	8	
TR-IND-14-Cabela's-SO-2016	To	14	49	32	125.8
	From	14	49	33	
	From	13	49	4	
	From	13	49	5	
TR-AI-16-Derry1	To	13	43	30	0
	From	13	43	21	
TR-AI-16-Derry2	To	14	43	31	0
	From	13	43	21	
TR-IND-16-Koss/Bruns	To/From	13	46	17	0
TR-IND-16-Williamson/Apex	To	14	53	6	0
	From	15	53	33	

**Table 2**  
**2016 SPNRD Approved Variances**

<b>NRD PERMIT #</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>SECTION</b>	<b>ACRES</b>
VAR-IND-16-Williamson/Apex	14	53	6	0

**Appendix C**  
**SPNRD Non-Baseline Industrial Certifications 2016**

<b>Well Reg. #</b>	<b>Legal</b>	<b>Industrial Use</b>	<b>Offset Provided By</b>
G-021823	Sec. 12 T16N R57W	Oil Fields	To Be Determined (TBD)
G-022051	Sec. 24 T13N R56W	Oil Fields	TBD
G-014546	Sec. 34 T14N R53W	Oil Fields	TBD
G-022281	Sec. 11 T14N R53W	Oil Fields	TBD
G-134511	Sec. 22 T17N R52W	Oil Fields	TBD
A-002770	Sec. 28 T15N R54W	Oil Fields	TBD
G-022347	Sec. 23 T13N R57W	Oil Fields	TBD
G-022048	Sec. 34 T17N R51W	Oil Fields	TBD
G-023351	Sec. 27 T14N R50W	Oil Fields	TBD
A-004712	Sec. 11 T14N R59W	Oil Fields	irrigation allocation on tract 14N59W110001*
G-022050 G-022049	Sec. 19 T14N R55W Sec. 19 T14N R55W	Oil Fields	TBD
G-074242	Sec. 1 T12N R44W	Sand & Gravel Mine	irrigation allocation on tract 12N43W130003*
A-004408	Sec. 28 T15N R55W	Sand & Gravel Mine	irrigation allocation on tract 15N55W280004*
G-054269	Sec. 12 T13N R56W	TBD	irrigation allocation on tract 13N56W120001*
G-019421 G-019973 G-019423	Sec. 21 T14N R55W Sec. 21 T14N R55W Sec. 21 T14N R55 W	Oil Fields	TBD
G-154988 G-154989 G-154990	Sec. 6 T12N R43W Sec. 6 T12N R43W Sec. 6 T12N R43W	Sand & Gravel Mine	irrigation allocation on tract 12N43W210001*
G-039899	Sec. 5 T15N R52W	Oil Fields	TBD
G-021179 G-021621	Sec. 23 T17N R52W Sec. 23 T17N R52W	Oil Fields	TBD
G-146042	Sec. 13 T15N R56W	Sand & Gravel Mine	irrigation allocation on tract 15N56W230005*
G-030434 G-026066	Sec. 2 T12N R55W Sec. 2 T12N R55W	Oil Fields	TBD
G-041796	Sec. 13 T14N R51W	Sand & Gravel Mine	Irrigation allocation on tract 14N51W130001*
G-003090	Sec. 5 T14N R52W	Interstate Construction	Irrigation allocation on tract 14N52W050002*
G-094357B	Sec. 15 T12N R49W	Wind turbines & Roads	Irrigation allocation on tract 12N49W150001*

\* Total combined usage of both industrial and irrigation water is reported as totals in the SPNRD Irrigation Water Usage Report found in Appendix H.

**Appendix D**  
**SPNRD Active Industrial Variances 2016**

<b>Well Reg. #</b>	<b>Legal</b>	<b>Use</b>	<b>Baseline Gallons</b>	<b>2016 Gallons</b>
G-054015	Sec. 6 T15N R57W	Oil Fields	TBD	0
G-101853	Sec. 23 T16N R50W	Coop	TBD	730,900

## Appendix E

### 2016 SPNRD Active Industries with Baselines

Well Reg. #	Legal	Use	Baseline Gallons	Baseline Year	2016 Gallons*
G-157945 G-157946 G-031351	Sec. 5 T13N R50W Sec. 5 T13N R50W Sec. 5 T13N R50W	Livestock	299,315,624	2005-2006	106,648,781
G-091299	Sec. 30 T16N R55W	Sand & gravel mine	22,154,542	2001-2002	0
G-013034	Sec. 19 T15N R55W	Oil fields	88,605	2004-2005	0
G-051806 G-058832**	Sec. 32 T14N R55W Sec. 6 T13N R55W	Oil fields, roads, wind turbines	2,203,750	2003-2004	520,276
G-117269	Sec. 5 T14N R52W	Water well drilling	655,763	2002-2003	225,381
G-059572 G-119599	Sec. 15 T13N R51W Sec. 11 T14N R51W	Oil fields	2,333,334	2005-2006	112,800
G-041367***	Sec. 23 T15N R56W	Sand & gravel mine	5,650,134	2005-2006	2,370,461
G-058331 G-064838	Sec. 34 T15N R55W	Golf Course	189,569,845	2001-2002	68,939,503
A-003167A	Sec. 29 T15N R55W	Oil fields	6,348,605	2013	906,600
G-059901	Sec. 3 T13N R49W	Sand & gravel mine	41,925,776	2014	334,812
G-116176****	Sec. 32 T14N R49W	Ponds & landscape/turf	55,000,000	2014	0
G-131190 G-083186	Sec. 14 T13N R45W	Livestock	26,952,200	2013-2014	17,451,700
G-123698	Sec. 4 T12N R45W	Livestock	3,940,100	2012-2013	2,156,900
G-077801	Sec. 29 T14N R55W	Hazardous Waste Incinerator	35,227,000	2009-2010	36,451,000
G-003169	Sec. 22 T13N R45W	Coop	884,822	2012-2013	1,248,907

G-002327	Sec. 2 T12N R42W	Aerial Spraying	581,102	2010-2011	448,600
G-164175	Sec. 18 T12N R43W	Golf Course	9,437,798	2014	5,824,784

- \* 2016 Gallons are calculated from the industrial water year of August 1, 2015 through July 31, 2016.
- \*\* These wells are in the fully appropriated area of the District and are over their five year baseline; the SPNRD has worked through the Platte Basin Coalition to secure an offset by retiring irrigated acres.
- \*\*\* Well G-041367 received a variance to establish a partial baseline because pumping did not occur during all five baseline years. If the baseline amount of 5,650,134 gallons is exceeded, all offsets will be automatically deducted from certified irrigated tract #15N56W230005. See 2/5 variance request in the 2010 report.
- \*\*\*\* The baseline for this well increased this year with approved transfer TR-IND-14-Cabela's-SO-2016.



**Appendix F**  
**SPNRD Municipal Baselines and 2016 Usage**

<b>Municipality</b>	<b>DNR Transfer Permit Gallons</b>	<b>Baseline Gallons</b>	<b>Baseline Year</b>	<b>Baseline Per Capita Use* gallons/ person/ day</b>	<b>2016 Gallons**</b>	<b>2016 Per Capita Use*** gallons/ person/day</b>
Big Springs	164,574,899	154,986,748	2002-2003	1,016	49,786,000	341
Bushnell	N/A	13,092,375	2001-2002	221	8,268,741	183
Chappell	N/A	116,968,411	2001-2002	326	147,999,900	436
Dalton	N/A	70,382,300	2001-2002	580	31,272,500	272
Dix	N/A	72,023,100	2001-2002	739	25,602,709	275
Gurley	N/A	46,085,050	2001-2002	554	26,513,346	339
Kimball	N/A	243,050,000	2001-2002	260	110,098,000	121
Lodgepole	N/A	53,443,494,	2001-2002	421	33,731,600	291
Potter	N/A	135,421,817	2001-2002	951	77,475,611	630
Sidney	1,300,000,000	633,042,003	2001-2002	276	511,012,000	207

\* Based on 2000 census population numbers

\*\* Based on August 1, 2015 through July 31, 2016 water year

\*\*\* Based on the 2010 census population numbers

**Appendix G**  
**SPNRD Irrigation Allocation History**

<b>Allocation Subarea</b>	<b>2007-2009</b>	<b>2009-2012</b>	<b>2010-2012</b>	<b>2013-2015</b>	<b>2016-2018</b>
Pine Bluffs to Oliver Reservoir	48"/acre		42"/acre	42"/acre	42"/acre
Oliver Reservoir to Buffalo Bend	54"/acre		48"/acre	42"/acre	42"/acre
Buffalo Bend to Sidney	48"/acre		42"/acre	42"/acre	42"/acre
Sidney to Colorado	54"/acre		48"/acre	48"/acre	48"/acre
South Platte Valley		80"/acre		54"/acre	48"/acre
Tablelands		80"/acre		42"/acre	39"/acre

## Appendix H

### SPNRD Irrigation Water Usage Report

#### Districtwide Water Usage

Analysis Period: 2013 - 2016

	2013	2014	2015	2016	Total
Weighted Avg. Inches Pumped*	11.72	9.37	8.07	9.28	38.44
High	62.64	44.33	43.76	45.81	
Median	11.42	9.21	7.47	8.90	
Total Acre-Feet Pumped	120,615.68	95,623.45	78,420.20	93,572.77	388,232.10
Total Acres-Inches Pumped	1,447,388.2	1,147,481.41	941,042.37	1,122,873.27	4,658,785.25
Total Acres-Inches Pumped ÷ By Total Acres	11.26	8.96	7.36	8.79	36.37
Total Number of Inactive Certified Irrigated Acres***	4320.4	4,653.5	4,585.2	4,353.0	
Total Number of Active Certified Irrigated Acres	128,617.2	128,103.7	127,906.3	127,689.0	
Total Number of Certified Irrigated Acres	132,937.6	132,757.2	132,491.5	132,042.1	

#### Range of Inches Used:

Scale	2013	2014	2015	2016
0 - 4	11%	15%	29%	21%
4.01 - 8	14%	25%	26%	23%
8.01 - 12	30%	38%	27%	30%
12.01 - 16	29%	17%	13%	19%
16.01 - 20	11%	3%	3%	6%
20+	4%	1%	1%	2%

#### Crop Water Usage\*\*:

Crop	2013 Avg. In.	2013 Percent of Acres	2014 Avg. In.	2014 Percent of Acres	2015 Avg. In.	2015 Percent of Acres	2016 Avg. In.	2016 Percent of Acres
Alfalfa	12.8	8.5%	10.8	8.2%	7.6	8.7%	10.1	8.8%
Beans	9.8	5.7%	8.3	11.2%	7.1	9.1%	8.4	8.5%
Corn	13.0	49.7%	10.2	47.4%	10.6	37.7%	11.2	44.4%
Fallow	0.0	0.5%	0.0	0.5%	0.0	0.7%	0.0	0.4%
Hay	9.1	5.1%	7.3	4.0%	4.6	4.2%	6.5	4.8%
Other	5.6	0.1%	5.2	0.8%	5.7	0.3%	4.9	1.3%
Pasture	7.7	3.7%	7.6	4.0%	5.4	3.8%	6.3	3.3%
Potatoes	10.6	0.1%	12.4	0.0%	9.4	0.0%	12.2	0.1%
Small Grains	7.9	20.9%	5.4	17.5%	3.5	27.9%	4.2	22.5%
Sugar Beets	13.2	3.9%	11.5	5.1%	11.6	4.4%	13.9	4.3%
Sunflowers	8.0	1.5%	6.0	0.7%	5.0	3.0%	5.6	1.6%
Unknown	16.5	0.4%	12.8	0.6%	0.0	0.0%	0.0	0.0%
All Crops	11.2	100%	9.0	100%	7.4	100%	8.8	100%

\* Calculated by removing the high use tract and the tracts that did not use any water, then calculated the usage of all tracts individually and averaged those numbers.

\*\* Crop Water Usage is based off of the number of acres per crop, which are based on field observations taken at the time flow meters are read. Crop Water Usage could be subject to change as more accurate crop-acre information becomes available.

\*\*\*Inactive Certified Irrigated Acres are acres enrolled in Temporary Deferment or incentive programs that offer incentives to discontinue irrigation use on a temporary basis.

**Appendix I**  
**SPNRD Water Acquisitions and Water Banking Activities Through 2016**  
**Retired Acres and Other Stream Flow Accretion Activities**

Landowner	Decertified Acres	Stream Depletion (%)	Acre Feet Accrued	Township	Range	Section	Date Retired	County	Subarea	Appropriation
Terrell Wiekhorst	43.1	18	4.6	14	52	5	9/6/2007	Cheyenne	ORBB	OA
Cliff Farms Inc.	50	32	12.2	14	52	3	9/17/2007	Cheyenne	ORBB	OA
Robert & Connie Runge	75.2	7	2.7	13	51	10	9/27/2007	Cheyenne	SIDCO	OA
Marleen E. Evans Et al	237.8	57	118.9	13	50	4	10/22/2007	Cheyenne	SIDCO	OA
Marleen E. Evans Et al	23.8	71	26.7	14	50	33	10/22/2007	Cheyenne	BBSID	OA
Fornstrom Farms LLC	109.9	23	14.1	14	59	12	11/1/2007	Kimball	PBOR	OA
Dale Dedic	29.8	25	6.2	14	52	4	12/4/2007	Cheyenne	ORBB	OA
Elizabeth Burback	18.3	25	3.8	15	55	20	12/5/2007	Kimball	ORBB	OA
Peetz Land & Cattle Co	22.9	31	4.7	14	49	35	3/14/2008	Cheyenne	SIDCO	OA
B5 Farms LLC	10.1	78	4.9	12	45	13	4/9/2008	Deuel	SIDCO	OA
Paul & Frances Fornander	13.3	72	14.5	13	45	22	7/1/2008	Deuel	SIDCO	OA
Harvey Jung	8.7	7	1	14	53	2	7/10/2008	Cheyenne	ORBB	OA
Robert Kurz	271.5	57	88.3	13	50	4	10/23/2008	Cheyenne	SIDCO	OA
Venture Development Group Inc.	66	66	32.4	14	49	32	7/14/2009	Cheyenne	BBSID	OA
Alan Adamson	62.6	70	63	15	57	31	9/22/2009	Kimball	PBOR	OA
Sharon A, James C. & Donna Johnson	5.6	10	0.44	15	53	34	7/1/2010	Kimball	ORBB	OA
Raymond Kuehn	83.2	73.5	49.2	14	51	12	7/1/2010	Cheyenne	BBSID	OA
Raymond Kuehn	42.3	68	23.1	14	51	13	7/1/2010	Cheyenne	BBSID	OA
Scott & Susan Lockwood	43.9	92.5	32	15	57	36	9/1/2010	Kimball	PBOR	OA
Don & Janelle Frerichs	59.6	75	30.8	14	48	27	9/22/2011	Cheyenne	SIDCO	OA
Barton Terman	99	10	14.5	14	52	34	12/28/2011	Cheyenne	BBSID	OA

**Appendix I (continued)**

**SPNRD Water Acquisitions and Water Banking Activities Through 2016  
Retired Acres and Other Stream Flow Accretion Activities**

<b>Landowner</b>	<b>Decertified Acres</b>	<b>Stream Depletion (%)</b>	<b>Acre Feet Accrued</b>	<b>Township</b>	<b>Range</b>	<b>Section</b>	<b>Date Retired</b>	<b>County</b>	<b>Subarea</b>	<b>Appropriation</b>
The Ranch at Sidney LLC	35.1	74	28.5	14	49	33	4/8/2014	Cheyenne	SIDCO	OA
City of Chappell	37.5	45.7	36.6	13	45	23	1/1/2015	Deuel	SIDCO	OA
City of Sidney	87.4	53	92.6	14	49	33	5/12/2015	Cheyenne	SIDCO	OA
Castronics	114.4	28.4	8.7	15	55	27	12/9/2015	Kimball	ORBB	OA
SRMC	21	57	9	14	49	33	4/8/2016	Cheyenne	SIDCO	OA
The Ranch at Sidney LLC	28.2	66	15	14	49	32	5/11/2016	Cheyenne	BBSID	OA
JR Norberg Farms	302.8	8	25	14	56	19	12/14/2016	Cheyenne	FA-K	Tablelands

Total Acre Feet Accrued = 763

Total Number of Acres Decertified = 2,003

Average Stream Depletion = 46%

Average \$/AF Accrued (Federal dollars plus SPNRD dollars): \$2,301

Average \$/Acre Retired (Federal dollars plus SPNRD dollars): \$456