



Headwaters of Elk Creek in Gosper County

2015 Annual Report of Integrated Water Management Activities in the Republican Basin Within Tri-Basin NRD



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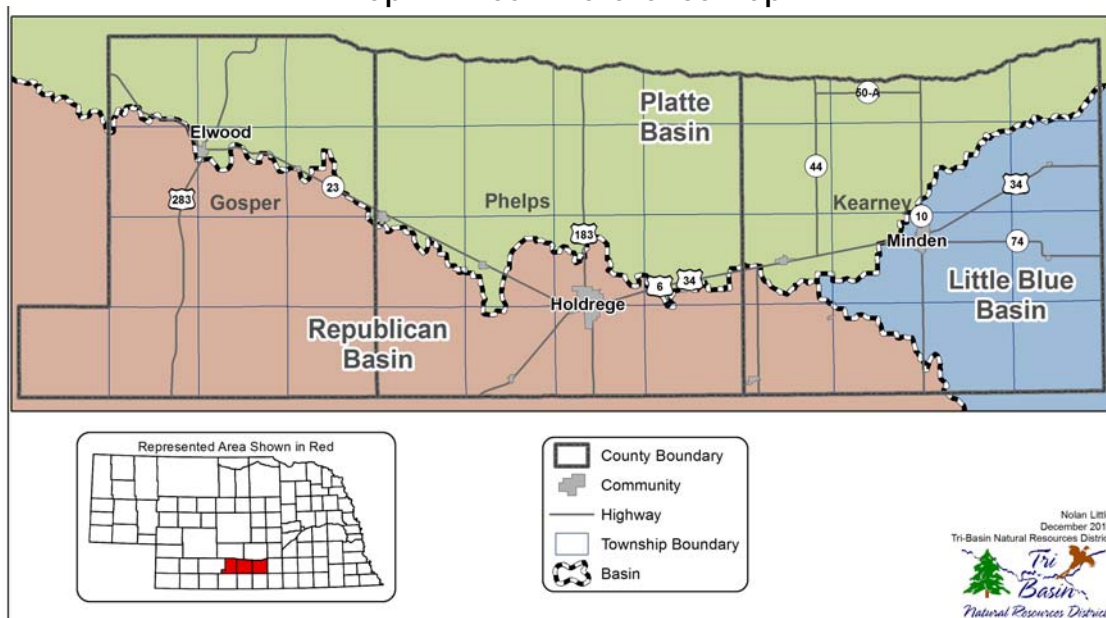
July 2016

**ANNUAL REPORT OF WATER USE ACTIVITIES
IN THE REPUBLICAN BASIN WITHIN TRI-BASIN NRD
TO MEET THE REQUIREMENTS OF THE JOINT INTEGRATED MANAGEMENT PLAN
FOR THE 2016 JOINT INTEGRATED MANAGEMENT PLAN PROGRESS REVIEW MEETING**

I. SUMMARY

The purpose of this report is to convey information that Tri-Basin Natural Resources District (TBNRD) agreed to supply to the State of Nebraska as part of a joint Integrated Water Resources Management Plan for the Republican River Basin portion of the district.

Map #1: Basin Reference Map



II. INTRODUCTION

TBNRD encompasses portions of the Republican, Platte and Little Blue River Basins (see map #1, above). The district also contains an area commonly referred to as the “Groundwater Mound,” a large area spanning portions of all three basins that is characterized by groundwater levels that are generally higher than historic “pre-development” groundwater elevations.

More than 100,000 acres of cropland within the Platte Basin portion of TBNRD are irrigated with water diverted from the Platte River and distributed through the canals of the Central Nebraska Public Power and Irrigation District (CNPPID). Surface irrigation water and the canals that distribute it enhance recharge of groundwater supplies within the district. In addition to helping sustain groundwater supplies, this incidental recharge has increased streamflows in Platte and Republican tributaries.

III. CERTIFIED IRRIGATED ACRES

The district began certifying irrigated acres in the Republican Basin in 2004. The initial certification process in the Republican Basin ended on September 15,

2004. Since that time, corrections and revisions to the certified acre database have occurred with a net result that, as of December 31, 2015, there are 189,969.10 certified irrigated acres in the Republican Basin portion of Tri-Basin NRD. Commingled acres are acres that may be watered with either groundwater or surface water, often times a combination of both. Data regarding certified irrigated acres can be found in **TABLE 1: Certified Irrigated Acres**, below. Detailed information about locations and distribution of certified irrigated acres is available in the Tri-Basin NRD office.

TABLE 1: Certified Irrigated Acres					
	Year	Groundwater	CoMingled Acres	Surface Water	
Gosper County	2012	56,489.90	1,057.16	173.00	
	2013	56,501.89	1,013.68	216.48	
	2014	56,494.37	1,013.68	123.48	
	2015	56,671.20	1,013.68	123.48	
Kearney County	2012	40,955.11	427.59		
	2013	40,938.11	427.59		
	2014	40,937.45	427.59		
	2015	40,918.57	427.59		
Phelps County	2012	85,504.59	4,532.56	236.51	
	2013	85,550.50	4,562.40	236.51	
	2014	85,926.68	4,562.66	161.23	
	2015	86,090.68	4,488.25	235.65	
Total	2012	182,949.60	6,017.31	409.51	189,376.42
	2013	182,990.50	6,003.67	452.99	189,447.16
	2014	183,358.50	6,003.93	284.71	189,647.14
	2015	183,680.45	5,929.52	359.13	189,969.10

IV. APPROVED CERTIFIED ACRE AND GROUNDWATER TRANSFERS

A. TBNRD allows certified irrigated acres to be transferred from one parcel to another within the Republican Basin portion of the district, with some limitations. Certified irrigated acres cannot be transferred from parcels with surface water or commingled water resources to parcels that have groundwater wells as their only water source. The NRD also pro-rates certified acre transfers in which acres are transferred from low to high streamflow depletion zones. Between January 1, 2015 and December 31, 2015 the district approved

10 certified irrigated acre transfers in the Republican Basin. A total of 111.37 certified irrigated acres were involved in these transfers. Data regarding the location, amount and conditions associated with each transfer can be found in **TABLE 2A: Republican Basin Transfers-Acres Original Locations** (below) and **TABLE 2B: Republican Basin Transfers-Destinations for Transferred Acres** (below).

TABLE 2A: Republican Basin Transfers- Acres Original Locations		
NRD Permit Number	Legal Description	Acres Dried Up
TBAT-0254	NE 1/4 Section 1-5-22	6.00
TBAT-0256	Pt W 1/2 26- 5- 17W	14.37
TBAT-0257	East 1/2 Section 32-6- 23	8.00
TBAT-0264	W 1/2 SE 1/4 Section 30-5-18	7.00
TBAT-0265	SE 1/4 Section 27-5-13	7.00
TBAT-0270	NW 1/4 Section 36-5-15	3.00
TBAT-0271	SE corner of SW 1/4 Section 16-6-18	3.00
TBAT-0274	East 1/2 SE 1/4 Section 34-5-22W	15.00
TBAT-0275	SW 1/4 Section 6-6-23	34.00
TBAT-0276	Pt N 1/2; N 1/2 SE 1/4 Section 19-6-23	14.00

TABLE 2B: Republican Basin Transfers - Destinations for Transferred Acres		
NRD Permit Number	Section	New Irrigated
TBAT-0254	SW 1/4 Section 5 - 5- 21W	6.00
TBAT-0256	S 1/2 NE 1/4 & SE 1/4 Section 26 - 5- 17	14.37
TBAT-0257	NE 1/4 Section 20-6- 23	8.00
TBAT-0264	NE 40 of SE 1/4 Section 30-5-18	7.00
TBAT-0265	NE 1/4 Section 13-5-19	7.00
TBAT-0270	Pt SE 1/4 Section 21-6-19	3.00
TBAT-0271	Pt SE 1/4 Section 21-6-19	3.00
TBAT-0274	Pt West 1/2 Section 36-6-21	15.00
TBAT-0275	Pt West 1/2; W 1/2 SE 1/4 Section 7-6-23	34.00
TBAT-0276	Pt West 1/2; W 1/2 SE 1/4 Section 7-6-23	14.00

B. TBNRD regulates groundwater pumping off of overlying land by requiring landowners to secure groundwater transfer permits before they can pump groundwater to properties that are not under the same ownership. Groundwa-

ter transfer permits can only be used to supply groundwater for irrigation of certified irrigated acres. Landowners are required to install flowmeters on wells that are permitted for transfers and to report pumping from these wells annually to TBNRD. TBNRD issued 8 groundwater transfer permits in the Republican Basin between January 1, 2015 and December 31, 2015. Data regarding groundwater transfers can be found in **TABLE 3: Groundwater Transfers** (below).

TABLE 3: Groundwater Transfers			
NRD Permit Number	Legal Description	Well	Neighboring Certified Acres to be watered with well
GWT-0319	SE 1/4 Section 6 -5-21	G-042685	7.0
GWT-0320	S 1/2 of NW 1/4 Section 3-5-18	G-018931	4.0
GWT-0321	NW 1/4 Section 36-6- 18	G-023999	5.0
GWT-0323	SW 1/4 Section 33 - 6-17	G-068238	7.0
GWT-0325	SE 1/4 Section 24-6-20	G-024728	7.0
GWT-0327	SW 1/4 Section 13-5-19	G-025998	7.0
GWT-0328	SW 1/4 Section 16-6-18	G-044284	3.6
GWT-0330	NE 1/4 Section 36-5-19	G-040116	6.0

V. WELL CONSTRUCTION PERMITS

A. Since 1989, TBNRD has required landowners to secure well construction permits before they drill wells capable of pumping more than 50 gallons per minute. The district issues three categories of well permits: new well permits, conditional replacement well permits, and replacement well permits.

TBNRD requires landowners to agree to several conditions on the operation of new wells and conditional replacement wells before permits are issued. These conditions are listed in an agreement that is signed by landowners when they apply for these types of well permits. A copy of that agreement is attached to this report as Appendix A.

TABLE 4: TBNRD Well Permits	
Well Permit Type	Permits
New (variance) irrigation [Acre transfer involved]	1
Replacement irrigation	8
Conditional replacement irrigation - supplemental to groundwater	3
Dewatering	0
New commercial/industrial	0

B. **TABLE 4: TBNRD Well Permits** (page 5) is a breakdown of well permits that TBNRD issued in the Republican Basin between January 1, 2015 and December 31, 2015. A detailed listing of well permits issued by TBNRD in 2015 is found in **TABLE 5: Well Permit Summary** (below).

TABLE 5: Well Permit Summary			
Permit Number	Well Permit Type	Legal Description	NDNR Reg. Number
TBSG-1496	SG-Supplemental to Groundwater	NE 1/4 Section 12-7-23	G-176103
TBSG-1497	SG-Supplemental to Groundwater	NE 1/4 Section 2- 5- 18	G-175850
TBTF-1501	Transferred Acres	SE 1/4 Section 21-6- 19	NDY
TBSG-1505	SG-Supplemental to Groundwater	NE 1/4 Section 33-5- 21	NDY

VI. **VARIANCES**

TBNRD issues new well permits to owners of parcels that don't have a prior irrigation history only after they have transferred sufficient certified irrigated acres for the intended new use. The TBNRD Board must approve a variance to the rule prohibiting new well construction before new well permits can be issued. One new well construction permit variance and three supplemental well permits were issued in the Republican Basin between January 1, 2015 and December 31, 2015 (see Table 5, above).

Since October 2013 Tri-Basin NRD landowners must meet certain pre-conditions for the board of directors to consider irrigated acre corrections. Landowners must prove not only that land was irrigated during the period 1997-2004, but that land was also irrigated during three of the past five years. Tri-Basin NRD's Republican Basin Corrections data is in **TABLE 6: Republican Basin Certified Irrigated Variances** (below).

TABLE 6: Republican Basin Certified Irrigated Variances			
Type of Variance	Section	Affected Acres	Comment
Variance on Well Abandonment	All of Section 5-6- 21		Request to modify original well to a stockwell rather than to abandon it.
Variance on Well Permit	SE 1/4 Section 21-6- 19		Request for variance on New Well - To drill well for transferred acres
Certified Acre Correction	NW 1/4 Section 2-4- 19	40.8	Request correction to certify irrigated acres, proof was provided to Lower Republican due to the acres sitting in Harlan county, however the well that waters these acres is in Phelps county, since the acres were not on the tax role in Phelps county they were missed in 2004. Required proof provided of historic and current irrigation

Municipality	2012	2013	2014	2015
Atlanta	33,219,000	23,124,400	20,357,400	21,729,800
Arapahoe	138,279,000	120,573,000	97,223,000	91,449,000
Holdrege	512,347,700	473,755,500	519,360,800	470,600,100
Wilcox	27,905,000	25,414,900	22,987,500	27,343,300

VII. MUNICIPAL AND INDUSTRIAL ACCOUNTING

TBNRD collects water use data annually from all municipalities and industries within the district. Municipal and industrial water use data for communities and industries located in the Republican Basin reported to TBNRD in 2015 are shown in the next two tables. A summary of Municipal Water Use may be found in **TABLE 7: Republican Basin Municipal Water Use Data** (above). **TABLE 8** (below) shows Industrial and Commercial Water Use Data.

NDNR Reg. Number	Owner	Legal Description	Gallons Used	Comments
G-070393	NE Game & Parks, Sac-Wilcox WMA	Section 27 - 5 - 17W	0	Well not used in 2015.
G-030619	City of Holdrege	Section 9 - 5 - 18W	0	Well not used in 2015.
G-025572	City of Holdrege	Section 9 - 5 - 18W	0	Well not used in 2015.
G-079833	Cargill Ag Horizons Inc	Section 31 - 6 - 17W		Pumps less than 50 gallons per minute
G-135221	Geer Utility	Section 27 - 6 - 18W	2,358,830	Series Well w/ G-135221; 2 Wells, 1 Meter
G-135220-R1	Geer Utility	Section 27 - 6 - 18W		Series Well w/ G-135221; 2 Wells, 1 Meter
G-009687	Holdrege County Club	Section 29 - 6 - 18W	23,591,800	
G-069908	Holdrege County Club	Section 29 - 6 - 18W	1,813,000	
G-096786	City of Holdrege	Section 34 - 6 - 18W	423,600	
G-071934	Sargent Irrigation Company Inc	Section 34 - 6 - 18W	157,800	
G-070168	Holdrege Irrigation	Section 34 - 6 - 18W	442,440	

VIII. FLOWMETER DATA

TBNRD requires flowmeters to be installed and annual water use to be reported to TBNRD whenever landowners drill new or supplemental wells, receive irrigation-related cost-share funds, or when groundwater is transferred from one property to another. In 2015 landowners reported data from 1,616 metered wells in the Republican Basin. The metered wells reported irrigating 189,969.10 certified irrigated acres.

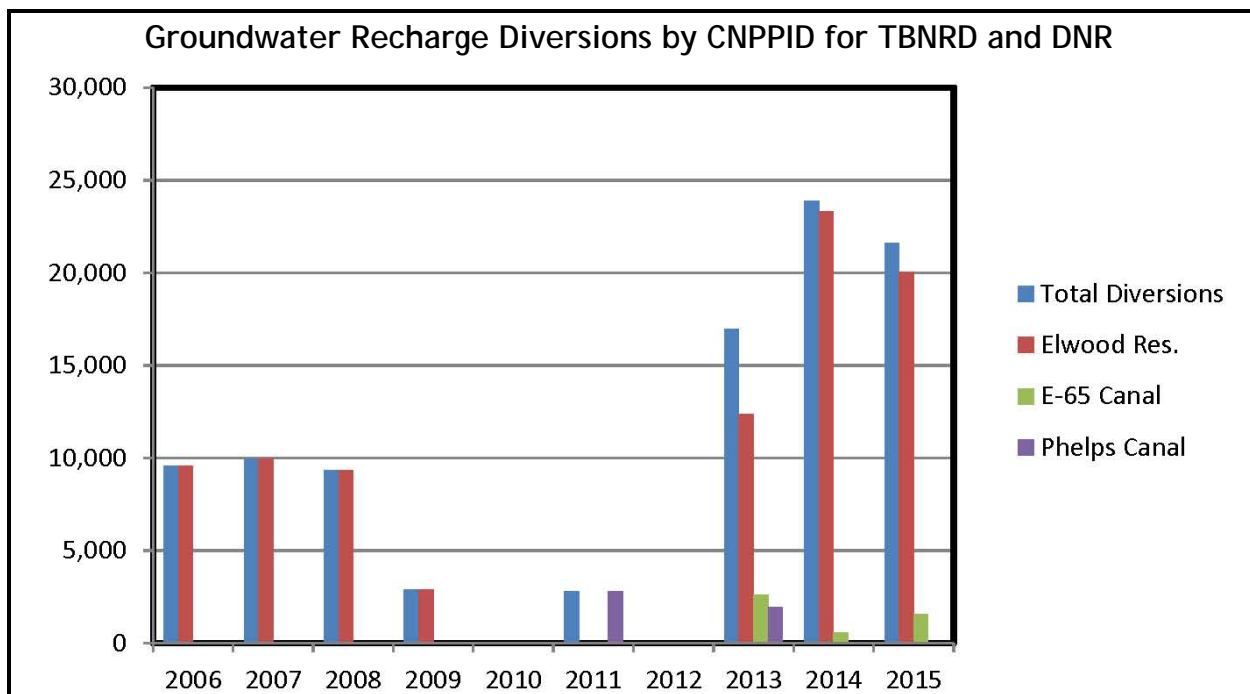
There are 34 wells in the Republican Basin that are exempted from having flowmeters because they irrigate less than 15 acres. All District flowmeter data is reported annually to the Department of Natural Resources (DNR) for purposes of Republican River Basin Compact Administration accounting. A summary of Republican Basin water use data is included in this report as Appendix B. Detailed Republican Basin flowmeter data is available from the Tri-Basin NRD office.

IX. WATER BANKING ACTIVITIES

TBNRD is considering establishing a water bank of some sort, but no policy has yet been agreed upon by the TBNRD Board of Directors.

X. RETIRED ACRES AND OTHER STREAMFLOW ACCRETION ACTIVITIES

Tri-Basin NRD started utilizing the facilities of Central Nebraska Public Power District (CNPPID) to provide groundwater recharge and to augment streamflows when the district and the NE Game and Parks Commission paid CNPPID to divert 9551 acre-feet of water from the Platte River into Elwood Reservoir in Gosper County in 2006. Additional diversions (see Appendix C and graph below) have been made regularly over the past ten years. In all these instances, diversions were made when Platte streamflows exceeded target flows, or when irrigation deliveries were suspended due to heavy rainfall in the CNPPID irrigated area. Diversions into Elwood Reservoir and E-65 Canal provide groundwater recharge and “imported water” to Republican Basin water supplies.



Tri-Basin and Lower Republican NRDs are examining the feasibility of directly diverting excess flows from the Platte via E-65 Canal to Turkey Creek, a Republican tributary in Gosper County. If the diversion project is determined to be feasible both hydrologically and economically, construction is anticipated in 2017.

Tri-Basin NRD also constructed a streamflow augmentation well on the east

branch of Turkey Creek. This augmentation well is expected to go into operation in 2016, and is expected to pump as much as 1000 acre-feet per year starting in 2017.

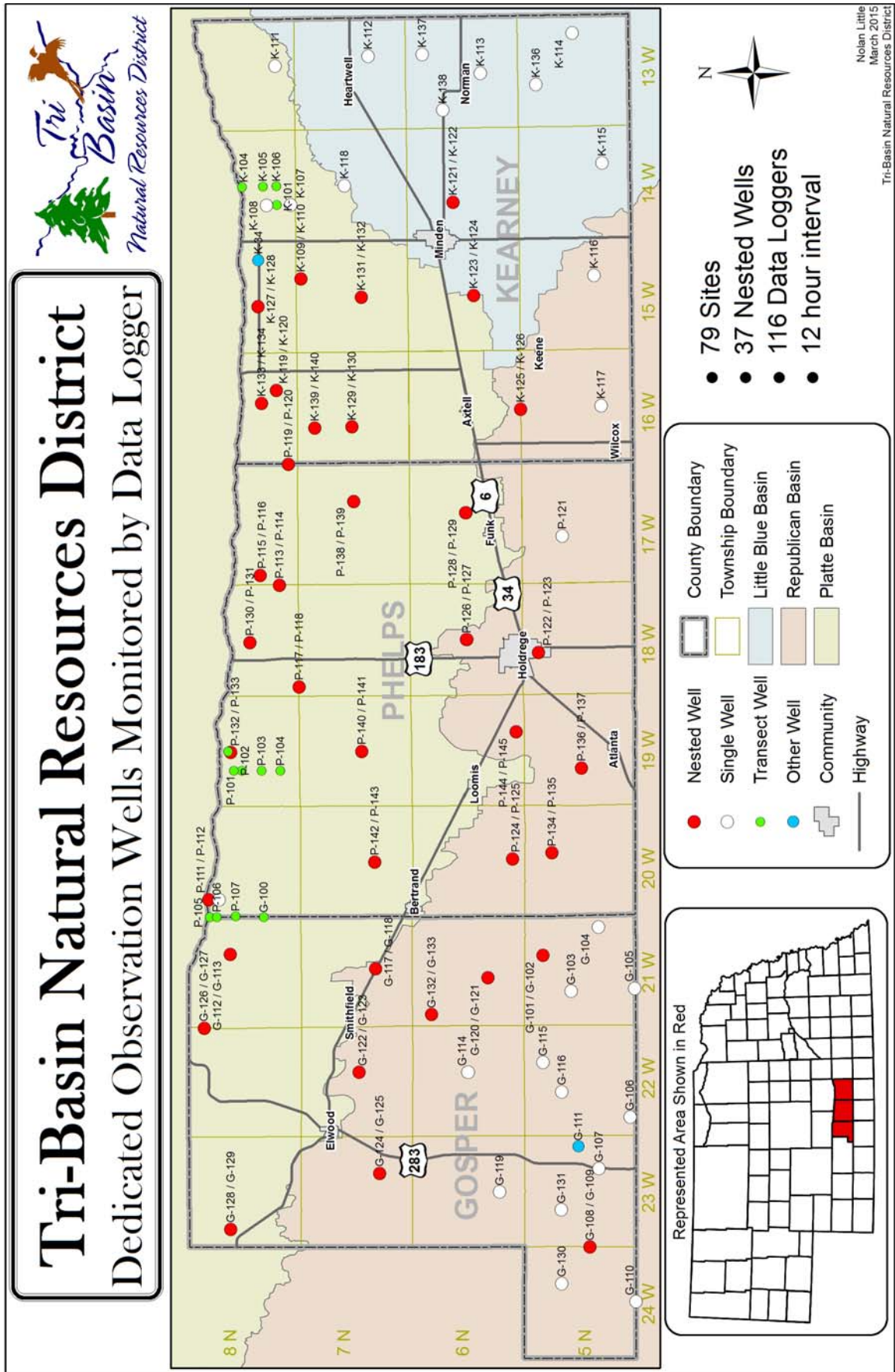
Irrigated land was temporarily retired in TBNRD during 2015 through one contracts totaling 27.3 irrigated acres that were signed up for USDA-EQIP Dryland Corners. Tri-Basin NRD records indicate that 1776.6 irrigated acres are enrolled in USDA Conservation Reserve Enhancement Program (CREP) in the Republican Basin portion of the district. Four of these contracts are set to expire by 2019.

Landowners reported to TBNRD on district water use reports that conservation tillage practices have been adopted or continue to be utilized on 121,030.37 certified irrigated acres in the Republican Basin portion of the district during 2015 (no-till data is available from the Tri-Basin NRD office). Recent university research (Klocke, et al, 2009) indicates that evapotranspiration (ET) is reduced by as much as 3 inches per acre on irrigated cropland, as compared to conventional tillage systems, so if the estimates of no-till acres are accurate, as much as 30,257.59 acre-feet of water was conserved in the Republican Basin in TBNRD in 2015 through this conservation practice.

XI. GROUNDWATER LEVELS

TBNRD has an extensive network of 116 dedicated groundwater observation wells (44 in the Republican Basin) and 90 irrigation wells (60 in the Republican Basin) that are used to measure groundwater levels (see Map #2, page 10). TBNRD also works cooperatively with CNPPID to gather groundwater level data. Data from 20 wells measured by CNPPID are included in TBNRD's groundwater observation well database. District water level data is reported bi-annually to U.S. Geological Survey and UNL-Conservation and Survey Division. Groundwater level data for the district is available from the Tri-Basin NRD office.

Map #2: Dedicated Groundwater Observation Wells



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Appendix A

Tri-Basin Natural Resources District
New Well and Conditional Replacement Well Permit
Applicant Certification and Agreement

Applicant Certification and Agreement to be bound by Conditions and Limitations on operation of a Well permitted as a New Well or as a Conditional Replacement Well pursuant to Rule 1.12, Tri-Basin Natural Resources District Rules and Regulations for Management of Land and Water Resources

NRD Permit # _____ Applicant _____

Applicant is the owner of the following- described real estate:

_____ $\frac{1}{4}$ Section T N - R W _____

Applicant accepts and agrees to be bound by the following conditions and limitations on the operation of a well that is constructed under the authority of a permit issued by the Tri-Basin Natural Resources District ("NRD"). The conditions and limitations are (check the box and initial those that apply):

1. Applicant agrees to offset any "new depletions" to streamflows of the Platte River, Little Blue River, Republican River, or their tributaries that may be determined to be associated with use of this well. Applicant agrees to use methods to offset those depletions that are deemed acceptable by the NRD and the State of Nebraska. Applicant understands and agrees that Applicant's failure to offset said new depletions may result in closure of this well or restrictions being imposed by the NRD on the number of acres of land that can be irrigated by this well.

2. Applicant agrees to abide by well spacing and pumping capacity limitations that apply to the well that is the subject of this permit, whether such limitations arise pursuant to federal or state law or by rule or regulation of the NRD. Applicant understands and agrees that Applicant's failure to comply with all rules and regulations of the NRD that pertain to this well may result in closure of this well and civil or criminal prosecution and other penalties.

3. Applicant agrees to comply with all current and future rules and regulations of the NRD that pertain to this well. Applicant understands and agrees that Applicant's failure to comply with all rules of regulations of the NRD that pertain to this well may result in closure of this well and civil or criminal prosecution and other penalties.

4. Applicant agrees to maintain any and all surface water rights associated with the land to be irrigated by this well for the lifespan of the permitted well. Applicant understands and agrees that Applicant's failure to comply with all rules and regulations of the NRD that pertain to this well may result in closure of this well and civil or criminal prosecution and other penalties (conditional replacement wells only).

5. Applicant agrees to irrigate only land that has been certified for irrigation by the NRD (no new irrigated acres will be allowed). Applicant understands and agrees that Applicant's failure to prevent irrigation of land not certified for irrigation by the NRD may result in closure of this well and prosecution by the State of Nebraska (conditional replacement wells only).

Applicant certifies that Applicant is familiar with the information contained in this instrument and that to the best of Applicant's knowledge and belief, such information is true, complete and accurate. Applicant further acknowledges and agrees that the NRD and/or the State of Nebraska may impose additional conditions, limitations and restrictions on operation of the well that is the subject of this permit. Applicant further acknowledges and agrees that the conditions and limitations agreed to herein shall also be binding upon Applicant's successors-in-interest to the well and/or the subject real estate.

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Appendix A

I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief such information is true, complete and accurate. I further acknowledge that Tri-Basin Natural Resources District or the State of Nebraska may impose additional conditions, limitations and restrictions on operation of the well that is the subject of this permit.

Date

Signature of Applicant

Date

Signature of Applicant

Date

Signature of Witness

Approval by Tri-Basin Natural Resources District

Date

Signature of Tri-Basin NRD Representative

**Tri-Basin NRD – Republican Basin Annual Report
Appendix B**

Tri-Basin NRD Republican Basin Water Use											
Updated February 18, 2016	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Kearney Co											
Certified Irrigated Acres	41,644.42	41,424.32	41,424.04	41,347.80	41,348.06	41,351.41	41,365.70	41,365.04	41,346.16		
Pivots											
Actual Reported Acres	22,385.64	23,654.85	23,989.45	23,420.07	19,638.94	20,353.60	24,643.73	24,765.78	24,650.91		
Gallons Used	3,541,381,170	3,818,925,847	4,076,847,096	2,488,373,015	3,068,789,295	6,888,349,787	7,063,988,419	3,748,611,721	6,060,475,376		
Average acre Inches	5.83	5.95	6.26	3.91	5.75	12.46	10.56	5.57	9.05		
Gated Pipe											
Actual Reported Acres	8,713.63	7,884.45	6,782.76	6,336.83	6,379.60	6,331.91	4,280.08	3,817.91	3,584.80		
Gallons Used	2,104,139,800	2,053,285,966	1,861,506,618	1,061,531,125	1,661,542,627	3,198,184,631	2,290,597,600	1,004,222,115	1,610,758,519		
Average acre Inches	8.89	9.59	10.11	6.2	9.59	18.60	19.71	9.69	16.55		
Combination											
Actual Reported Irrigated Acres	5,951.20	6,311.51	7,081.61	6,762.61	11,616.34	11,607.68	10,100.91	9,834.82	10,367.16		
Gallons Used	1,045,863,800	1,029,295,800	1,216,909,854	738,619,900	2,194,067,314	4,146,802,562	3,338,885,321	1,662,313,886	2,655,672,700		
Average acre Inches	6.47	6.01	6.33	4.0	6.96	13.16	11.98	6.22	9.43		
Drip Tape											
Actual Reported Irrigated Acres								37.00	37.00		
Gallons Used								7,942,200	18,391,400		
Average acre Inches								7.91	18.31		
Wildlife Areas											
Gallons Used									104,039,000		

NOTES: When meters are not working estimates are used.

**Tri-Basin NRD – Republican Basin Annual Report
Appendix B**

Tri-Basin NRD Republican Basin Water Use											
Updated February 18, 2016											
Phelps Co	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Certified Irrigated Acres	90,034.35	90,056.49	90,074.28	90,122.96	90,327.49	90,253.97	90,349.41	90,650.57	90,814.58		
Pivots											
Actual Reported Acres	43,456.40	44,661.74	47,177.54	47,644.47	47,521.53	47,981.03	51,634.20	50,670.04	51,898.96		
Gallons Used	7,514,412,579	9,230,092,637	9,961,041,554	5,979,452,137	7,841,490,355	18,803,353,40	18,349,493,21	8,303,306,913	11,443,663,774		
Average acre Inches	6.37	7.61	7.78	4.6	6.08	14.43	13.09	6.03	8.12		
Gated Pipe											
Actual Reported Acres	21,777.69	20,956.49	17,813.10	17,294.97	16,438.95	16,632.09	8,916.10	7,431.08	7,894.43		
Gallons Used	5,988,777,976	7,023,928,292	6,659,829,299	3,811,778,122	4,761,461,576	9,377,865,221	5,972,669,159	2,358,776,689	3,343,075,013		
Average acre Inches	10.13	12.34	13.77	8.12	10.67	20.76	24.67	11.69	15.60		
Combination											
Actual Reported Irrigated Acres	14,799.53	16,210.16	16,395.53	16,540.54	18,173.41	18,052.33	22,874.36	22,523.31	23,976.76		
Gallons Used	2,797,496,400	3,884,727,743	3,834,900,501	2,340,349,155	3,563,491,797	7,338,795,255	8,950,299,149	3,596,843,384	5,701,876,965		
Average acre Inches	6.96	8.83	8.61	5.2	7.22	14.97	14.41	5.88	8.76		
Drip Tape											
Actual Reported Irrigated Acres								435.40	435.40		
Gallons Used								79,980,790	133,860,021		
Average acre Inches								6.76	11.32		
Wildlife Areas											
Gallons Used									14,106,000		

NOTES: When meters are not working estimates are used.

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Appendix B**

Tri-Basin NRD Republican Basin Water Use		2007	2008	2009	2010	2011	2012	2013	2014	2015
Updated February 18, 2016										
Gosper Co										
Certified Irrigated Acres		57,746.74	57,765.72	57,809.41	57,896.60	57,760.72	57,742.11	57,732.05	57,631.53	57,808.36
Pivots										
Actual Reported Acres		29671.79	31756.88	32,729.99	33,488.46	34,753.39	36,082.66	34,348.63	34,731.48	34,890.31
Gallons Used		4,571,094,694	5,640,850,350	6,022,172,888	5,874,547,547	7,451,121,723	13,656,214,745	12,023,940,69	6,214,034,271	7,540,338,329
Average acre Inches		5.67	6.54	6.78	6.5	7.90	13.94	12.89	6.59	7.96
Gated Pipe										
Actual Reported Acres		13368.98	12164.20	11,677.00	10,885.50	10,258.10	9,784.30	5,515.43	5,313.43	4,590.33
Gallons Used		3,292,907,800	4,052,542,200	3,708,816,337	3,203,004,797	3,327,536,001	6,393,890,714	3,343,182,638	1,735,788,826	1,936,717,927
Average acre Inches		9.07	12.27	11.70	10.8	11.95	24.07	22.32	12.03	15.54
Combination										
Actual Reported Irrigated Acres		8308.65	8434.50	8,456.40	8,294.00	8,603.37	8,571.25	14,310.51	14,543.61	14,714.00
Gallons Used		1,736,490,000	1,858,770,700	1,706,652,900	1,472,894,300	1,747,329,785	3,336,512,330	7,034,537,746	3,063,979,197	4,145,559,266
Average acre Inches		7.70	8.12	7.43	6.54	7.48	14.34	18.10	7.76	10.38
Drip Tape										
Actual Reported Irrigated Acres									360.77	360.77
Gallons Used									84,044,100	123,091,700
Average acre Inches									8.58	12.57
Wildlife Areas										
Gallons Used										76,368,100

NOTES: When meters are not working estimates are used.

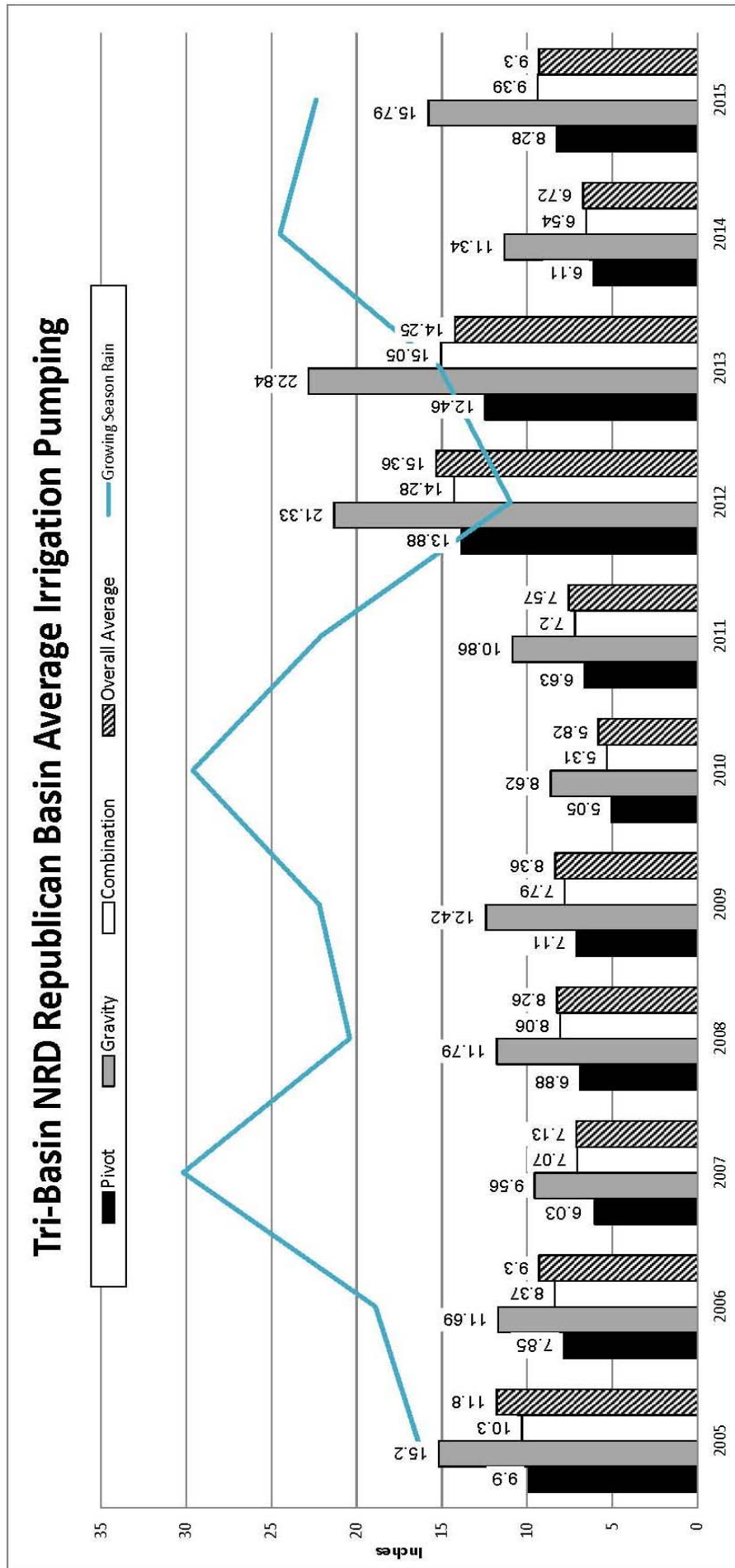
Tri-Basin NRD – Republican Basin Annual Report
Appendix B

2015 Meter Data Results					
Tri-Basin NRD - February 11, 2016					
County	System	Certified Irrigated Acres	Actual Reported Irrigated Acres	Gallons Used	Average Acre Inches
Republican Basin					
Kearney Co	Pivots		24,650.91	6,060,475,376	9.05
	Gravity		3,584.80	1,610,758,519	16.55
	Combination		10,367.16	2,655,672,700	9.43
	Drip Tape		37.00	18,391,400	18.31
Totals		41,346.16	38,639.87	10,345,297,995	9.86
Phelps Co	Pivots		51,898.96	11,443,663,774	8.12
	Gravity		7,894.43	3,343,075,013	15.60
	Combination		23,976.76	5,701,876,965	8.76
	Drip Tape		435.40	133,860,021	11.32
Totals		90,814.58	84,205.55	20,622,475,773	9.02
Gosper Co	Pivots		34,890.31	7,540,338,329	7.96
	Gravity		4,590.33	1,936,717,927	15.54
	Combination		14,714.0	4,145,559,266.0	10.38
	Drip Tape		360.77	123,091,700	12.57
Totals		57,808.36	54,194.65	13,745,707,222	9.34
Republican Basin Totals					
	Pivots		111,440.18	25,044,477,479	8.28
	Gravity		16,069.56	6,890,551,459	15.79
	Combination		49,057.93	12,503,108,931	9.39
	Drip Tape		833.17	275,343,121	12.17
	Totals	189,969.10	177,040.07	44,713,480,990	9.30
	Wildlife Areas			194,513,100	

Republican Basin Notes: Gosper County has 149 certified acres watered by wells in Furnas County

Phelps County has 250 acres watered by combination of 3 wells in Phelps County and 1 well in Harlan County; these 4 wells water 117 acres in Harlan County.

Tri-Basin NRD – Republican Basin Annual Report
Appendix B



**CNPPID Groundwater Recharge Diversions Summary
2015 Republican Basin Annual Report
Appendix C**

Dates of Recharge diversions	Elwood Reservoir			E65 Canal			Phelps Canal			Funds				
	AF, in	\$/af	\$/other	AF, in	\$/af	\$/other	AF, in	\$/af	\$/other	Total \$	PRRIP	NDNR	TBNRD	NGPC
1/24/2006 to 2/13/2006	6131									NA				
8/8/2006 to 2/13/2006	627									NA				
12/22/2006 to 12/31/2006	2793									\$ 16,752.44				\$ 16,752.44
5/30/2007 to 6/25/2007	7261									\$ 57,819.51				\$ 57,819.51
7/9/2007 to 7/11/2007	419									NA				
7/31/2007 to 8/8/2007	2277									\$ 17,686.39				\$ 17,686.39
5/23/2008 to 6/11/2008	6963									\$ 66,568.32			\$ 33,284.16	\$ 33,284.16
7/18/2008 to 7/21/2008	1168									\$ 12,878.02			\$ 6,439.01	\$ 6,439.01
8/10/2008 to 8/19/2008	1193									\$ 10,498.40			\$ 5,249.20	\$ 5,249.20
6/21/2009 to 8/21/2009	2906									\$ 25,572.80			\$ 12,786.40	\$ 12,786.40
1/1/2010														
9/28/2011 to 1/5/2012							5558.16	25		\$ 138,954.00	\$ 69,477.00	\$ 41,686.20	\$ 27,790.80	
2012														
12/4/2012 to 3/11/2013							4088	25		\$ 102,200.00	\$ 102,200.00			
9/19/2013 to 10/31/2013	12385	35								\$ 433,475.00		\$ 260,085.00	\$ 173,390.00	
				2615	35					\$ 91,525.00		\$ 54,915.00	\$ 36,610.00	
							3890	25		\$ 97,250.00	\$ 48,625.00	\$ 29,175.00	\$ 19,450.00	
							2000	25		\$ 50,000.00	\$ 50,000.00			
							3897	NA		NA				
6/10/2014 to 7/7/2014	13237	39								\$ 516,243.00		\$ 258,121.50	\$ 258,121.50	
11/26/2014 to 11/30/2014	1763	39								\$ 68,757.00		\$ 34,378.50	\$ 34,378.50	
	37	NA								NA				
				70	NA					NA				
12/9/2014 to 12/27/2014	8309.2	41								\$ 340,677.20		\$ 170,338.60	\$ 170,338.60	
				567.1	38					\$ 21,549.80		\$ 10,774.90	\$ 10,774.90	
11/26/2014 to 12/31/2014							2345.9	27		\$ 63,339.30	\$ 31,669.65	\$ 31,669.65		
1/1/2015 to 2/14/2015							1654.1	28.08		\$ 46,447.13	\$ 23,223.56	\$ 23,223.56		
							543.7	28.08		\$ 15,267.10	\$ 15,267.10			
1/14/2015 to 1/21/2015	1028.8	42.64								\$ 43,868.03		\$ 21,934.02	\$ 21,934.02	
				94.9	39.52					\$ 3,750.45		\$ 1,875.22	\$ 1,875.22	
5/11/2015 to 8/24/2015	6800	42.64								\$ 289,952.00		\$ 144,976.00	\$ 144,976.00	
				200	39.52					\$ 7,904.00		\$ 3,952.00	\$ 3,952.00	
	9007	42.64								\$ 384,058.48	\$ 384,058.48			
11/23/2015 to 12/18/2015	3227	42.64								\$ 137,599.28		\$ 68,799.64	\$ 68,799.64	
				1273	39.52					\$ 50,308.96		\$ 25,154.48	\$ 25,154.48	
	5776	42.64								\$ 246,288.64	\$ 246,288.64			
11/16/2015 to 12/31/2015							747.5	28.08		\$ 20,989.80		\$ 20,989.80		
11/16/2015 to 12/31/2015							2242.5	28.08		\$ 62,969.40	\$ 62,969.40			