

Summary of Pumping Scenarios

5% Reduction

URNRD	MRNRD	LRNRD	Total	Evap		SW		GW		Total	URNRD Certified Acres	MRNRD	LRNRD	Total			
				1998	1999	2000	2001	2002	2003						2004	2005	2006
505,175	294,005	230,175	1,029,355	26530	112,301	185,460	297,761	185,460	297,761	297,761	448,924	313,198	328,397	1,090,519			
	20626	99,390	203,488	27368	112,493	184,020	302,878	203,488	302,878	302,878	505,040	399,298	314,714	1,159,051			
	17824	79,446	212,871	30667	85,465	180,438	265,903	180,438	265,903	265,903	503,415	297,421	194,440	995,276			
	25904	58,614	204,165	17195	39,530	213,115	252,645	204,165	262,779	262,779	380,234	195,750	153,409	669,393			
	22461	41,803	210,879	2461	41,803	210,879	252,682	210,879	252,682	252,682	663,490	380,069	263,751	1,307,310			
											466,841	307,861	238,542	1,013,244			
											644,833	426,294	361,303	1,432,430			
											560,165	350,134	294,920	1,205,220			
											468,435	312,953	271,677	1,053,065			
											428,114	242,494	239,464	910,072			
											430,258	251,329	195,103	876,690			
1998- Average	24,603	97,819	193,255	24,603	97,819	193,255	291,074	193,255	291,074	291,074	531,763	309,479	242,289	1,083,531			
2002 StDev	5,242	15,147	14,141	5,242	15,147	14,141	14,567	14,141	14,567	14,567	120,537	110,633	78,785	298,348			

Inches/Certified Acre

1998	13.5	11.4	7.1
1999	10.2	5.2	5.6
2000	17.7	14.6	9.6
2001	12.5	11.8	8.7
2002	17.2	16.3	13.2
2003	15.0	13.4	10.8
2004	12.5	12.0	9.9
2005	11.4	9.3	8.8
2006	11.5	9.6	7.1
Average	13.5	11.5	9.0
StDev	2.6	3.3	2.3
Average	14.2	11.9	8.9
StDev	3	4	3
98-02	13.0	11.6	9.8
StDev	1.81	2.09	1.02
"03-05			

Dec target depl AF =

	URNRD	MRNRD	LRNRD	Total
200,000	13000	20000	24000	57000
185,000 GW	26000	40000	48000	114000
25,000 SW	375000	150000	125000	650000
10,000 Mound Cr.	388000	170000	149000	707000
Total	401000	190000	173000	764000

Inches/Certified Acre

QR	2.8	2.7	2.4
Average QR	5.7	5.3	4.8
Upland	4.25	4	3.6
NRD Average 10.2 - 10.6	11.3	9	9.6
	7 - 7.9	6.5	7.5

22-Jun

Proposed Allocations

Based on 44%, 30%, 26%

Average

GW allotment = 159000

Dry

GW allotment = 134000

	Volume af	Allocation inches/acre	Pumping Percentage
URNRD	69,000	8.5	46%
MRNRD	47,600	8	29%
LRNRD	41,300	6.5	25%

	Volume af	Allocation inches/acre	Pumping Percentage
URNRD	34,800	5.5	48%
MRNRD	40,200	5	30%
LRNRD	58,900	3.5	22%

18-Jul

Reduction Scenarios 2012

Average Pumping Reductions	Impact Reduction	Depletion GW	Depletion SW	Depletion Total
0	-	174,000	74,000	248,000
1	3,500	170,500	76,500	247,000
2	5,500	168,500	77,500	246,000
3	9,000	165,500	80,000	245,500
4	12,000	162,000	82,000	244,000
5	15,000	159,000	83,000	242,000

SW Allotment = 83,000
 GW Allotment = 161,000
 Total 244,000

Reduction Scenarios 2012

Dry Pumping Reductions	Impact Reduction	Depletion GW	Depletion SW	Depletion Total
0	-	163,500	50,000	213,500
1	2,500	161,000	51,500	212,500
2	5,000	158,500	53,000	211,500
3	8,500	155,000	55,000	210,000
4	12,000	151,500	57,500	209,000
5	14,500	149,000	59,000	208,000

SW Allotment = 63,000
 GW Allotment = 122,500
 Total 185,500

Reduction Scenarios 2020

Average Pumping Reductions	Impact Reduction	Depletion GW	Depletion SW	Depletion Total
0	-	178,000	69,000	247,000
1	170,000	173,500	71,500	245,000
2	8,000	170,000	74,000	244,000
3	13,000	165,000	77,000	242,000
4	17,500	160,500	79,500	240,000
5	22,500	155,500	82,500	238,000

SW Allotment = 80,500
 GW Allotment = 156,000
 Total 236,500

Reduction Scenarios 2020

Dry Pumping Reductions	Impact Reduction	Depletion GW	Depletion SW	Depletion Total
0	-	159,500	45,000	204,500
1	4,000	155,500	47,500	203,000
2	8,000	151,500	50,000	201,500
3	12,500	147,000	52,500	199,500
4	17,500	142,000	56,000	198,000
5	21,500	138,000	58,500	196,500

SW Allotment = 80,500
 GW Allotment = 156,000
 Total 236,500

Dec target depl AF =

	URNRD	MRNRD	LRNRD	Total
200,000	13000	20000	24000	57000
185,000 GW	26000	40000	48000	114000
25,000 SW	375000	150000	125000	650000
10,000 Mound Cr.	388000	170000	149000	707000
Total	401000	190000	173000	764000

Inches/Certified Acre

QR	2.8	2.7	2.4
Average QR	5.7	5.3	4.8
Upland	4.25	4	3.6
NRD Average	11.3	9	9.6
	10.2 - 10.6	7 - 7.9	6.5 - 7.5

22-Jun Proposed Allocations Based on 44%,30%,26%

Average

Dry

GW allotment = 159000

	Volume at	Allocation inches/acre	Pumping Percentage
URNRD	69,000	8.5	46%
MRNRD	47,600	8	29%
LRNRD	41,300	6.5	25%

	Volume at	Allocation inches/acre	Pumping Percentage
URNRD	34,800	5.5	48%
MRNRD	40,200	5	30%
LRNRD	58,900	3.5	22%

GW allotment = 134000

18-Jul

Reduction Scenarios 2012

Average Pumping Reductions	Impact Reduction	Depletion GW	Depletion SW	Depletion Total
0	-	174,000	74,000	248,000
1	3,500	170,500	76,500	247,000
2	5,500	168,500	77,500	246,000
3	9,000	165,500	80,000	245,500
4	12,000	162,000	82,000	244,000
5	15,000	159,000	83,000	242,000

SW Allotment = 83,000
 GW Allotment = 161,000
 Total 244,000

Reduction Scenarios 2012

Dry Pumping Reductions	Impact Reduction	Depletion GW	Depletion SW	Depletion Total
0	-	163,500	50,000	213,500
1	2,500	161,000	51,500	212,500
2	5,000	158,500	53,000	211,500
3	8,500	155,000	55,000	210,000
4	12,000	151,500	57,500	209,000
5	14,500	149,000	59,000	208,000

SW Allotment = 63,000
 GW Allotment = 122,500
 Total 185,500

Reduction Scenarios 2020

Average Pumping Reductions	Impact Reduction	Depletion GW	Depletion SW	Depletion Total
0	-	178,000	69,000	247,000
1	170,000	173,500	71,500	245,000
2	8,000	170,000	74,000	244,000
3	13,000	165,000	77,000	242,000
4	17,500	160,500	79,500	240,000
5	22,500	155,500	82,500	238,000

SW Allotment = 80,500
 GW Allotment = 156,000
 Total 236,500

Reduction Scenarios 2020

Dry Pumping Reductions	Impact Reduction	Depletion GW	Depletion SW	Depletion Total
0	-	159,500	45,000	204,500
1	4,000	155,500	47,500	203,000
2	8,000	151,500	50,000	201,500
3	12,500	147,000	52,500	199,500
4	17,500	142,000	56,000	198,000
5	21,500	138,000	58,500	196,500

SW Allotment = 80,500
 GW Allotment = 156,000
 Total 236,500

Historical Information

	SW Evap	Depletions SW	GW	Total	Percentages SW	GW	Compact Allocations
1998	26530	112,301	185,460	297,761	38%	62%	315,410
1999	20626	99,390	203,488	302,878	33%	67%	299,050
2000	27368	112,493	184,020	296,513	38%	62%	291,920
2001	17824	79,446	212,871	292,317	27%	73%	299,380
2002	30667	85,465	180,438	265,903	32%	68%	236,550
2003	25904	58,614	204,165	262,779	22%	78%	227,580
2004	17195	39,530	213,115	252,645	16%	84%	205,630
2005	22461	41,803	210,879	252,682	17%	83%	198,940
2006					#DIV/0!	#DIV/0!	192,650
1998- 2002 Average StDev	24,603 5,242	97,819 15,147	193,255 14,141	291,074 14,567	34% 4%	66% 4%	288,462 30,267
2003 - 2006 Average	21853	46649	209386	192027	#DIV/0!	#DIV/0!	206200

	URNRD	MRNRD	LRNRD	Total	5% Reduction from 98-2002 average			
					URNRD	MRNRD	LRNRD	
Certified Acres	448,924	313,198	328,397	1,090,519	505,175	294,005	230,175	1,029,355
If Pumped at Allocation	13.5	13	11.5		Percentage			
	505,040	339,298	314,714	1,159,051				
Pumping by NRD								
1998	503,415	297,421	194,440	995,276	51%	30%	20%	20%
1999	380,234	135,750	153,409	669,393	57%	20%	23%	23%
2000	663,490	380,069	263,751	1,307,310	51%	29%	20%	20%
2001	466,841	307,861	238,542	1,013,244	46%	30%	24%	24%
2002	644,833	426,294	361,303	1,432,430	45%	30%	25%	25%
2003	560,165	350,134	294,920	1,205,220	46%	29%	24%	24%
2004	468,435	312,953	271,677	1,053,065	44%	30%	26%	26%
2005	428,114	242,494	239,464	910,072	47%	27%	26%	26%
2006	430,258	251,329	195,103	876,690	49%	29%	22%	22%
1998-2002 Average	531,763	309,479	242,289	1,083,531	50%	28%	22%	
2002 StDev	120,537	110,633	78,785	298,348				
2003-2006 Average	471,743	289,227	250,291	1,011,261	47%	29%	25%	98-02
2006 StDev								

	Inches/Certified Acre	
1998	13.5	11.4
1999	10.2	5.2
2000	17.7	14.6
2001	12.5	11.8
2002	17.2	16.3
2003	15.0	13.4
2004	12.5	12.0
2005	11.4	9.3
2006	11.5	9.6
1998-2002 Average	14.2	11.9
1998-2002 Median	13.5	11.8
1998-2002 StDev	3	4
1998-2006 Average	13.5	11.5
1998-2006 Median	12.5	11.9
1998-2006 StDev	2.6	3.3

22-Jun-07 Based on Agreed Upon Percentage of Depletions
Evap 25,000 af
Mound 10,000

SW/GW Split	GW	URNRD	MRNRD	LRNRD	Total	Depletion = 10,000+25,000+GW Allotment + Depletion x .275
SW no evap Evap 27.5	72.5	0.44	0.3	0.26	Depletion	"= (25,000-10,000+GW allotment)/.725 +10,000
Average	65,924	25,000	69900	41300	249,724	239,724
Dry	56,479	25,000	58900	34800	215,379	205,379

Certified Acres 448,924 313,198 328,397

Pumping Inches Per Acre

Average	8.5	8	6.5	Reduction	URNRD	MRMRND	LRNRD	11
Dry	5.5	5	3.5	1	13.5	13	12	12
Pumping Volumes based on certified acres				2	12.5	12	11	11
Average	317,988	208,799	177,882	3	11.5	11	10	10
Dry	205,757	130,499	95,782	4	10.5	10	9	9
Pumping Percentages				4.5	9.5	9	8	8
Average	45%	30%	25%	5	8.5	8.5	7.5	6.5
Dry	48%	30%	22%					6

Planning Scenarios

Reduction Scenarios

Average Precipitation	Depletion GW	Depletion SW	Depletion Total	35 Percentile Precipitation	Depletion GW	Depletion SW	Depletion Total
Pumping Impact Reductions	174,000	74,000	248,000	Pumping Reductions	163,500	50,000	213,500
0	3,500	170,500	247,000	1	161,000	51,500	212,500
1	5,500	168,500	246,000	2	158,500	53,000	211,500
2	9,000	165,500	245,500	3	155,000	55,000	210,000
3	12,000	162,000	244,000	4	151,500	57,500	209,000
4	15,000	159,000	242,000	5	149,000	59,000	208,000

SW Allotment 83,000
GW Allotment 161,000
Total 244,000

SW Allotment 63,000
GW Allotment 122,500
Total 185,500

Planning Scenario

Dec 15 with Difference Between QR and Upland

Depletion	Allocation	200,000	185,000 GW	25,000 SW	10,000 Mound Cr.
Pumping Acre Feet	URNRD	MRNRD	LRNRD	Total	
Quick Response	13000	20000	24000	57000	
Range	26000	40000	48000	114000	
Upland	375000	150000	125000	650000	
Total	388000	170000	149000	707000	
Range	401000	190000	173000	764000	
Inches/Certified Acre					
Range	2.8	2.7	2.4		
Upland	5.7	5.3	4.8		
Average QR	4.25	4	3.6		
Upland	11.3	9	9.6		

Historical Information

	SW Evap	Depletions SW	GW	Total	Percentages SW	GW	Compact Allocations
1998	26530	112,301	185,460	297,761	38%	62%	315,410
1999	20626	99,390	203,488	302,878	33%	67%	299,050
2000	27368	112,493	184,020	296,513	38%	62%	291,920
2001	17824	79,446	212,871	292,317	27%	73%	299,380
2002	30667	85,465	180,438	265,903	32%	68%	236,550
2003	25904	58,614	204,165	262,779	22%	78%	227,580
2004	17195	39,530	213,115	252,645	16%	84%	205,630
2005	22461	41,803	210,879	252,682	17%	83%	198,940
2006				-	#DIV/0!	#DIV/0!	192,650
1998- 2002 Average StDev	24,603 5,242	97,819 15,147	193,255 14,141	291,074 14,567	34% 4%	66% 4%	288,462 30,267
2003 - 2006 Average	21853	46649	209386	192027	#DIV/0!	#DIV/0!	206200

	URNRD	MRNRD	LRNRD	Total	5% Reduction from 98-2002 average			Total
	Certified Acres				URNRD	MRNRD	LRNRD	
	448,924	313,198	328,397	1,090,519	505,175	294,005	230,175	1,029,355
	If Pumped at Allocation		13	11.5	Percentage			
	505,040	339,298	314,714	1,159,051				
	Pumping by NRD							
1998	503,415	297,421	194,440	995,276	51%	30%	20%	20%
1999	380,234	135,750	153,409	669,393	57%	20%	23%	23%
2000	663,490	380,069	263,751	1,307,310	51%	29%	20%	20%
2001	466,841	307,861	238,542	1,013,244	46%	30%	24%	24%
2002	644,833	426,294	361,303	1,432,430	45%	30%	25%	25%
2003	560,165	350,134	294,920	1,205,220	46%	29%	24%	24%
2004	468,435	312,953	271,677	1,053,065	44%	30%	26%	26%
2005	428,114	242,494	239,464	910,072	47%	27%	26%	26%
2006	430,258	251,329	195,103	876,690	49%	29%	22%	22%
1998- 2002 Average StDev	531,763 120,537	309,479 110,633	242,289 78,785	1,083,531 298,348	50%	28%	22%	
2003 - 2006 Average StDev	471743 289227	250291	1011262		47%	29%	25%	98-02
	Inches/Certified Acre							
1998	13.5	11.4	7.1					
1999	10.2	5.2	5.6					
2000	17.7	14.6	9.6					
2001	12.5	11.8	8.7					
2002	17.2	16.3	13.2					
2003	15.0	13.4	10.8					
2004	12.5	12.0	9.9					
2005	11.4	9.3	8.8					
2006	11.5	9.6	7.1					
Average Median StDev	14.2 13.5 3	11.9 11.8 4	8.9 8.7 3					
1998-2002								
Average Median StDev	13.5 12.5 2.6	11.5 11.9 3.3	9.0 9.3 2.3					
1998-2006								

22-Jun-07 Based on Agreed Upon Percentage of Depletions

Depletions	Evap 25,000 af		Mound 10,000		SW/GW Split		SW no evap Evap		GW		URNRD	MRNRD	LRNRD	Total	Depletion = 10,000+25,000+GW Allotment	
	Average	Dry	27.5	27.5	72.5	72.5	0.44	0.44	0.3	0.3	0.26	0.26	Total	+ Depletion x .275	"= (25,000-10,000+GW allotment)/.725 +10,000	
Average	65,924	25,000	158800	69900	47600	41300	249,724	239,724								
Dry	56,479	25,000	133900	58900	40200	34800	215,379	205,379								

Certified Acres 448,924 313,198 328,397

Pumping Inches Per Acre

Average	8.5	8	6.5	13.5	12	11
Dry	5.5	5	3.5	12.5	11	10
Pumping Volumes based on certified acres						
Average	317,988	208,799	177,882	704,668		
Dry	205,757	130,499	95,782	432,038		
Pumping Percentages						
Average	45%	30%	25%	9	8.5	7.5
Dry	48%	30%	22%	9	8	7

Planning Scenarios

Reduction Scenarios

Average Precipitation

Pumping Impact

Reductions

0

1

2

3

4

5

Reduction Scenarios

35 Percentile Precipitation

Pumping Impact

Reductions

0

1

2

3

4

5

Depletion

SW

74,000

76,500

77,500

80,000

82,000

83,000

Depletion

SW

174,000

170,500

168,500

165,500

162,000

159,000

Depletion

GW

248,000

247,000

246,000

245,500

244,000

242,000

Depletion

SW

163,500

161,000

158,500

155,000

151,500

149,000

Depletion

Total

248,000

247,000

246,000

245,500

244,000

242,000

Depletion

Total

213,500

212,500

211,500

210,000

209,000

208,000

SW Allotment	83,000
GW Allotment	161,000
Total	244,000

SW Allotment	63,000
GW Allotment	122,500
Total	185,500

Planning Scenario

Dec 15 with Difference Between QR and Upland

Depletion	Allocation	200,000	185,000 GW	25,000 SW	10,000 Mound Cr.
Pumping Acre Feet	URNRD	MRNRD	LRNRD	Total	
Quick Response	13000	20000	24000	57000	
Range	26000	40000	48000	114000	
Upland	375000	150000	125000	650000	
Total	388000	170000	149000	707000	
Range	401000	190000	173000	764000	
Inches/Certified Acre					
Range	QR	2.8	2.7	2.4	
Upland		5.7	5.3	4.8	
Average QR		4.25	4	3.6	
Upland		11.3	9	9.6	



Perkins Chase and
Dundy Counties
Headquarters In Imperial

Upper Republican NATURAL RESOURCE DISTRICT

P.O. Box 1140
135 W. 5th St.
Imperial, NE 69033
Phone 308-882-5173
308-882-5584
FAX Number 308-882-4521

The Upper Republican Natural Resources District will hold a Special Board of Directors Meeting, Friday, July 27, 2007 at the Eagles Club, 601 East 5th St, Imperial NE at 1:30 p.m. MDT.

Agenda for such meeting kept continuously current and is available at the NRD Office.

AGENDA

Open Regular Board Meeting, Chairman Greg Pelster.
Public Meeting Law Notice

- A. Republican River Compact.
- B. Groundwater Management Plan.
- C. Integrated Management Plan.
- D. Groundwater and Surface Water Rules and Regulations.

The Upper Republican NRD will provide accommodations at Board of Directors meetings, public information meetings and public hearings for disabled persons. Persons needing accommodations please contact Deb Hayes at the NRD Office in Imperial at 308-882-5173 during regular office hours. (7:00-12:00/1:00-4:00).

**POSSIBLE AGENDA FOR
REPUBLICAN BASIN MEETING
Cambridge, July 18**

1. Report on actions by subgroups from June 22 meeting.
2. Reports of actions taken by NRD's.
3. Reports from DNR regarding modeling and other activities.
4. Discussion of Draft Republican River Basin Plan
5. Report on plans for Basin meeting.
6. Other business
7. Work assignments and follow up actions
8. Adjourn.

SW Buy
Vege
CRET/EQIP
Reservoirs

Technical Committee