

March 29, 2004 Facilitated RR NRD Mtg
10 AM - 4 PM Cambridge - Jonathan Bartsch Facilitator

- LRNRD -
- NRD allocation split
 - depletion basis
 - How distribute pumping
 - Mound Credit Dwindling
 - % QRW & how impacted
 - Water Table decline is impacting LRNRD

- MRNRD -
- Depletion
 - Economic Impacts LB 109 vs LB 962
 - Adequacy of irrig. acre #s
 - Adequacy of data input on pumping rates and pump rates
 - More Explanation of Data Chart
 - Labeling of Data Sheet for columns is etc. and hard to keep clear what is latest
 - District budget impacts
 - are there incentive programs to lessen the blow on

- VRNRD -
- Mound Credit
 - Historic Pumping Levels that should be used - i.e. rate of developing is different for NRD's
 - Legal Costs
 - Economic Impacts
 - Acre Increase Concern - VWS % use
 - Uneasy about GW model ability to properly reflect diff. class well impact

MRNRD - Annual Acres -
Certified Acres -

DNR - Reg. Database 447,856

NASS = 1985 \Rightarrow 333,000 Neb Ag Stats Publication, Irrigation
Statistics

FSA -

COHYST

Assessors

FSA-578 Report -

Estimated Water Use in Nebraska

Lincoln 542 irrig wells \approx 79,000

33% of county

SW irrigate F Camb Hitch 4438 H & RW 11695 } MRNRD
Red 18912 French 9242 }

March 29 cont.

URNRD

- Distribution of leg effect - how distributed
- How often will model be adjusted
- Separate the Model Use between NRD's from the RRCA accounting procedures
- Changes in allocation for irrigated acres and how it will affect tax dependant institutions such as school districts
- Land Retirement Funding - How?

Tri-Basin

- Depletion of River upstream of Harlan + what remedies do we have to get some of it back
- SW availability problems
- How can mound be isolated from the compact (How is the beneficial use of mound considered by ^{i.e.} authorities?)
- Ditch Lining that will reduce the mound (other methods too)
- Conversion from Ditch to Pivots affecting mound
- Don't want to get "locked-in" to current hydrologic conditions
- Crop considerations

Thorburn

- Calc of Compact Compliance
- written explanation of source of calculation + what the methods mean
- NRD's + DNR need quantity targets for compliance checking

March 29

- New procedures to reduce CU and increase water
- How to share water between NRDs

DNR - Roger Patterson

- ① Reach agreement on baseline for pumping + streamflow depletion by NRD
- ② How to agree to allocate for dry year "gap"
- ③ Agree on a timeline to agree on ① + ② and adopt rules and regs.

How do we move?

- ① Solid data & understanding
- ② Targets must be done in conjunction so the state can comply with compact

Rogers - 2002 Level ^{of depletions} - "stop development" is what the state thinks is fair, use 5 year average up to 2002 (1998-2002)

URNRD = satellite pivots

Dan Smith - pumpage & acres values are too low

Roger - must then agree on what level of pumping is associated with what level of depletion

Dan Smith - Twin Platte NRD wells in basin - How does depletion get spread. Roger's Answer - they only make up 0%

March 29

Q1 - Can you agree to Roger's principle

URNRD Statement - Can generally accept Roger's premise
 "what we are giving up" =

8600 ^{acres} UR54,311 ^{acres} MR86410 ^{acres} LR

} Since 1998 - expansion (thru 2003)

* We are willing to accept this expansion but no more.

- URNRD does not accept acres that were first watered in 2003. They believe they should be "eaten" by NRD w/ new development

MRNRD - Development thru 2002 is acceptable

LRNRD - Didn't know it would be this bad, may have done things different if they knew they had a problem.

- SW users weren't getting a fair supply

- Jack Freer - we had 22" in our minutes, you should have checked.

DNR

"We are where we are."

Tri-Basin - are planning to stop acres increasing as of 2004 in Republican basin

- OK with using 1998-2002 values (Phyllis)

March 29 After Lunch

Streamflow depletion increased $\frac{1}{4}$ - $1\frac{1}{2}$ % per yr. due to lag
The bigger baseline reduction, the smaller the
dry year reduction (10% vs 5%) for three years

Dean Large - what about a 5% + see what else
needs to be done.

Kenny \rightarrow 10% \approx 55,000 acres reduction for URNRD

② Mound Credit Issue

Thorburn:

1981-1985 water tables are the goal of Tri-Basin NRD
for long term water supplies

(Patterson will send 5% + 10% reduction results to NRD)

2:40 PM - Johnathan Birtsch's 1st attempt at a summary
of issues

Assignments for DNR-

① Work to settle pump + acre numbers

② Marc Groff's explanation of acres etc.

③ Monday April 20 10:00 AM - 4:00 PM

Total Pumpage GW Volume Acre Feet					
YEAR	URNRD	MRNRD	LRNRD	Whole NRD TRI BASIN	Total
1991	463,137	300,297	275,895	535,721	1,575,050
1992	334,973	169,657	145,458	283,197	933,285
1993	256,709	60,881	41,515	97,059	456,164
1994	494,951	271,512	174,458	318,218	1,259,138
1995	439,376	280,015	246,010	482,322	1,447,723
1996	328,475	174,909	124,411	279,010	906,804
1997	489,546	288,260	237,626	449,652	1,465,084
1998	503,415	297,421	194,440	341,039	1,336,315
1999	380,234	135,750	153,409	290,099	959,491
2000	663,490	380,069	263,751	521,548	1,828,858
2001	466,841	307,861	238,542	406,975	1,420,218
2002	644,833	426,294	361,303	561,574	1,994,004
Average 1991-2002	455,498	257,744	204,735	380,535	1,298,511
Max	663,490	426,294	361,303	561,574	1,994,004
Min	256,709	60,881	41,515	97,059	456,164
Std Dev	120,759	104,074	83,803	136,961	428,588

5-yr Running Average	URNRD	MRNRD	LRNRD	Whole NRD TRI BASIN	Total
1995	397,829	216,472	176,667	343,303	1,134,272
1996	370,897	191,395	146,370	291,961	1,000,623
1997	401,811	215,115	164,804	325,252	1,106,983
1998	451,153	262,423	195,389	374,048	1,283,013
1999	428,209	235,271	191,179	368,424	1,223,084
2000	473,032	255,282	194,727	376,270	1,299,311
2001	500,705	281,872	217,554	401,863	1,401,993
2002	531,763	309,479	242,289	424,247	1,507,777

10% Reduction proposed for 3 years

PERCENTAGE				
URNRD	MRNRD	LRNRD	TRI BASIN	Total
29%	19%	18%	34%	100%
36%	18%	16%	30%	100%
56%	13%	9%	21%	100%
39%	22%	14%	25%	100%
30%	19%	17%	33%	100%
36%	19%	14%	31%	100%
33%	20%	16%	31%	100%
38%	22%	15%	26%	100%
40%	14%	16%	30%	100%
36%	21%	14%	29%	100%
33%	22%	17%	29%	100%
32%	21%	18%	28%	100%
35%	20%	16%	29%	100%

Percentage	URNRD	MRNRD	LRNRD	TRI BASIN	Total
35%	19%	16%	30%	100%	
37%	19%	15%	29%	100%	
36%	19%	15%	29%	100%	
35%	20%	15%	29%	100%	
35%	19%	16%	30%	100%	
36%	20%	15%	29%	100%	
36%	20%	16%	29%	100%	
35%	21%	16%	28%	100%	

YEAR	Depletion Volume Acre Feet				Percentage Total Depletions in Modeled Area							
	URNRD	MRNRD	LRNRD	TRI BASIN	Other	Total	URNRD	MRNRD	LRNRD	TRI BASIN	Other	Total
1991	64,826	49,433	37,990	7,633	549	160,431	40%	31%	24%	5%	0%	100%
1992	67,036	57,818	39,886	11,267	550	176,557	38%	33%	23%	6%	0%	100%
1993	74,053	56,861	43,157	11,544	651	186,266	40%	31%	23%	6%	0%	100%
1994	62,647	41,397	42,044	8,788	638	155,514	40%	27%	27%	6%	0%	100%
1995	71,320	53,840	48,321	9,893	664	184,038	39%	29%	26%	5%	0%	100%
1996	81,183	69,168	48,004	13,356	790	212,501	38%	33%	23%	6%	0%	100%
1997	69,794	49,404	46,155	11,072	808	177,233	39%	28%	26%	6%	0%	100%
1998	72,889	48,653	43,929	10,393	828	176,692	41%	28%	25%	6%	0%	100%
1999	80,522	60,444	44,387	13,012	919	199,284	40%	30%	25%	6%	0%	100%
2000	73,692	42,920	44,631	10,841	894	172,978	43%	25%	26%	6%	1%	100%
2001	77,339	65,508	46,175	13,076	800	202,098	38%	25%	26%	6%	1%	100%
2002	66,364	43,315	40,648	8,224	880	158,551	42%	25%	26%	6%	1%	100%

1991-2002	71,805	53,230	43,777	10,758	748	180,179	40%	29%	25%	6%	0%	100%
Max	81,183	69,168	48,321	13,356	919	212,501						
Min	62,647	41,397	37,990	7,633	549	155,514						
Std Dev	5,981	8,975	3,203	1,886	131	17,822						

5-yr Running Average YEAR	Depletion Volume Acre Feet				Percentage Total Depletions in Modeled Area							
	URNRD	MRNRD	LRNRD	TRI BASIN	Other	Total	URNRD	MRNRD	LRNRD	TRI BASIN	Other	Total
1995	67,976	51,870	42,280	9,825	610	172,561	39%	30%	25%	6%	0%	100%
1996	71,248	55,817	44,282	10,970	659	182,975	39%	31%	24%	6%	0%	100%
1997	71,799	54,134	45,536	10,931	710	183,110	39%	30%	25%	6%	0%	100%
1998	71,567	52,492	45,691	10,700	746	181,196	39%	29%	25%	6%	0%	100%
1999	75,142	56,302	46,159	11,545	802	189,950	40%	30%	24%	6%	0%	100%
2000	75,616	54,118	45,421	11,735	848	187,738	40%	29%	24%	6%	0%	100%
2001	74,847	53,386	45,055	11,679	850	185,657	40%	29%	24%	6%	0%	100%
2002	74,161	52,168	43,954	11,109	864	181,921	41%	29%	24%	6%	0%	100%

Upper Republican NRD

Year	Total GW Pumpage	Acres as Reported by NRD	Inches per Acre	NASS Acres in NRD	GW Only Pumpage	NASS Acres in NRD	Inches per Acre
2002	644,833	448,716		428,254	643,849	427,020	
2001	466,841	441,955		427,553	465,924	426,010	
2000	663,490	441,955		384,020	662,758	383,371	
1999	380,234	441,955		369,044	379,790	368,395	
1998	503,415	441,955		371,604	502,817	370,954	
1997	489,546	454,402		377,178	489,008	376,528	
1996	328,475	454,402		384,806	328,157	384,156	
1995	439,376	454,402		374,622	438,950	373,972	
1994	494,951	454,402		368,836	494,491	368,186	
1993	256,709	454,402		359,937	256,517	359,287	
1992	334,973	454,402		367,997	334,672	367,348	
Average	454,804	449,359		383,077	454,267	382,293	
Average 1998-2002	531,763	443,000	14.4	428,250	531,028	427,000	14.9

Middle Republican NRD

Year	Total GW Pumpage	NASS Acres in NRD		GW Only Pumpage	NASS Acres in NRD	Inches per Acre
2002	426,294	250,497		398,720	227,604	
2001	307,861	252,340		279,212	219,726	
2000	380,069	234,868		342,389	204,594	
1999	135,750	225,632		122,328	195,690	
1998	297,421	228,721		264,412	198,694	
1997	288,260	225,932		258,485	196,214	
1996	174,909	221,065		155,139	191,329	
1995	280,015	202,365		244,970	172,756	
1994	271,512	215,129		241,160	185,592	
1993	60,881	198,991		53,685	169,453	
1992	169,657	215,451		153,048	187,158	
Average	253,875	224,635		228,504	195,346	
Average 1998-2002	309,479	252,400	14.7	281,412	227,600	14.8

Lower Republican NRD

Year	Total GW Pumpage	NASS Acres in NRD		GW Only Pumpage	NASS Acres in NRD	Inches per Acre
2002	361,303	248,125		342,520	222,563	
2001	238,542	244,238		226,686	220,245	
2000	263,751	242,113		253,700	223,030	
1999	153,409	227,934		146,927	208,859	
1998	194,440	230,276		186,360	211,201	
1997	237,626	232,684		228,107	214,079	
1996	124,411	211,303		119,036	193,202	
1995	246,010	203,989		235,022	185,889	
1994	174,458	209,953		167,212	192,557	
1993	41,515	196,470		39,673	179,075	
1992	145,458	202,163		139,767	186,330	
Average	198,266	222,659		189,546	203,366	
Average 1998-2002	242,289	248,000	11.7	231,239	222,500	12.5