

STATE OF NEBRASKA



DEPARTMENT OF NATURAL RESOURCES
Roger K. Patterson
Director

July 13, 2004

IN REPLY REFER TO:

Mike Johanns
Governor

Bradley Lundeen, Chair
Tri-Basin NRD
1308 Second Street
Holdrege, NE 68949

Dear Mr. Lundeen:

This letter is intended as the official testimony of the Department of Natural Resources for inclusion in the record of the Tri-Basin Natural Resources District's hearing on the proposed amendments to the ground water management area rules and the establishment of a district-wide ground water quantity management area. This testimony is offered in accordance with § 46-656.19, R.S., Supp., 2000, as amended.

The Department commends the Board of the Tri-Basin Natural Resources District for their continuing effort to effectively manage ground water resources within the district. We believe that the formation of a district-wide ground water quantity management area would be a step in the right direction for the district. However, we raise the following issues for your consideration.

Our major concern with the proposed changes to the rules is that the district does not plan to take the action of moving into a higher phase of management (i.e. Phase II) until there is already a 10% decline in saturated thickness below the 1981-85 reference levels. We also question whether the proposed controls bring the ground water levels back up to the 1981-85 minimum levels in a timely manner. Allocation of water would not begin until the area has been in Phase II management for five years. This means that an area could conceivably have five years of ground water levels below the 1981-85 reference levels before the more stringent controls would be put in place.

As you know, we have had a number of meetings with the Republican River Basin NRDs concerning compact compliance. As part of the TBNRD's commitment for compact compliance, the district has agreed to maintain the ground water levels in the mound at the 1981-85 average level. The current proposals for ground water quantity management do not appear to achieve this commitment.

The Department earlier provided more detailed informal comments to your staff.

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Through discussions with your staff, it is our understanding that the district is planning to move forward with the proposed rules and establish a district-wide ground water quantity management area primarily to facilitate certification of acres. It is also our understanding that in the near future the district is planning to work with Central Nebraska Public Power and Irrigation District (CNPPID) in the continuing development of the ground water management plan and associated rules. While we appreciate the need to have rules in place to facilitate the certification of acres, we believe that the portions of the proposed rules relating to the action triggers would benefit from further discussions with CNPPID, our office and the public before adoption; or if adopted will need to be revised to achieve compliance with the terms of the Republican River Settlement and LB 962.

We welcome the opportunity to discuss these or other related issues with your board.

Sincerely,



Roger K. Patterson
Director

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cc: John Thorburn
Brad Edgerton
Tom Hayden

DNR Informal Comments on TBNRD Proposed Quantity GWMA Rules
Unofficial Response
John Thorburn 7/4/04

Introduction: The following responding comments are provided to DNR staff with the understanding that they are to be used exclusively for internal review of Tri-Basin NRD Rules and regulations. The following responses are subject to revision by NRD staff, directors, and legal counsel.

Section 1:

1.4 – Is the definition for beneficial use too specific? I wonder whether wildlife uses would fit the given definition? *I believe that the definition of beneficial use is consistent with statutes, although I can't find a citation for the statutory definition. I am willing to consider suggestions for improvement.*

1.17 – “(GMA)” should be put behind “Groundwater Management Area (GMA)” since GMA is used elsewhere. *I agree. The change will be made.*

Section 2:

2.4, 2.5.2, 2.6, 2.6.3, 2.8.2 and 2.8.3 – The words “him, his or he” are used. These words should be changed so they are not gender specific. *I'm not trying to be sexist. This is actually an old section, but I don't know what words to use to refer an individual that are gender neutral. I don't like to say "he / she" or "him or her." Any ideas are welcome.*

Section 4:

4.1.1 – It would probably be beneficial to define “domestic livestock” to lessen any potential confusion. *We were using statutory language virtually verbatim. Certainly the potential for confusion exists, but rule 4.1.1 does state that “human use is the primary purpose of the well.”*

4.1.1 and 4.1.2 – It is uncertain to me whether stock wells would be classified as domestic or as agricultural groundwater use. It would appear that most stock wells would be classified under 4.1.2 (agricultural groundwater use) but I am not sure that this is what you intend. *Again, I refer to the statements in 4.1.1 and in 4.1.2 that describe human use (4.1.1) and livestock or irrigation (4.1.2) as the primary uses of domestic and agricultural wells. That would be the basis for classifying individual wells of any type.*

Section 7:

7.5 – If the district is intending to require permits for ground water transfers then these permits should be separate from the construction permits when the transfer is not related to a new well. The language in §46-656.29 does not deal with ground water transfer permits only construction permits and it appears that in this rule you are trying to use the provisions of 46-656.29 for the transfer permits. *The statutory citation will be deleted.*

Section 8:

8.1.1 – Is it the intention of the district to implement a Phase I Quantity GWMA when these rules are approved? If so, you should make a definitive statement about that here and not “shall determine whether a need exists”. *I won't assume that an elected board of directors will or won't do anything. The Board has indicated their intention to declare the entire district a phase I quantity management area as soon as the rules are approved.*

8.1.2 – What is “average springtime static water level elevation measurements for the years 1981-1985”? Is this an average of all of the wells you monitor in the district or is it an average of a certain number of wells? When you say, “consider whether to invoke Phase II or Phase III management rules in any section within the district” what does “any section within the district” refer to? Is there a definitive area that would be moved into a Phase II or III and if so, what will be the size of the area?

Tri-Basin NRD and Central NE PPID measure approximately 320 wells, many of which (mostly within Central's service area) are dedicated observation wells. All these wells are measured during spring and fall of each year. A few wells have data loggers that record data almost continuously. Past experience indicates that “data quality” factors (record accuracy, continuity and period of record) tend to limit the amount of data available for long-term (10 years +) comparisons of water levels anywhere in the state. Tri-Basin NRD has continuous records from 1980 to the present for at least 150 wells in all parts of the district.

When considering phase II groundwater management area designation, the district board will review average spring water level data from the three most recent consecutive years at three levels of detail:

- 1) Averages of individual wells;*
- 2) Averages of groups of wells within some portion of a watershed or geologically homogeneous area (generally a few townships or smaller);*
- 3) Averages of water levels within an enclosed basin or one of three river basins within the district.*

District-wide averages have not and likely will not be used for regulatory purposes due to varying circumstances in different watersheds and the great variation in static water level depth (0' to 200') within the district.

I can't give you a definite minimum number of wells that will be averaged to produce data needed by the NRD board when they consider management actions. Part of the consideration is scale (as described above).

Tri-Basin NRD is using state and local funds to drill additional groundwater level observation wells in parts of the district where observation wells are scarce. These wells will generally have continuously recording data loggers installed, providing much more detail about aquifer response during irrigation season than has been available previously.

The term “section” as it is used here is intended to be taken literally. It refers to a US Land Office survey section, consisting of one square mile more or less. The district will not likely regulate areas smaller than half a township, but geologic and hydrologic factors will be the primary basis for determining the size and shape of Phase II and Phase III management areas.

8.2.1 – This sentence is not definitive – you say “the entire district **may be** regulated under Phase I regulations”. If you are going to go into a Phase I this should say “will be” instead of “may be”. *See my response to 8.1.1 above.*

8.2.2 – When you say, “groundwater declines in any section within the district” what does “any section” mean? *See my response to 8.1.2 above.* What does “average of spring groundwater levels” mean? *See my response to 8.1.2 above.* Is that an average of all measurements or an average of only a certain number of wells? *See my response to 8.1.2 above.* Where is the information pertaining to the 1981-85 thickness of the saturated zone listed? *A GIS coverage exists and was inadvertently omitted. I will send you a copy.* I am unable to find it in the plan. I read this trigger to mean that Phase II will not be implemented until there is a 10% decline in saturated thickness from 1981-85 levels over a three-year rolling average of spring ground water levels in areas where the water table is 40 feet below the surface. If this is correct, *You are correct in your understanding of the trigger.* the allowable decline below the 1981-85 levels is not consistent with the agreement made by the district to maintain the ground water levels in the mound at the 1981-85 average level. *Do water levels throughout the district (particularly in those areas with little or no “mound influence”) need to be kept continuously above 1981-85 levels? That is a much higher standard than any other NRD, even the state, has to live with.* Why was 40 feet chosen as a requirement to move into Phase II and III management? *The 40 foot number is somewhat arbitrary, but it is close to averages of water levels in portions of the district with known “seepage” problems due to high groundwater levels. Remember that most irrigation wells (which are about half of our observation well network) are drilled in relatively high spots on the landscape, when possible. The key is to allow water levels in high groundwater areas (which generally have >200’ of saturated thickness of water-bearing sands and gravels) to decline without subjecting these areas to groundwater quantity management. I am open to suggestions for better ways to accomplish this objective.*

8.2.3 – Is it correct to say that unless water levels return to or go above the 1981-85 levels within 5 years of being in a Phase II, the “section” will be moved to a Phase III? I also have the same questions as in Phase II regarding what “section” will be in Phase III and what constitutes “average spring ground water level readings”. *If three-year rolling average groundwater levels don’t return to 1981-85 average levels within five years, an area will meet the criteria for phase III designation.*

8.3.4 – See comments above (7.5) concerning the transfer permits. *Duly noted.*

8.4.2 – 8.4.4 – I am not sure I completely understand what is happening here. Does 8.4.2. pertain only to existing wells? I ask because 8.4.3. and the last sentence of 8.4.4. seem to refer to new wells. Also I am not sure I understand how the first sentence of 8.4.4. fits with 8.4.2. – it seems that they contradict each other. *I believe the problem is that I was using imprecise terms. In 8.4.2, the first sentence should read: “Landowners shall not develop any additional (not “new”) irrigated acres...” In 8.4.3 the word “adding” should be replaced by “re-locating”. In 8.4.4, the words “developing additional” should be replaced by “re-locating”. Would that make the intent clearer?*

8.4.5 – It might be helpful to be more specific about what you are requiring for the annual water use report. Something that would be good to add would be “report water use annually ***on forms provided by the district***”. There should be specifics on the flow meters (installation schedule, specifications, requirements, readings, inspections, maintenance, tampering, etc.) listed – possibly as subsections to this rule. ***Flowmeter specifications are listed in Section 6, but I agree that they should be referred to here. We will add the phrase “on forms provided by the district” proposed above.***

8.5.1 – Although this can be added to the rules once you are ready to implement a Phase III subarea, you might want to start thinking about additional considerations associated with allocations, such as carryover allotments, penalties, etc. ***Clearly, more detailed policy direction from the NRD Board is needed before phase III rules are implemented.***

8.5.2.1 – Why are businesses and industries being singled out from other municipal uses? I can understand you not wanting to allocate to strictly domestic uses, but there are irrigation uses by both the municipality and the individuals within the community. I think that it might be a tough sell if you are just regulating the commercial uses and not the irrigation uses of municipal water. You might want to think about just giving a straight allocation to the municipality since you have the authority to do that. ***We don’t propose to regulate municipal domestic use because we don’t want to have to regulate rural domestic use.***

8.5.2.2 and 8.5.2.3 – What are the definitions of “livestock feeding operations” and “livestock operations”? You probably want to define these terms so that there is no confusion as to what you are referring to. ***We will rely on the common definitions of the terms for the time-being. You will note that rules 8.5.2.2 and 8.5.2.3 provide for allocations for metered and unmetered livestock allocations.***

8.6.1 – Since this is for areas that have a three-year rolling average of spring ground water levels (which I am not sure what that is) that are equal to or higher than the reference levels (I assume the reference levels are 1981-85), then does that mean that the high-groundwater management area will be declared immediately? ***The NRD board will decide whether to designate high groundwater management areas after they are provided with sufficient data to support such a decision. We should have the data assembled within six months.***

8.6.1.1 and 8.6.1.2 – I have a couple of questions about these sections. Say for example that you have an area that has water levels at 5 feet below ground surface; (***depending on scale, there are small areas where water levels are as high as five feet***) you could (***hypothetically, perhaps, but not actually***) lower this to 39.9 feet and not be subject to higher levels of management (i.e. Phase II and III). Is that correct? ***Yes, areas with high water levels benefit from lower groundwater tables.*** I do not know whether this sort of situation exists within the district, but what I wonder about is whether or not something like that would be compatible with the district’s agreement about keeping the levels in the mound at the 1981-85 levels (***See my response to your question about rule 8.2.2 above***). Also, if I am reading this right, levels between 30 and 40 feet are subject only to restrictions on ground water transfers or allocations, nothing else. Is that correct? ***These areas are subject to Phase I Groundwater Quantity regulations.***

Section 9:

9.1.3 – The words “a joint action plan” should be struck and replaced with “an integrated management plan” *Is “Integrated Management Plan” the current statutory language?*

9.4 – This rule references the “allowable depletion limit” which in looking at the definition seems to fit the overappropriated criteria for the Platte Basin but what about the wells in the Republican Basin? *Can’t the same criteria be utilized by the NRD in the Republican basin?*

Section 10:

10.1 – I read this to say that anyone who can show that their land was irrigated at any time can have the acres certified – in other words there is no cap on when the acres were last irrigated. Is that correct? Also there does not appear to be a certain date by which people have to have their acres certified. *[John – your explanation concerning the specifics of the certification process was very helpful. My only remaining concern is that the producers may not quite understand what it is the board is intending by the way it is written. I think that it might be helpful to reword this section so that it is crystal clear what the board’s intention is.] I’m not sure what additional clarification should be made here.*

10.2.1 – You should put “(QGMA)” after “Quantity GMA (QGMA)” since the acronym is used in 10.3.1. *The change will be made.*

Overall comment:

The TBNRD has agreed to keep ground water levels within the district at or above the 1981-85 levels. The trigger to move into Phase II would allow the ground water levels to fall below this amount. If an area does move into a Phase II, I have a hard time seeing how the controls proposed for Phase II would reverse the ground water declines to bring the levels back up to the 1981-85 levels. The concern is that you would be in Phase II for 5 years without making progress toward bringing ground water levels back up before you move into Phase III where you start the allocations. *The NRD needs to allow some period of time for the effects of phase II regulation to be demonstrated to determine whether they are adequate and to determine whether a problem area is truly experiencing a sustained decline before phase III rules would be considered necessary. You will recall that the proposed trigger for phase III requires that phase II rules result in water levels returning to 1981-85 average levels after five years, otherwise phase III rules will take effect.*