

To: Jennifer Schellpepper  
From: Larry Land, Mike McDonald, Tom Riley, Lee Wilson  
Date: 16 January 2003  
Re: Assignments in support of the regional ground water model and 2003 accounting

Roger Patterson and David Cookson have asked us to organize the work that needs to be accomplished in the next several months in order to complete and effectuate the settlement. Our intent is to leave the Phoenix meeting (3<sup>rd</sup> and 4<sup>th</sup> of February) with a clear understanding among the Nebraska team of how our work is to be organized, who is responsible for what, and time lines for all tasks. This memo has two purposes:

1. To identify certain immediate needs the team has, regarding matters that will be discussed by the Nebraska team while they are at the GWTC meeting that begins Tuesday, 22 January. We may decide to bring some of the matters to the other States at that meeting. Please give such matters your instant and priority attention. In general, while written information is desired, we understand that time constraints may preclude this in most cases. But do respond.
2. To give you some initial thoughts on what your ongoing assignments are likely to be, and to task you with coming to the Phoenix meeting with relevant information. Note, while we generally state these tasks in terms like "be prepared to discuss", we strongly encourage you to have material in writing, even if it is no more than an outline of bullet points that can guide the discussion. It is possible these assignments may be clarified following the GWTC meeting; in the meantime, please proceed as directed.

FYI, in what follows "work with" is the person who you should ask for clarifications on your assignment, you should advise as to progress and ability to meet schedule, and to whom you should submit drafts of written documents. The purpose of designating this person is to clarify responsibilities, and not to limit your ability to communicate with other members of the team.

#### **A. General assignment**

1. Prior to the team meeting in Phoenix, please read and be prepared to share with us your thoughts on the regional model report that is Appendix J in the settlement package. At your convenience, we suggest you at least glance at the accounting procedures, Appendix C.

#### **B. Assignments where you are to work with Tom Riley**

1. The settlement imposes substantial responsibilities on Nebraska (as on the other States) to compile data in 2003, including inputs to the model and to surface water accounting. The efforts made need to be coordinated with our work in verifying historical data, when possible, and with the work to update model inputs for 2001 and 2002. The NRDs need to be involved. Ultimately we need to fashion an organized data base with meta-data. Jennifer should take the lead on all the items listed below. If you are coming to the Phoenix meeting, we would like you to make a presentation on these items at that time; if not, please provide us a memo that can be reviewed at the meeting. And on a separate note, Jennifer please let Tom know if there is any need to model any particular improvement project.

2. Surface water diversions and irrigated acreage. Each State will tabulate the canal, ditch and other surface water diversions that are required by RRCA annual compact accounting and the Republican Ground Water Model on a monthly format (or a procedure to distribute annual data to a monthly basis) and will forward the surface water diversions to the other RRCA participatory States. Each State will provided the water right number, type of use, system type, location, diversion amount, and acres irrigated.

3. Ground water pumping and irrigated acreage. Each State will tabulate and provide all ground water well pumping estimates that are required for the Republican Ground Water Model to the other RRCA participatory States. Nebraska's specific assignments are to provide an annual tabulation through the representative Natural Resource District (NRD) in Nebraska that includes: the well registration number or other ID number; ground water pumping determined by a meter on each well (or group of wells in a manifold system) or by reported hours of use and rate; and well information -- location; system type (gravity, sprinkler, LEPA, drip, etc.); and irrigated acreage. Irrigated acreage by crop will be provided on a county basis.

*combined windshield survey in CNPID*

4. Climate information. Each State will tabulate and provide (available data on) precipitation, temperature, relative humidity or dew point, (average wind speed) and solar radiation for specified climate stations.

5. Crop Irrigation Requirements. Each State will tabulate and provide estimates of crop irrigation requirement information on a county format. Each State will provide the percentage of the crop irrigation requirement met by pumping; the percentage of ground water irrigated lands served by sprinkler or flood irrigation systems; crop distribution; crop coefficients; gain in soil moisture from winter and spring precipitation, net crop irrigation requirement; and/or other information necessary to compute a soil/water balance.

6. Streamflow Records from State-Maintained Gaging Records. Streamflow gaging records from specified State maintained gages.

7. Platte River Reservoirs. The State of Nebraska will provide the end-of-month contents, inflow data, outflow data, area-capacity data, and monthly net evaporation, if available, from Johnson Lake; Elwood Reservoir; Sutherland Reservoir; Maloney Reservoir; and Jeffrey Lake.

8. Water Administration Notification. The State of Nebraska will provide the information that describes the protection of reservoir releases from Harlan County Lake and for the administration of water rights junior in priority to February 26, 1948.

9. Moratorium. Each State will provide a description of all new wells constructed in the Basin upstream of Guide Rock (including the owner, location (legal description), depth and diameter or dimension of the constructed water well, casing and screen information, static water level, yield of the water well in gallons per minute or gallons per hour, and intended use of the water well.

10. Non-federal reservoirs. Each State will provide an updated inventory of reservoirs that includes the location, surface area (acres), and capacity (in acre-feet), of each non-federal

reservoir with storage capacity of fifteen (15) acre-feet or greater at the principal spillway elevation. Supporting data to substantiate the average surface water areas that are different than the presumptive average annual surface area may be tendered by the offering State.

11. Modflow input files. Each state will provide monthly ground water pumping, surface water recharge, ground water recharge, and precipitation recharge indexed to the one square mile cells, and summarized by County.

### **C. Heads up on future assignments**

1. Tom has been tasked with the lead in fulfilling our promise to DNR and the NRDS that they would be left a settlement legacy, in the form of user guides, data bases with meta data, bibliographies and the like. Please keep this in mind as you work on the above, with the thought of developing a wish list. Tom may get in touch to discuss.