

1. **46-713(1)(a) DNR shall complete an evaluation of the expected long-term availability of hydrologically connected water supplies for both existing and new surface and ground water uses in each of the state's river basins.**

expected availability: Last year said if was available to junior surface water appropriators 65% of the time during July and August and 85% of the time May-September during the last 20 years then there is sufficient water supply "available" at present. If there was an instream flow appropriation that made frequent calls for administration that appropriation was used as the measuring device. Since there are no instream flows that have existed for 20 years it was necessary to reconstruct what the frequency of administration would have been if the instream flow appropriation had existed for 20 years.

long term: Last year, the report assumed that predicting 25 years into the future was "long term."

hydrologically connected water supplies: Last year looked only at stream flow but stated that DNR believes if stream flow is sufficient the ground water supplies are sufficient. Determined which water was hydrologically connected by using Jenkins or model or literature. Used 10/50 for numerical limit.

existing surface water uses: Last year used most junior appropriator Logic: if the most junior appropriator has water then the senior appropriators will. Last year's report relied solely on irrigation uses however, it listed possible other uses in an appendix. Report relied on wildlife uses if the junior appropriator was an instream flow. Was the explanation (if any) of why focused on only existing irrigation use enough? Was the explanation of wildlife uses i.e. instream flow sufficient?

new surface water uses: Last year did not address. How could/should it be addressed? Should there be an explanation of "expectation" of permittee ie. can no longer expect 65% and 85%? What does law really mean? Does it mean that if DNR can't give a new surface water appropriation permit that can reasonably expect to get water 65% and 85% then the basin is fully appropriated?

existing ground water uses: Last year provided info on number of registered wells. Used Derrel Martin's CIR calculations to represent amount of ground water used. This required us to make an assumption that all wells were for irrigation and grew corn. Also considered the effect that existing wells (pumping now) will have on surface water supply in 25 years (lag effect).

new ground water uses: Last year calculated a straight line rate of increase and assumed future development would occur at same rate. Tech committee to propose something new this year.

River basins: Last year used traditional basins and nrd boundaries for analysis. This year making “basins” larger i.e. one per chapter and analysis will be done on “subbasins” and “reaches” nrd boundaries will not be used

2. 46-713(1)(a) cont'd. For each basin evaluated, the report shall describe (i) the nature and extent of use of both surface water and ground water (ii) the geographic area within which DNR preliminarily considers surface water and ground water to be hydrologically connected and the criteria used for that determination, (iii) the extent to which the then-current uses affect available near-term and long-term water supplies.

Describe nature and extent of use: Last year provided water well registration and surface water appropriation permit statistics and listed types of surface water uses in the appendix.

Describe geographic area of hydro-connected waters and criteria used: Last year when model available drew map and specified model used and criteria for data input. If no model available used Jenkins method to delineate, drew a map and explained choice of use of Jenkins in Intro. When no model available and Jenkins not possible used information in literature to describe probable areas of hydro-connected waters and explained why used that “method.” I personally felt the latter evaluations could be substantially improved by better explanation if nothing else. Last year’s analysis was legally sufficient but just sufficient. Perhaps Jim Cannia should be asked to do a more comprehensive evaluation of the literature and write a fuller explanation. Is there something more that can be done?

Extent to which current uses affect available water supplies: I am not really sure how last year’s report addressed this requirement. I think we may have skipped over this requirement. To some extent it is addressed in determining how many times the junior appropriators were able to get water 65% and 85% of the time. How could it be addressed directly? The criterion seems to imply that we could somehow quantify how much water is in the water supply and then determine how much would be left in a certain amount of time if present uses continue at the same rate of consumption. Is there some hydrogeologic way to do this? A water budget of sorts?

Near-term: Last year did not do a near-term analysis. Did only immediate present.

Long-term: Last year did not describe the impact of present uses on future. Only looked at long-term affect assuming well registrations would increase at same straight-line rate.

3. 46-713(1)(b) Based on the information reviewed in the evaluation process, DNR shall arrive at a preliminary conclusion for each river basin, subbasin, and reach evaluated as to whether it is presently fully appropriated without the initiation of additional uses. DNR shall also determine if and how such preliminary conclusion would change if no additional legal constraints were imposed on future development of the hydrologically connected waters and reasonable projections are made about the extent and location of future development in the basin, subbasin or reach.

Must conclude whether or not the basin is fully appropriated now: Last year's report based its conclusions solely on whether or not junior appropriator could get 65% and 85% of CIR.

Must make reasonable projection about future development—amount and location:

Last year projected future ground water development would occur at same rate as in the past. There was no attempt to project location of future development other than a statement that wells would probably occur in same general area as are already occurring because that is obviously where there is accessible water and land surface is conducive to irrigating. This year Tech team to come up with different way to project future well development. Should we project future surface water development? Should we discuss location of potential areas of development more? Should we acknowledge pending ethanol plants or other high volume water users?

Must decide if development continues as projected (see above) and no new laws or regulations are passed which limit development [this requires enumerating existing laws and regulations] will the basin, subbasin or reach be fully appropriated: Last year provided a narration of existing nrd regulations and used straight line projections of well registration increases to determine future development. Did not project any increase [or even look at] surface water use or any pending appropriation permits or rumored developments of ethanol plants/ ethanol plants under construction or other new uses.

4. 46-713(1)(c) DNR shall include summary of relevant data provided by any interested party concerning impacts of water uses on resources that are dependant on streamflow or groundwater levels and that are not protected by appropriations or regulations.

Summary of data: Last year we didn't get any information of this type. If we don't get any this year should we try to identify resources dependant on streamflow and groundwater levels that aren't protected by appropriations or regulations and solicit information from probable sources? The only resources I can think of right now that are

dependant on streamflow and groundwater levels but aren't protected by appropriation or permit are wildlife and subirrigated farming (I'm not sure farming is a resource). Should we ask Game and Parks for information on the social, economic and environmental impacts that low flows and dried up wetlands have on the wildlife resources in the basins we are evaluating? There are quantifiable economic impacts for sport fishing, hunting and bird watching. Is there some sort of agricultural inventory of where fields are subirrigated? Nebraska doesn't have any sorts of crops like rice that depend on wetlands or fish or seafood cultivation or harvesting that need water does it?

5. 46-713(1)(d) DNR shall rely on the best scientific data and information readily available and promulgate a regulation about the types of data that will be considered.

Does the regulation need to be changed? Do we need to do another literature search and state affirmatively in the report that we did another literature search?

6. 46-713(3) A basin, subbasin or reach is fully appropriated if the current uses of the hydro-connected water cause or will in the reasonably foreseeable future cause (a) the surface water supply to be insufficient to sustain over the long term the beneficial or useful purposes for which existing natural flow or storage appropriations were granted and the beneficial or useful purposes for which, at the time of approval, any existing instream appropriation was granted, (b) the streamflow to be insufficient to sustain over the long term the beneficial uses from wells constructed in aquifers dependent on recharge from the stream involved, or (c) reduction in the flow of a river or stream sufficient to cause noncompliance by Nebraska with an interstate compact or decree, other formal state contract or agreement, or applicable state or federal laws.

(a) Identify current uses: amount and type? Last year used CIR for amount and used number of registered irrigation wells for number and type to determine if the water consumptively used would lower the streamflow so much that the most junior appropriator wouldn't get sufficient water for crops (CIR) 65% of the time during the peak irrigation period or 85% of the CIR during the entire irrigation season. The impacts of surface water uses were accounted for by the amount of streamflow. If there was in instream flow appropriation that was the appropriation used to make the determination because in all cases calls were made on account of the instream flow and not a more junior appropriation.

Identify hydrologically-connected water: Last year used model, Jenkins or literature and 10/50 to identify. See discussion above.

Identify “reasonably foreseeable future”: Last year used 25 years.

(b) insufficient flow for wells: Last year we stated that we had assumed that if there was insufficient water for the junior surface water appropriation there was insufficient water for wells dependant on stream recharge.

(c) insufficient streamflow for compact compliance: Last year we listed all known compacts and provided a narrative about why no compact would be out of compliance due to the streamflow reductions

insufficient streamflow for decree/state contract/agreement: Last year we said we didn’t know of any decrees/contracts/agreements affected by streamflow

insufficient streamflow for compliance with state law: Last year we said we didn’t know of any such situations except the Nebraska Nongame and Endangered Species Act due to the presence of pallid sturgeon in the lower Platte. Our treatment of this criterion was very cursory and, other than my quick phone call to Jim Douglas, we did not ask Game and Parks what it thought about this criterion. Can we presume that its up to Game and Parks to seek and get an instream flow permit to comply with state law and, therefore, if there isn’t an instream flow permit that is being compromised there is compliance? Do we go into more detail about how DNR can’t issue a surface water permit if there is jeopardy? NRDs are exempt from 37-807(3) re consulting Game and Parks about an NRD’s actions but NRD’s are not exempt from the rest of the Nongame and Endangered Species Act. Can allowing too much groundwater consumption be considered a “taking” under 37-806(8)(b)? [“Taking” and “person” are not defined in the Act!]bbb Was Roger correct is saying that that DNR’s action of issuing the FAB report and the action of not designating a basin fully appropriated is exempt from 37-807? Are there other state laws that streamflow affects?

insufficient streamflow for compliance with federal law: Last year we said we didn’t know of any applicable federal laws.

(c) reduction in the flow of a river or stream sufficient to cause noncompliance by Nebraska with an interstate compact or decree, other formal state contract or agreement, or applicable state or federal laws

Who is Nebraska? A state agency like DNR or NGPC? The state as a whole as in Kansas v. Nebraska? Can an NRD be Nebraska? Could Nebraska through the DNR be sued successfully for failing to designate the Lower Platte fully appropriated since it has been designated critical habitat for the pallid sturgeon? Could the NRDs be sued

successfully for continuing to allow well construction in areas where groundwater is hydrologically connected to the Lower Platte? Should the annual review look at these issues to prevent them from happening?

State officials may be sued to enjoin them from violating provisions of this chapter [16 USCA §1540]. *Fund for Animals, Inc. v. Florida Game and Fresh Water Fish Com'n*, S.D. Fla. 1982, 550 F. Supp. 1206.

State agency's decision to permit certain types of commercial fishing gear in Massachusetts waters that are designated as critical habitat of endangered northern right whales can result in impermissible habitat modification of whale's environment under ESA. *Strahan v. Coxe* (Secretary of the Massachusetts Executive Office of Environmental Affairs), 939 F. Supp. 963 (1996) cert. denied twice.

we discuss location of potential areas of development more? Should we acknowledge pending ethanol plants or other high volume water users?

OUTCOME: THIS MAY BE ADDRESSED IN YOUR PROPOSAL FOR CHANGING THE WAY FUTURE DEVELOPMENT IS EVALUATED. WE WOULD LIKE TO DISCUSS THESE ISSUES FURTHER WITH YOU.

Must decide if development continues as projected (see above) and no new laws or regulations are passed which limit development [this requires enumerating existing laws and regulations including the possibility that some NRDs may enact moratoriums later this year which will have to be included in the report] will the basin, subbasin or reach be fully appropriated: Last year provided a narration of existing NRD regulations and used straight line projections of well registration increases to determine future development. Did not project any increase [or even look at] surface water use or any pending appropriation permits or rumored developments of ethanol plants/ ethanol plants under construction or other new uses.

OUTCOME: ~~MAYBE THIS IS ENOUGH~~ BUT WE WOULD LIKE TO DISCUSS IT WITH YOU. ALSO WANT TO ALERT YOU TO THE FACT THAT IF NRDS ENACT MORATORIUMS ANYTIME BEFORE DECEMBER WE FEEL THAT WE WILL HAVE TO ACCOUNT FOR THEM IN THE FAB REPORT. THIS COULD NECESSITATE RERUNNING THE FUTURE PROJECTION CALCULATIONS.

WHAT WE DID LAST YEAR

4. **46-713(1)(c) DNR shall include summary of relevant data provided by any interested party concerning impacts of water uses on resources that are dependant on streamflow or groundwater levels and that are not protected by appropriations or regulations.**

OUTCOME: NO ISSUES FOR THE TECHNICAL COMMITTEE.

5. **46-713(1)(d) DNR shall rely on the best scientific data and information readily available and promulgate a regulation about the types of data that will be considered.**

Does the regulation need to be changed? Do we need to do another literature search and state affirmatively in the report that we did another literature search?

OUTCOME: WE THINK THERE NEEDS TO AN UPDATE TO THE LITERATURE REVIEW AND THE REPORT SHOULD CONTAIN AN AFFIRMATIVE STATEMENT THAT AN UPDATE REVIEW WAS CONDUCTED. THIS WILL NEED TO BE PUT ON THE GANTT CHART.

6. **46-713(3) A basin, subbasin or reach is fully appropriated if the current uses of the hydro-connected water cause or will in the reasonably foreseeable future cause (a) the surface water supply to be insufficient to sustain over the long term the beneficial or useful purposes for which existing natural flow or storage appropriations were granted and the beneficial or useful purposes for which, at the**

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OUTCOME: WE WOULD LIKE THE TECHNICAL COMMITTEE TO ADDRESS THESE. PERHAPS THEY WERE INCLUDED IN LAST YEAR'S EVALUATION. IF SO WE NEED TO KNOW HOW. IF THEY WEREN'T INCLUDED PLEASE PROPOSE A WAY THEY COULD BE INCLUDED OR TELL US WHY YOU THINK THEY DON'T NEED TO BE.

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Must make reasonable projection about future development—amount and location: Last year we projected future ground water development would occur at same rate as in the past. There was no attempt to project location of future development other than a statement that wells would probably occur in same general area as are already occurring because that is obviously where there is accessible water and land surface is conducive to irrigating. This year the Tech team is going to come up with different way to project future well development. Should we project future surface water development? Should

To: FAB Technical Team Leaders
From: Pam Andersen, FAB Legal Team Leader
Re: Initial Results of Legal Team Review ~~of Need for Changes~~
Date: February 22, 2006

of the FAB report

The Legal Team met this morning to perform its review and discuss your request that the Legal Team quickly give the Technical Team information about changes that need to be made or additional analysis that needs to be done. Below are the initial results of our review. Unfortunately, I did not provide my team members with the outline for our discussion much in advance of the meeting so the team members may come up with more requests in the near future. I created the outline we used to conduct our review by breaking down all of the statutes relating to the FAB review into sections and commenting on how each requirement was fulfilled last year. Below are the sections of the review that we identified as needing a response by the Technical Team or just further discussion. ~~Some of the outcomes are just an identified need to discuss certain issues with the Technical Team.~~ Steve is going to set up a meeting in the near future to go over this memo and engage ~~as they~~ in the discussions.

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OUTCOME: WE WOULD LIKE THE TECHNICAL TEAM TO TELL US HOW NEW SURFACE WATER USES COULD BE PROJECTED AND INCLUDED IN THE FAB CALCULATION. IT IS PROBABLY NOT POSSIBLE TO CALCULATE A RATE OF INCREASE LIKE YOU DID FOR ~~THE~~ WELL DEVELOPMENT BUT IS THERE SOME WAY YOU COULD AVERAGE THE AMOUNT OF DEVELOPMENT ON AN ANNUAL BASIS AND INCLUDE IT IN THE CALCULATION?

PROJECTED

new ground water uses: Last year calculated a straight line rate of increase and assumed future development would occur at same rate. Tech committee to propose something new this year.

OUTCOME: LOOKING AT THE OUTLINE YOU HANDED OUT AT YOUR MEETING ON FEBRUARY 21, IT WASN'T CLEAR TO US WHEN YOU ARE GOING TO COME UP WITH YOUR PROPOSAL. WE WOULD LIKE TO KNOW SO WE CAN SCHEDULE OUR REVIEW OF YOUR PROPOSAL ON THE GANTT CHART.

time of approval, any existing instream appropriation was granted, (b) the streamflow to be insufficient to sustain over the long term the beneficial uses from wells constructed in aquifers dependent on recharge from the stream involved, or (c) reduction in the flow of a river or stream sufficient to cause noncompliance by Nebraska with an interstate compact or decree, other formal state contract or agreement, or applicable state or federal laws.

OUTCOME: AT THIS TIME THERE IS NOTHING ADDITIONAL THAT THE TECHNICAL COMMITTEE NEEDS TO ADDRESS REGARDING THESE CRITERIA. HOWEVER, THE LEGAL COMMITTEE WILL BE DOING A LOT OF ADDITIONAL RESEARCH/EVALUATION OF HOW TO COMPLY WITH THESE CRITERIA. THERE IS A CHANCE THAT THERE WILL BE A REPORT PRODUCED IN MAY THAT SPECIFIES STREAM FLOW REQUIREMENTS FOR THE PALLID STURGEON AND STURGEON CHUB. IF SO, IT WILL PROBABLY BE NECESSARY FOR THE TECHNICAL COMMITTEE TO ANALYZE WHETHER OR NOT THERE IS SUFFICIENT WATER NOW AND IN THE FUTURE TO MEET THESE FLOW REQUIREMENTS.

Pam Andersen

To: Ann Diers
Cc: jcook@dnr.state.ne.us
Subject: What to do about Tri-Basin hydrologically connected area

Importance: High

Ann,
Upon re-reading 46-714(5) I have come to the conclusion that a final determination designating a larger area as hydrologically connected groundwater and surface water than was designated in the preliminary determination is very much in-keeping with the GWMPA. I think I had been trying too hard to compare the preliminary/final determination process to the APA rule making process. It isn't the same process and I think that it is well within the Legislature's authority and any constitutional constraints to devise a different process for DNR go about designating an area fully appropriated. 46-714(5) says that within 30 of the final hearing, DNR shall notify the NRDs of DNR's final determination with respect to the appropriation status. If the final decision is that a basin is fully appropriated, DNR shall AT THE SAME TIME decide whether to continue or terminate stays on surface water use and appropriation AND designate the area within which the ground water and surface water is hydrologically connected AND the methods and criteria used in making that determination.

It seems to me that the Legislature wouldn't have required DNR to designate the hydrologically connected area again and to provide another description of the methods and criteria used in making the decision if the Legislature hadn't contemplated the possibility of a new/differently shaped area being decided on through the use of new methods and criteria. I do not think that it is necessary to issue either a revised or new preliminary determination designating the additional twelve acres as hydrologically connected to the Platte River. I think that the 46-714(5) says that the final determination can place stays on all the area designated in the final determination without regard to whether it was in the preliminary area of stays or not.