

Main document changes and comments		
Page 1: Comment [GVS1]	Gregory V. Steele	10/18/2005 11:33:00 AM
Is this the actual quote??		
Page 1: Comment [GVS2]	Gregory V. Steele	10/18/2005 11:42:00 AM
hydrologic modeling--you are referring to hydrologic modeling aren't you, regardless of other types of modeling. Sentence is awkward--cConsider rewriting to something like: Limitations of hydrologic modeling and methodologies must be considered by the user when determining the results and analyses, and the appropriateness of the given task.		
Page 1: Comment [SMP3]	Steve Peterson	10/21/2005 9:58:00 AM
Might be able to delete that part, "analog models, analytical models, and numerical models"		
Page 1: Comment [SMP4]	Steve Peterson	10/21/2005 9:59:00 AM
Try "computers, after which numerical models have been favored for studying ground water."		
Page 1: Comment [GVS5]	Gregory V. Steele	10/18/2005 11:53:00 AM
2D can be horizontal or vertical. You might want to say something like a regional two-dem model (or something like that). Was the 2D model a MODFLOW model?		
Page 1: Comment [SMP6]	Steve Peterson	10/21/2005 10:00:00 AM
This is a really long sentence, breaking it into a few parts might enhance clarity.		
Page 1: Comment [GVS7]	Gregory V. Steele	10/18/2005 11:54:00 AM
What is a model suitable for regional analysis (how large do regional models have to be before the person determining the suitability decides if it is suitable or not), but more importantly who is making the call on whether it is suitable or not (NDNR??)?		
Page 1: Comment [SMP8]	Steve Peterson	10/21/2005 10:00:00 AM
This is a really long sentence, breaking it into a few parts might enhance clarity.		
Page 1: Comment [GVS9]	Gregory V. Steele	10/18/2005 11:57:00 AM
A substantial amount of quality-assured data??		
Page 1: Comment [SMP10]	Steve Peterson	10/21/2005 10:01:00 AM
Delete "other."		
Page 2: Comment [SMP11]	Steve Peterson	10/21/2005 10:03:00 AM
method		
Page 2: Comment [SMP12]	Steve Peterson	10/21/2005 10:03:00 AM
based		
Page 2: Comment [SMP13]	Steve Peterson	10/21/2005 10:04:00 AM
delete this phrase		
Page 2: Comment [SMP14]	Steve Peterson	10/21/2005 10:04:00 AM
Rewrite for clarity		
Page 2: Comment [SMP15]	Steve Peterson	10/21/2005 10:03:00 AM
Replace agencies with "states" ?		
Page 2: Comment [SMP16]	Steve Peterson	10/21/2005 10:24:00 AM
Try "Modified versions of the Jenkins method were also considered...."		
Page 2: Comment [SMP17]	Steve Peterson	10/21/2005 10:24:00 AM
Try "these modified versions can address..."		
Page 2: Comment [GVS18]	Gregory V. Steele	10/18/2005 12:06:00 PM
partially penetrating wells--I think this is a big problem with Jenkins method.		
Page 2: Comment [SMP19]	Steve Peterson	10/21/2005 10:25:00 AM

Replace with "for the modified versions."

Page 2: Comment [SMP20] Steve Peterson 10/21/2005 10:07:00 AM
So everyone remembers what "parameters" mean, might replace with "boundary conditions, partially penetrating wells, and streambed conductance"

Page 2: Comment [GVS21] Gregory V. Steele 10/18/2005 12:11:00 PM
Why?? Is it because as r (a in Jenkins equation) gets larger r^2 becomes the dominating factor? You might want to put a small explanation in here.

Page 2: Comment [SMP22] Steve Peterson 10/21/2005 10:07:00 AM
delete, it doesn't fit in this sentence

Page 2: Comment [SMP23] Steve Peterson 10/21/2005 10:08:00 AM
"Respective"

Page 2: Comment [SMP24] Steve Peterson 10/21/2005 10:09:00 AM
A figure might help to illustrate exactly where you are talking about.

Page 3: Comment [SMP25] Steve Peterson 10/21/2005 10:11:00 AM
Do you have to list these again here? They are in the section immediately preceding...

Page 3: Comment [SMP26] Steve Peterson 10/21/2005 10:14:00 AM
I wonder if this comment could be deleted; in the 2nd paragraph down it talks about a grid of points, and how that allows one to review and work with the data, that may be sufficient.

Page 3: Comment [GVS27] Gregory V. Steele 10/18/2005 12:18:00 PM
You're referring to the modeled area aren't you?

Page 3: Comment [SMP28] Steve Peterson 10/21/2005 10:14:00 AM
Replace "that allows the modeler" with "used"

Page 4: Comment [SMP29] Steve Peterson 10/21/2005 10:17:00 AM
Reverse order for clarity

Page 4: Comment [GVS30] Gregory V. Steele 10/18/2005 12:27:00 PM
How was this done? In the real world a perpendicular line to the stream might not fit in the same grid (1 mi x 1 mi) as the computed value--if I am reading the computations correctly. Can this be done or do you just throw the data out if they don't fit.

Page 4: Comment [SMP31] Steve Peterson 10/21/2005 10:19:00 AM
This really needs to be rewritten. I am familiar with the technique and even I don't understand this section.

Page 5: Comment [GVS32] Gregory V. Steele 10/18/2005 12:34:00 PM
Did the CSD aquifer properties report state where the aquifers are connected to the streams? For instance, a regional aquifer in a paleovalley in northwestern Colfax County is far removed from the hydraulic connection to the stream, albeit the regional aquifer still is hydrologically connected to the stream in Dodge County. However, the closest stream might place it as the East Fork of Maple Creek, which arguably is not directly connected to the regional aquifer--at least in a sense that Jenkins method can measure.

Page 5: Comment [SMP33] Steve Peterson 10/21/2005 10:21:00 AM
Which point file? The one containing results?

Page 5: Comment [SMP34] Steve Peterson 10/21/2005 10:22:00 AM
try replacing "which" with "using"

Page 5: Comment [GVS35] Gregory V. Steele 10/18/2005 12:41:00 PM
In the Methodology section you said "No modifications were made to Jenkins for this analysis because of the lack of published data necessary for the calculations." A lack of data didn't seem to stop you from using Jenkins method (or you seemed to indicate that it didn't), only modifications to it. Now you are removing areas because of a lack of data?

Page 5: Comment [SMP36] Steve Peterson 10/21/2005 10:28:00 AM
It seems to me that if you are going to apply these to section boundaries anyway, is the smoothing process really needed on the initial results? Why not go straight from there to the section polygons? This is

especially true if the smoothed line is only an intermediate product, and the line corrected to section polygons is the only one that gets released.

Page 5: Comment [JS37] Jennifer Schellpeper 9/29/2005 1:54:00 PM
What does this mean????

Page 6: Comment [SMP38] Steve Peterson 10/21/2005 10:32:00 AM
Would it be possible to add the aquifer boundaries (or aquifer absent) to this map? I think because that has such a big influence on your map of this area, it might be instructive to include (maybe add as a medium gray line so it doesn't distract attention from the shaded area, but is there if one wanted to look at it.

Page 6: Comment [GVS39] Gregory V. Steele 10/18/2005 12:54:00 PM
Very interesting map. Especially Dodge County. I would argue that there is more gw/sw interconnection along Maple Creek, but this map doesn't show that. Was this map generated from CSD aquifer properties report?

Page 7: Comment [SMP40] Steve Peterson 10/21/2005 10:33:00 AM
relace with "Similar to"

Page 7: Comment [GVS41] Gregory V. Steele 10/18/2005 1:00:00 PM
Static?? or constant over what time period.

Page 7: Comment [SMP42] Steve Peterson 10/21/2005 10:39:00 AM
Replace with "Only active irrigation, industrial and municipal wells were selected for this analysis, as these cause most of the lag impacts." If you do this, delete the following sentence.

Page 7: Comment [SMP43] Steve Peterson 10/21/2005 10:40:00 AM
I think you can safely delete the part about the incomplete database, because in truth the small amount of consumption is sufficient reason by itself as to why they should be excluded, and talking about the incomplete database makes that less clear.

Page 7: Comment [GVS44] Gregory V. Steele 10/18/2005 1:03:00 PM
examining??

Page 8: Comment [SMP45] Steve Peterson 10/21/2005 10:46:00 AM
Can you just refer back to the earlier figure (fig. 1), or are you required to have it in this section as well?

Page 10: Comment [SMP46] Steve Peterson 10/21/2005 10:49:00 AM
I would get rid of this list of variables, you have a bulleted list of them below, just add a few words to that list instead of doing the whole list twice.

Page 10: Comment [GVS47] Gregory V. Steele 10/18/2005 1:42:00 PM
What was done regarding changing field conditions (corn to alfalfa, corn to soybeans, crop to furrow, etc.)? Did you use a single CIR throughout the time period that you used?

Page 10: Comment [GVS48] Gregory V. Steele 10/18/2005 1:19:00 PM
Using the term average implies that you are using the whole rather than a subset, which apparently (by the next sentence) is what you did. However, I would argue that you would have gotten better results using county wide statistics. How can you use state wide average statistics on basin wide analyses? Seems that you are comparing apples and oranges, but then I don't see any results of the analyses, only text. Maybe the difference between them (state wide versus county or basin wide) is insignificant, but that would have to be proven.

Page 10: Comment [GVS49] Gregory V. Steele 10/18/2005 1:24:00 PM
This doesn't make any sense. Experience by some unknown person(s) has shown that large areas (or outliers) over report acres by about 33 percent, so you decided to use a fudge factor of 75 percent. Do small areas (also possible outliers) under report by a percentage. Where does 75 percent come from? I don't see a connection. What about the average areas, does the experienced person(s) note how well these areas are reported?

Page 10: Comment [JS50] Jennifer Schellpeper 9/29/2005 3:09:00 PM
Add an example here to illustrate the process.

Page 10: Comment [JS51] Jennifer Schellpeper 9/29/2005 2:11:00 PM

Short discussion on why? Analysis based on distance between 2 streams with that being the main parameter in the Jenkins that would direct the impact.

Page 10: Comment: [GV52] Gregory V. Steele 10/18/2005 1:36:00 PM

In the methodology section you said no modifications were done to the Jenkins method, here you say that the SDF is divided by 2 or 3... I agree with Jennifer in that I think you need to expand this discussion. Do the other states do this modification also? Are there many wells that fall into this category (I think there would be limited wells)? You are referring to a river basin aren't you? If so, how do wells fall into multiple river basins--I think few would.

Page 11: Comment: [SMP53] Steve Peterson 10/21/2005 10:51:00 AM

Why not show this as a figure/graph?

Page 11: Comment: [GV54] Gregory V. Steele 10/18/2005 1:51:00 PM

I don't get the cumulative depletion to add up when I add an annual depletion factor in. For instance if I start with (2008) 4,304,249 and add 166,206 I get 4,470,455 not 4,473,398. Am I missing something?

Page 11: Comment: [JS55] Jennifer Schellpeper 9/29/2005 3:14:00 PM

Add column of annual cfs values or change in cfs to table.

Header and footer changes

Text Box changes

Header and footer text box changes

Footnote changes

Endnote changes

Review notes on "Stream Depletion Lines Calculations for Determination of Fully Appropriated Basins for the State of Nebraska"

Page 1. Enhance definition of stream depletion to clarify that it can be either direct depletion from the stream or capture of water that would have gone to the stream.

Page 1. Is Spalding and Khaleel (1991) applicable to the current problem? Sounds like the reference is a short time, small distance analysis whereas the 10/50 line is a long time, large distance analysis.

Page 2, line 2. Give citation for USGS publication so user can find it. It is now online in PDF format.

Page 3. Effective transmissivity and specific yield for the calculation is more complex than the average values between the well and the stream, but these averages are probably sufficient. A harmonic average is probably more appropriate than an arithmetic average, but given the limited range of values, there may not be a lot of difference between the two averages. Suggest acknowledging these issues and then do just what you did.

Figure 1. Suggest arrows be placed at $v/Qt=0.1$ and $tT/a^2S=0.359$ as that is the match point mentioned in the text.

Page 4. t for 50 years is actually 18262 days when leap years are considered (picky mathematician).

Page 4. When $v/Qt=0.1$, $tT/a^2S=0.359$ (or 0.3589 to four significant figures)

Page 5. I can understand the Management Area Analysis because I have done things like this, but I doubt if Joe Farmer can. Suggest a general description rather than a nuts-and-bolts description. Seems like you took the 1-mile calculation points, interpolated them to legal sections, determined area inside 10/50 lines, and removed non-connected and no data areas. The mechanics of how you did this are not important.

Page 7, Depletive Wells section. Acknowledge that retired wells can still have future lag effects, but then say they are not enough of them that they have to be accounted for. Need to make the point that retiring a well doesn't immediately stop the damage.

Figure 6. Repeat of figure 1. Suggest deleting it and referring to figure 1 instead.

Page 10. Average field size adjustment would benefit from an example. Calculations are correct but it can be confusing that to correct for a 33% over reported size, you need to multiply the reported size by 75%.

Footnote 14. I think the sought out reference is NebGuide G90-992, Klocke and others (1990), University of Nebraska.

Page 11. Conversion from acre-feet per year to cubic feet per second is 724.46 (for 365.25 day year) or 723.97 (for 365 day year). Then converted value is 86.6 cubic feet per second.

General. Both the method of determining the 50-year, 10-percent area and the method for computing lag effect are correct, well thought out, and appropriate for the intended use in water administration.



10/20/2005