

A Landowner's Perspective on COHYST

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Why am I concerned about COHYST?

- Landowner of family farm - 64 years in family
 - Family in area for at least 120 years
 - All have been life-long farmers
 - My generation is exception, but still involved as property owners
- Need to use well without restriction when necessary
- Concerned about future harm to property value and income of unnecessary restrictions based on bad model
- Began trying to get information on COHYST beginning approximately 1 year ago.
 - Has been a futile effort to date characterized by
 - Evasion/conflicting information/changing information/etc
 - Normal and reasonable expectations 5 years into a project aren't met
- **This does not smell good**

Why this is my view

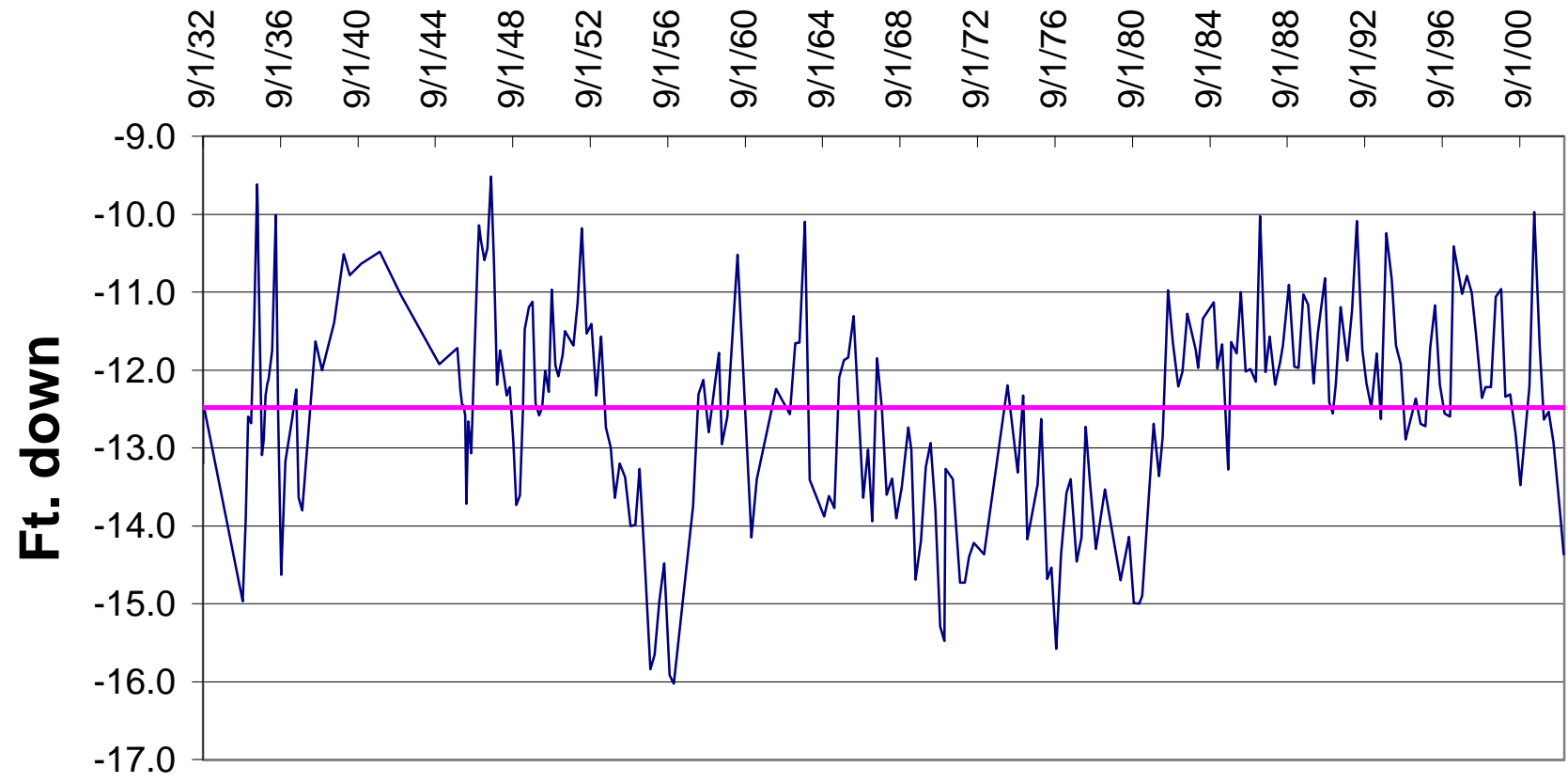
- January NWU meeting - COHYST “Demo”-special trip #1
- Sponsor/Partner/DNR Reps presented as “within 30 to 60 days of being calibrated to individual well”
- Attempted to get information on test/proof plans to match model to physical reality and got answers like:
 - “We’re not taking questions”
 - “We’re not here to discuss that”
 - “We’ll talk to you at break” - THEY AVOIDED ME!
 - **Conclusion - “This SMELLS BAD”!**
- February - wrote NRD BOD members from Dawson Co.
 - Expressed concerns about apparently inadequate test plans/evasion
- March/April - began looking for facts on my own when time permitted

Why this is my view(Cont'd)

- Search led to:
 - “The Myth of Platte River Water Depletion - A Work in Progress” by 2 NPPD employees (Kwapnioski/Dekleva)
 - Found credible flow data on USGS web site
 - Well count data from Duane Woodward
 - Water level data from DNR back to 1932 - (my own well!)
- Analysis (1st order) showed:
 - No apparent decline in water level over the **long term**
 - River flows actually increased beginning in early ‘70’s
 - By that time well count increased from 1,000 to more than 47,000
- **Doesn’t it seem that?:**
 - If well use is depleting river, with this large an increase in groundwater use, that there would be some flow impact evident?
 - If water tables were dropping - LONG TERM - that you would see it over 70 years?

— Measured
— 70 yr avg -12.5 ft

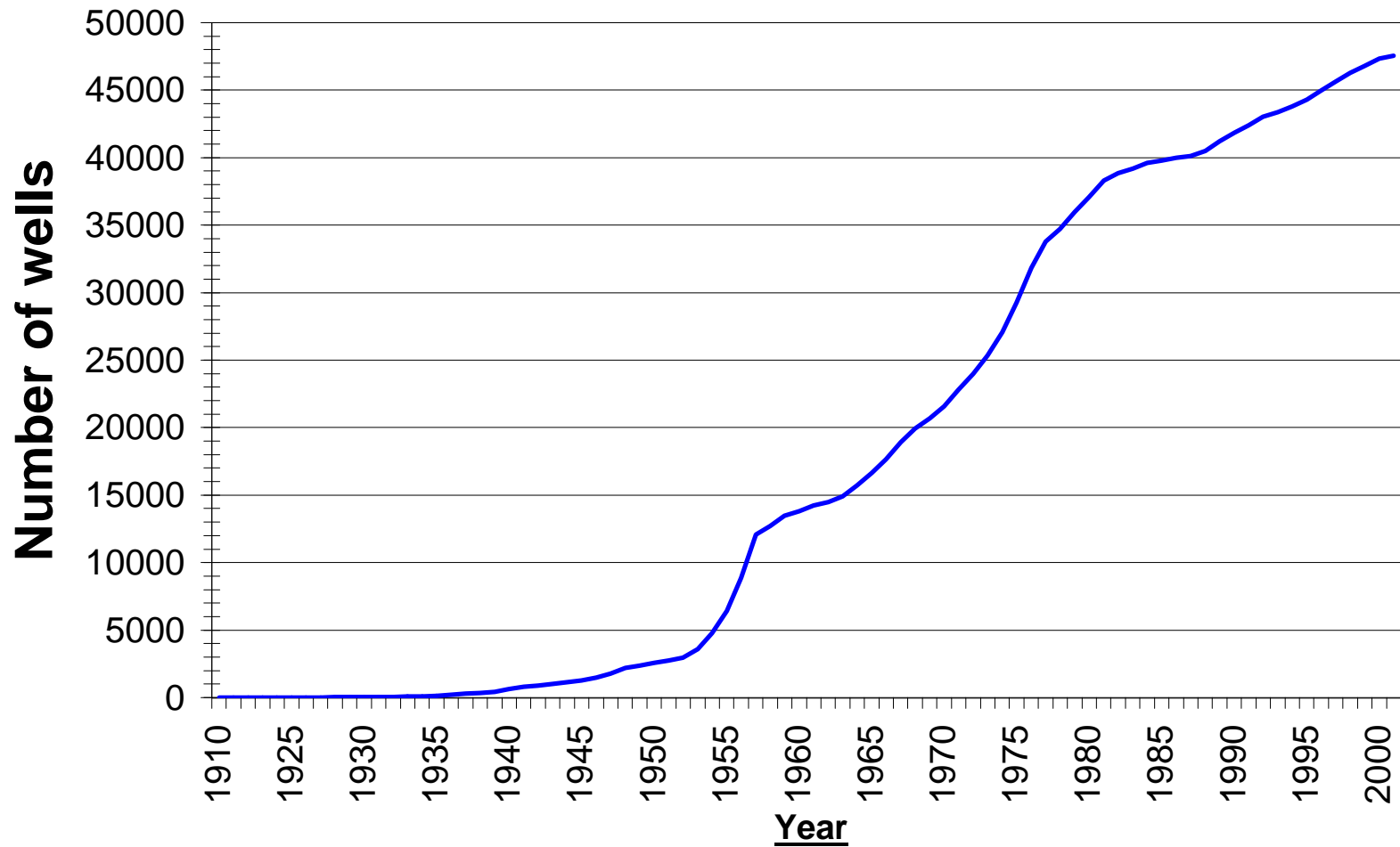
Water Level - 1932 - 2002 **Original Well G-101788**



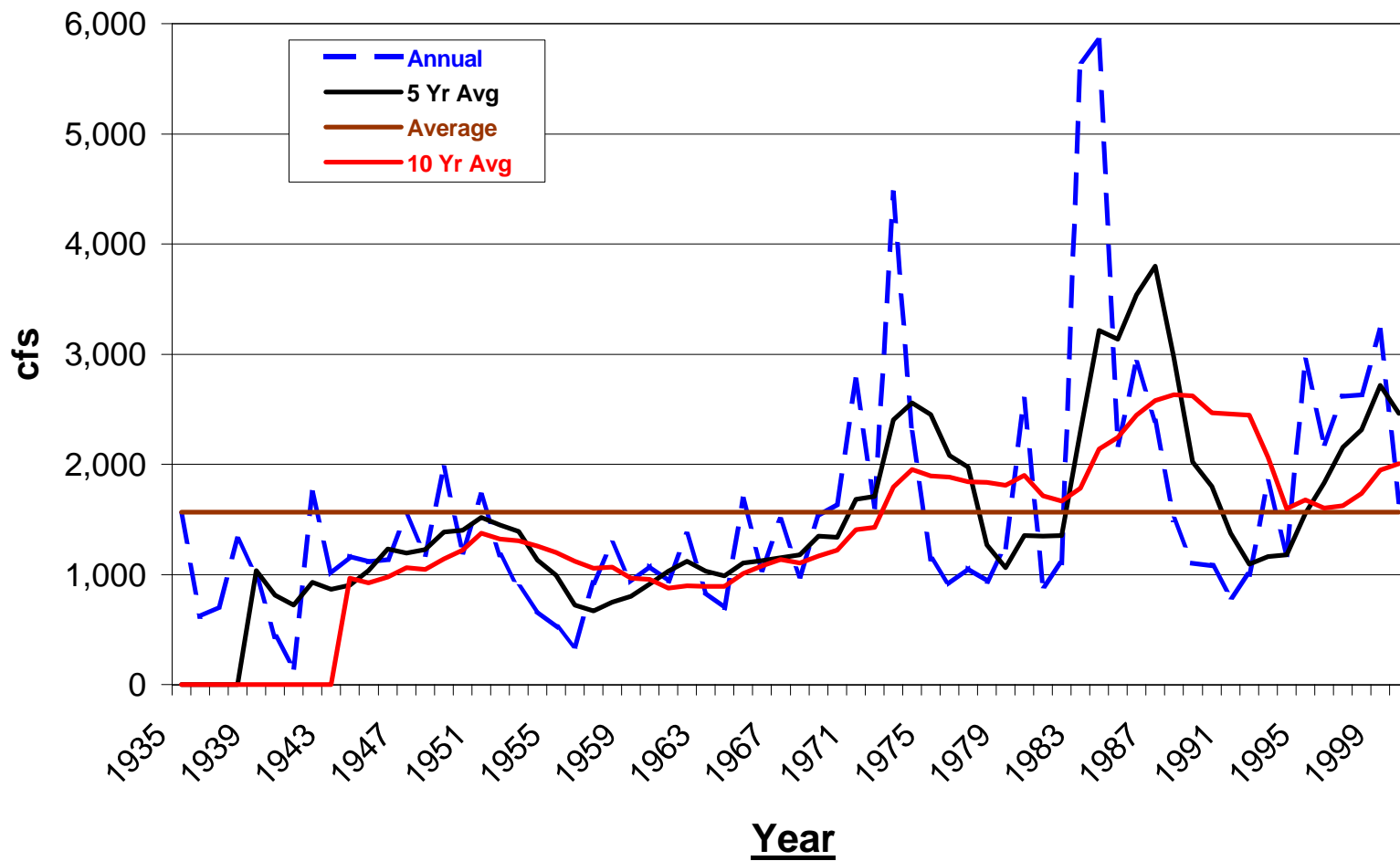
Location: N40deg-54.383min, W100deg-05.006min

www.platterivertruth.org [source: NE DNR/CNPPID]

COHYST Area Irrigation Wells - Cumulative



Grand Island Average Annual Flow - cfs



Why this is my view(Cont'd)

- June-Invited to Water Resource meeting - special trip # 2
 - Understood the “expert modelers” would “cover the Model Calibration process”
- June meeting actually was:
 - High level overview of modeling & calibration
 - Not very specific/certainly didn't address what I would have expected
 - Lots of :
 - “..We're the best modelers there are..”
 - “..You just have the best team ever..”
 - **Bragging** like I've never seen in a 35 year engineering career
 - **This SMELLS BAD**
- Brief question time before having to leave resulted in:
 - “ .. Farmer can prove the model wrong if he thinks it is..”
 - “ .. If model doesn't match physical tests, it won't be changed..”
 - **Smell has gone from BAD TO TERRIBLE**

Why this is my view(Cont'd)

- July-Wrote CPNRD Board of Directors
 - Specific concerns/specific (actionable) suggestions
 - Expected BOD to take some action on problems & specific suggestions I made to address them
 - Instead, here I am again - Special Trip # 3
- **Ask yourself -**
 - Is this what a landowner should have to go through to get specific questions answered on a project that has been going for 5 years - when that project appears to threaten the value of his land?
 - **I don't think so.**

What should be known after 5 years of work?

- Need for project and exactly how it will be used should be clearly defined
 - Should form the basis for all work from the start
- What it will do/how it will do it/how it will be proven to work should all be clearly known and in process
- **Especially important is a defined, proven and clearly demonstrated way to verify the model matches physical field tests**
 - **And, technically sound means to resolve differences when it doesn't**
- When interested/affected parties ask questions, answers should be readily available and openly answered and discussed
 - Those answers should be consistent from individual to individual and organization to organization
- **COHYST does NOT seem to be this way**

What seems to be the case with COHYST?

- Need for and exactly how it will be used IS NOT clearly defined
 - Should form the basis for all work This seems to be an **academic exercise**, not a practical project
- Emphasis seems to be mostly database collection from existing sources with effort primarily based on computer computation from those databases.
 - Seems to be very limited in practical field testing to confirm GW/SW interaction predictions
- What testing has been done or planned is at spacing extremely far apart
- While reasons seem to exist for the wide spacing, the arguments for not being closer seem to be consistent with an **ACADEMIC EXERCISE** and **not a practical project**
 - It is all predicated on the “Regional Model” concept.
- Where is the proof that the “Regional Model” is adequate?
 - I would expect a complete analysis to show how this meets the intended use requirements. The lack of a clear definition of exactly what this will be used for, and how, makes this an even more questionable approach.

What seems to be the case with COHYST?(Cont'd)

- Many inconsistencies in statements by COHYST committee members
- It appears that there is no data to truly prove - or perhaps even indicate - river depletion from wells is real
- Yet, COHYST team is talking about using it to control wells?!!
 - Why?
- Doesn't available data directly dispute the depletion claim?
- Lack of specific strategy for use of COHYST by the NRD BOD is a major problem
 - This needs to be thought through completely
 - No sign it has been
- Expecting a farmer to prove the model wrong is unfair & unreasonable
 - See June 26 meeting

Conclusions

- COHYST is being run as an **ACADEMIC EXERCISE/RESEARCH** project
 - It is nowhere close to being practically useable for groundwater management - or anything else
 - Unless you want flawed decisions based on an unproven model.
- COHYST is at the “early technology development phase”
 - There are at least 2 or 3 more phases to execute before it will be useable
 - Technology proof - by good field testing & correction of the model to actually reflect variations in aquifer hydrological characteristics
 - Refinement to smaller spacings of model field tests
 - Deployment - a thoroughly thought out plan to address the application of this model to individual wells and additional field tests throughout the COHYST area to be certain the model matches physical
- COHYST needs to be managed with the realization it effects the **LIVEHOODS** of people and is not just a research tool.
 - That does not appear to be the case.

Recommendations

- There should be a truly independent outside entity contracted to do a full and independent audit of this project from start to finish. They should be empowered to make the necessary changes to both the management and technical approach to this project so that it might become “real”.
 - The first question to be answered should be: Where is the provable evidence that there IS river flow depletion caused by groundwater pumping?
 - I have some suggestions of firms that might be appropriate choices that I can make available at the appropriate time and to the appropriate people
- There must be real emphasis on defining exactly what this model will be expected to do, how it will be used, and how conflicts between model predictions and field results will be resolved.
- There **MUST** be a **REAL** field test program developed and executed.
- The model **MUST** be made to match field test results in a way that reflects the variations in aquifer characteristics in much smaller regions than currently defined.

Recommendations(Cont'd)

- The Regional concept should be abandoned and replaced with a requirement to prove the model to the individual well.
- The NRD Board needs to take direct control of COHYST by engaging an independent outside firm as the overall manager.
 - Comparable to the “prime” or “general” contractor approach to complex projects
 - That firm should specifically NOT be part of the “hydrological community”
 - That firm should have a demonstrated record of independent thinking and practical deployment of systems that work and effect people’s lives.
 - NOT a research firm
- There MUST be a change in the conduct of the management and staff of the program so that potentially effected parties can get accurate, consistent, and timely information about how this might affect their futures.
 - No more evasion/inconsistency/incorrect information from COHYST participants - or board members for that matter.