

North Ada County Technical Working Group Meeting
Wednesday, May 27, 2009
10:00 am – 12:00 pm

1) Introductions/Attendance:

List of attendees and affiliation...

2) Update on current contracts:

a) Modeling assessment conducted by Donna Cosgrove:

- Reviewing existing models (Treasure Valley Hydrologic model and others) and determining potential modeling needs for north Ada Co. study.

i. This contract has been signed and Ms. Cosgrove is currently working on the tasks at hand.

ii. Anticipating meeting with Ms. Cosgrove in the next month to further define scope and provide additional background information.

iii. Due date for initial results is August 2009, and final report due in December 2009.

- Request NACTWG members submit suggestions and/or comments to Dennis Owsley regarding this effort.

b) Surface Geophysics contract with CGISS (BSU):

i. This contract has been signed and individual work tasks have been established.

- Lee Liberty (BSU) and Spence Wood (BSU) reviewed existing seismic data for the study area at the Seismic Data Exchange in CO. Data for upper 1,000 ft of subsurface not very useful. Cost \$2,000 per mile to purchase. If purchase can't publish data in a new report.

ii. IDWR staff conducted a field trip with Lee Liberty on April 30 to assess site access.

- Ed S. (Hydrologic) commented M3 has not received a proposed access and liability agreement from IDWR or BSU. IDWR drafted an agreement to address concerns previously voiced by M3. BSU is supposed to give agreement to M3 before field work begins.

iii. Field work is anticipated to begin within the next month.

- Results from both studies to be presented in upcoming meetings. Dennis O. (IDWR) will update committee members as work progresses.

3) Update on draft work proposals:

a) Geochemical analysis:

- Provide a qualitative description of recharge sources with recommendations for future work. Determine if "modern water" present in the deeper aquifer system.

i. Select suite of wells to be analyzed for CFC's, tritium, and oxygen and deuterium.

- CFSs and tritium analysis aid in determining recharge within the last 50 years.

- Oxygen and deuterium determine altitude, season, and temperature of recharge source and indicate amount of evaporation water subject to prior to entering the subsurface.

- 12 wells proposed for sampling of isotopes, gases, major ions, and field parameters.

ii. Larger suite of wells to be analyzed for general water chemistry.

- major ions and field parameters.

- goal to identify flow paths, recharge sources, and evaluate human impacts on groundwater supply.

- 50 additional wells sampled for only major ions and field parameters.

iii. Potential to lead into a larger scale investigation with additional parameters.

iv. Well selection will be key.

- need properly constructed wells. Mixing of waters will reduce certainty of results.

- only 12 wells for isotopes and gases, so location is key.

- suggest IDWR w/ USGS come up with list of possible wells for sampling and present to the group for comments and suggestions.

- suggestion to look at fairly shallow wells in the recharge area, possibly BSU's river site. Multi-depth piezometers through river gravels possibly at site. BSU was attempting to determine selective flow paths, did not do chemistry sampling. Possible evidence collection determining recharge to deeper aquifer system depends on well depths at site. Site along river by Hwy 21. Suggestion to speak with Warren Barrish (BSU) about this site. If Boise Rv is an end member source of recharge, it will need to be sampled eventually anyway.

- No well construction proposed as part of this geochemical study.

- suggestion to use M3 test well shallow piezometer for this study.

- Ed S. to ask client M3 if possible to use it's well for this study.

- Potential to use some of the Treasure Valley Hydrologic Project

(TVHP) wells.

- Need to determine threshold for nitrate levels in the area (2 mg/l common) prior to sampling and subsequent evaluation of human impact based on nitrate levels.

- New York Canal study of tritium levels showed progression of surface water down to 250 ft.

- suggestion to choose sampling sites without significant surface water impact.

- comment that stable isotopes will hopefully allow determination between surface water and deeper sources of recharge.

b) North Ada Tributary stream gage installation:

- To determine local sources of recharge from surface water (tributary losses).

i. Gauging station on Willow Creek, Spring Valley Creek, and Dry Creek.

- Dry Cr site near mouth, Spring Valley site along Hwy 55, and Willow Cr at Hwy 16.

- Upper readings from BSU gage station(s) at Bogus Basin.

ii. Establish historic sites if possible.

- Dry Cr site near mouth and Spring Valley site along Hwy 55 historically monitored.

- Site visit in June w/ IDWR and USGS to determine best sites.

- Rex Berry (Water District 63 water master) did spot measurements in area last year. Need to contact him and determine his intentions for monitoring.

- Suggestion to consider measuring drains. USGS has monitored some drains in the past, but measurements were instantaneous discharge, no longer term data collected.

iii. Conduct seepage surveys during the flow season.

- Seepage survey entire stream, incorporate one gage reading over several years.

- Would like USGS to install equipment and develop rating curve. IDWR to maintain monitoring. Temporary sites proposed now, but would like to maintain long term monitoring.

- Suggest these sites may be maintained as measurement sites for Water District 63. Possible to get funding from Water District 63 and IDWR for USGS to monitor and maintain sites.

- Current plan: IDWR internally conduct seepage survey for first several years, quantify gains and loses, and conduct multiple surveys during run-off season.

- Final product will be a USGS report - flow rates for streams and seepage surveys.

- June 11th IDWR go out with USGS to conduct site visit of North and East Ada County study areas.

- Evaluate how long IDWR can commit to USGS to maintain the sites. As of now, only 1 or 2 years. USGS was able to get federal \$\$ to maintain existing stations mostly on larger river systems, but not much \$\$ for new stations especially on smaller systems, laterals, drains, etc. such as this study.

c) Boise River seepage survey:

- To quantify gains and loses of upper section of Boise River.

i. Seepage run of the upper Boise River (Barber Park to Glenwood Bridge).

- Existing data ranges from gain of 52 cfs (Barber Park diversion dam to Glenwood Bridge) to loss of 110 cfs (Barber Park diversion dam to Capitol Bridge). Capitol gage moved to Glenwood Bridge leads to accounting problems. Need to quantify to resolve conflicting data.

- 2 seepage surveys one low flow (Feb) and one high flow (July).

- measure every mile (12 to 14 measurements).

- major inflows and outflows will be measured during the irrigation season.

ii. Shallow ground water measurements conducted at each site.

- portable hydraulic potentiometer (measures head at point in ground – compare head in meter and head of river determine gaining or losing reach) used, 3 measurements in low flow, at least 2 if not 3 measurements in high flow.

- evaluate heads to identify areas need to install permanent piezometers.

- USGS report produced by September 2010.

- suggest ask Warren Barrish (BSU) about his site on Boise River, see what his research says about gains and losses.

- comment made that TV CAMP project related to this study so potential to continue study down Boise River to the Snake River.

d) North Ada County Water Use and Withdrawal Rate survey:

- To determine annual water usage rates of land uses and update per capita water usage data (latest data 2001).

i. Land use database is nearly 10 years old.

- 2001 data doesn't go to foothills, cut off at Eagle.

ii. Update withdrawal rates – Molly Maupin, USGS

- Inspect private wells, irrigation usages (surface water and ground water), and municipalities use.

- data for ground water withdrawals can demonstrate consumptive and diversion amounts.

- field survey plus 2004 NAIP imagery used to determine land uses.

- this project potential overlap with WRIME (consultant from CA)

– TV Camp program is contracting basin wide survey to be conducted in 10 year increments until 2060 including future uses for irrigation, commercial, industrial, residential, etc. North Ada County study proposed here will be more detailed, however it may be incorporated somehow in basin wide study.

- final product USGS report to help produce a water budget.

e) Currently awaiting final budget numbers before any decisions can be made:

- Original budget \$1.71 million now \$1.4 million for 4 years for North Ada Co study. Not sure if 4 equal installments or have discretion to use more one year and less another.

4) General Project Updates:

a) Rockworks:

- IDWR got 2 licenses for Rockworks.

- 3D diagrams and mapping from well log data input.

- Dennis O. currently entering monitoring wells data, over 80 wells.

- Hydro Geoanalyst another program good for hydro studies, but it's expensive.

- EnviroInsite for aquifer studies on smaller scale cost ~ \$300, Bruce Jacobs contact on this program, produces spreadsheets.

b) Next round of measurements:

- Next measurements to be conducted in June (end of).
- Over 80 wells in network now.
- 1 year mark for monitoring.
- Only a few additional wells to inventory for network, may include more

wells in Emmett Valley.

c) Finalizing work plan (phase II):

- Phase II dependent upon final budget.

d) Updating the website:

- New structure same content.
- Revising water level monitoring database, possible separate database for

North Ada Co monitoring network.

5) Closing Summary:

a) Action Items from this meeting:

- Dennis O. requested comments from the group on any and all of these proposed studies. Email or call him with comments and suggestions.

b) Topics for discussion at next meeting:

- Lee Liberty possibly present preliminary data on geophysical study.
- Jim B. (USGS) and Dennis O. work on selection of wells for geochemical study to present to group (likely email before next meeting). Goal to get depth and lateral range over entire study area (as large a range as possible with only 12 wells).

c) Next meeting date TBD:

- Likely July or August.