

Groundwater Task Force Science Meeting

March 31, 2011 @ 8:30 am

Purpose – to discuss mapping product options for the 3-D Hydrogeological Mapping Project with the Illinois State Geological Survey

Types of Mapping Products:

- Aquifer Names
- Depth to aquifer
- Thickness and occurrence of aquifers
- Aquifer connectivity
- ID depth to upper most aquifer
- Aquifer sensitivity
 - o Looking at hydrogeology and needs
 - o Update SARA map?
 - o Areas where you might want to encourage recharge and areas where maybe not?
 - o Connect to aquifer recharge – show infiltration is actually reaching aquifers
- Units that are needed for surface water protection and wetlands/fens
 - o Quantity and quality protection
- 3-D block model map
 - o 3-D map = create animations, block models, and more. Can also do mini videos
- Multiple maps or single? Yes
- In GIS format? Yes
- Types of topics to consider:
 - o Pervious pavement
 - o Zoning for Hydrogeology
 - o Stormwater management
 - o Stages/water levels in surface water
 - o Septic field map with impacts to Water Quality
 - o Aggregate resource map
 - o Potential for large and small capacity wells/locations based on geology and aquifer occurrence/thickness
 - o Construction/engineering issues
 - Soils
 - Geologic deposits
 - o Contamination potential map
 - Divide up aquifers into individual units
 - Show connectivity of aquifers

Additional Ideas

- Educational Materials – for public presentations, workshops and visual aids
- Depth to seasonal high water table – is this already in soil survey and easily obtainable in GIS?
- Wellhead Capture Zones (WHPA too)
- Hazardous Materials Risk Map – May be able to create this internally by combining Aquifer Sensitivity map with known spill areas or other contaminant data?
- If we increase imperviousness by 20%, what does that do to our water supply?
- Infiltration trenches/drain fields for recharging aquifers –
 - o Utilizing treated wastewater?
 - o Look at California model
 - o Limitations/regulations?
- More Cross-sections in 2-D form
 - o More specific ones that show interrelationships
 - o Maybe high capacity well location opportunities?
- Update Plates 1-5 that Co. currently has
- Place legends on all maps in simple terms
 - o Variety of mapping products –
 - Engineers, planners, elected officials, public
- Who will maintain raw data?
- If we have future map needs or questions, how can we obtain additional maps and analysis?
- Wells – Potentiometric Surface – calibrate with observation wells? How does this surface vary across the county and over time? With seasonal high water? Drought?
- Artesian Activity Map
- Impacts of highly concentrated septic fields (i.e. many house in one area using multiple septics)
- Can uWater do mounding in addition to extraction?