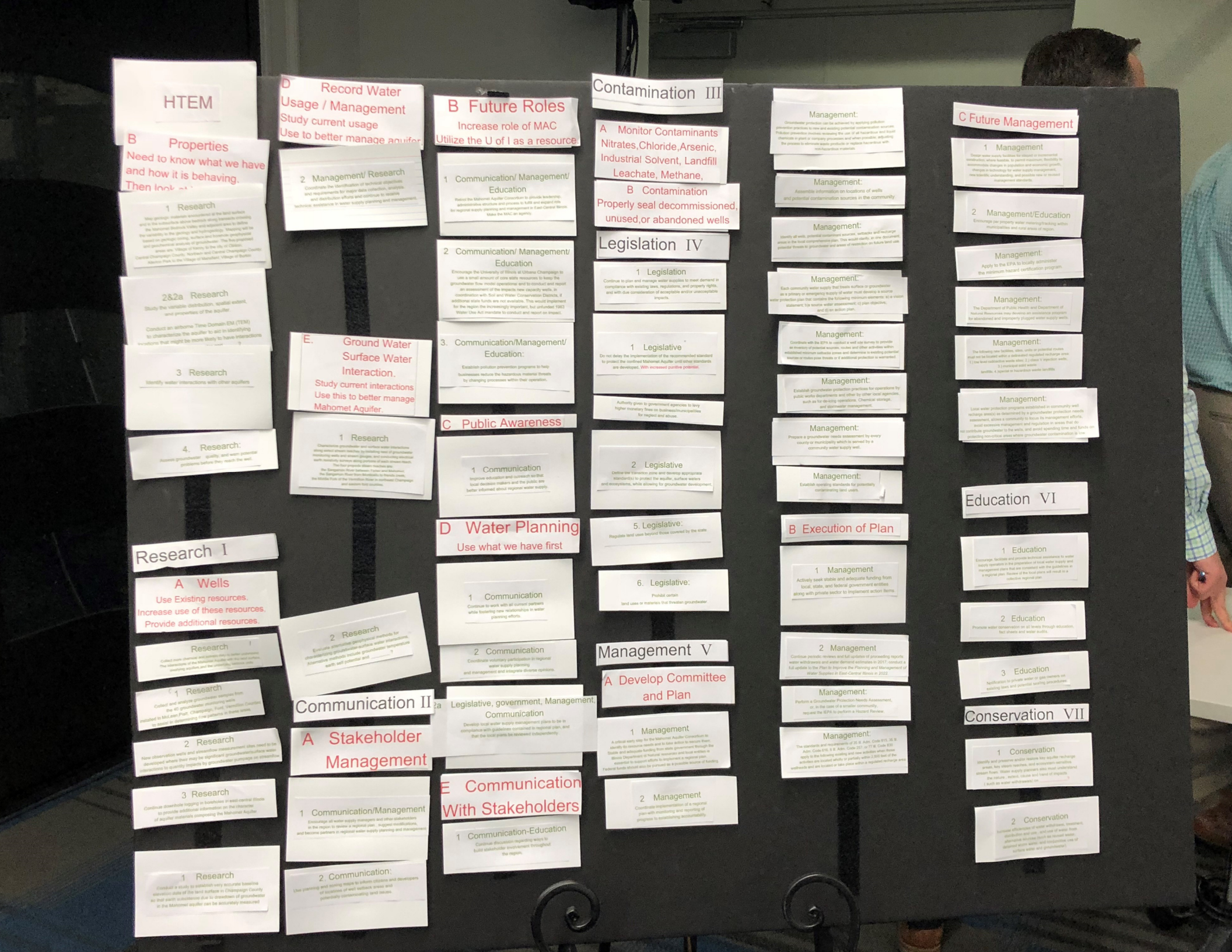
HTEM
B Properties
Need to know what we have and how it is behaving.
Then look at
1 Research
2&2a Research
Study the variable distribution, spatial extent, and properties of the aquifer.
Conduct an airborne Time Domain EM (TEM) to characterize the aquifer to aid in identifying locations that might be more likely to have interactions
3 Research
Identify water interactions with other aquifers
4. Research:
Assess groundwater quality, and warn potential problems before they reach the well.
D Record Water Usage / Management
Study current usage
Use to better manage aquifer
2 Management/ Research
Coordinate the identification of technical objectives and requirements for major data collection, analysis, and distribution efforts and continue to receive technical assistance in water supply planning and management.
E. Ground Water Surface Water Interaction.
Study current interactions
Use this to better manage Mahomet Aquifer.
1 Research
Characterize groundwater and surface water interactions along select stream reaches by installing nest of groundwater monitoring wells and stream gauges, and conducting electrical earth resistivity surveys along portions of each stream reach.
The four proposed stream reaches are:
the Sangamon River between Fisher and Bellflower,
the Sangamon River from Monticello to French creek,
the Middle Fork at the Vermillion River in northeast Champaign and western Ford counties.
B Future Roles
Increase role of MAC
Utilize the U of I as a resource
1 Communication/ Management/ Education
Retool the Mahomet Aquifer Consortium to provide leadership, administrative structure and process to fulfill and expand this for regional supply planning and management in East-Central Illinois
Make the MAC an agency.
2 Communication/ Management/ Education
Encourage the University of Illinois at Urbana Champaign to use a small amount of core state resources to keep the groundwater flow model operational and to conduct and report an assessment of the impacts new capacity wells, in coordination with Soil and Water Conservation Districts, if additional state funds are not available. This would implement for the region the increasingly important, but unfunded 1983 Water Use Act mandate to conduct and report on impact.
3. Communication/Management/ Education:
Establish pollution prevention programs to help businesses reduce the hazardous material threats by changing processes within their operation.
C Public Awareness
1 Communication
Improve education and outreach so that local decision makers and the public are better informed about regional water supply.
D Water Planning
Use what we have first
1 Communication
Continue to work with all current partners while fostering new relationships in water planning efforts.
2 Communication
Coordinate voluntary participation in regional water supply planning and management and integrate diverse opinions.
Contamination III
A Monitor Contaminants
Nitrates,Chloride,Arsenic, Industrial Solvent, Landfill Leachate, Methane,
B Contamination
Properly seal decommissioned, unused,or abandoned wells
Legislation IV
1 Legislation
Continue to plan and manage water supplies to meet demand in compliance with existing laws, regulations, and property rights, and with due consideration of acceptable and/or unacceptable impacts.
1 Legislative
Do not delay the implementation of the recommended standard to protect the confined Mahomet Aquifer until other standards are developed. With increased punitive potential.
Authority given to government agencies to levy higher monetary fines on business/municipalities for neglect and abuse.
2 Legislative
Define the transition zone and develop appropriate standard(s) to protect the aquifer, surface waters and ecosystems, while allowing for groundwater development.
5. Legislative:
Regulate land uses beyond those covered by the state.
6. Legislative:
Prohibit certain land uses or materials that threaten groundwater.
Management:
Groundwater protection can be achieved by applying pollution prevention practices to new and existing potential contamination sources. Pollution prevention involves reviewing the use of all hazardous and liquid chemicals in plant or company processes and when possible, adjusting the process to eliminate waste products or replace hazardous with non-hazardous materials.
Management:
Assemble information on locations of wells and potential contamination sources in the community.
Management:
Identify all wells, potential contaminant sources, setbacks and recharge areas in the local comprehensive plan. This would clarify, in one document potential threats to groundwater and areas of restriction on future land uses.
Management:
Each community water supply that treats surface or groundwater as a primary or emergency supply of water must develop a source water protection plan that contains the following minimum elements: a) a vision statement; b)a source water assessment; c) plan objective; and d) an action plan.
Management:
Coordinate with the EPA to conduct a well site survey to provide an inventory of potential sources, routes and other activities within established minimum setback zones and determine is existing potential sources or routes pose threats or if additional protection is warranted.
Management:
Establish groundwater protection practices for operations by public works departments and other by other local agencies, such as for de-icing operations. Chemical storage, and stormwater management.
Management:
Prepare a groundwater needs assessment by every county or municipality which is served by a community water supply well.
Management:
Establish operating standards for potentially contaminating land users.
B Execution of Plan
1 Management
Actively seek stable and adequate funding from local, state, and federal government entities along with private sector to implement action items
2 Management
Continue periodic reviews and full updates of proceeding reports: water withdrawals and water demand estimates in 2017; conduct a full update to the Plan to Improve the Planning and Management of Water Supplies in East-Central Illinois in 2022.
Management:
Perform a Groundwater Protection Needs Assessment, or, in the case of a smaller community, request the IEPA to perform a Hazard Review.
Management:
The standards and requirements of 35 Ill. Adm. Code 615, 35 Ill. Adm. Code 616, 6 Ill. Adm. Code 257, or 77 Ill. Code 830 apply to the following existing and new activities when those activities are located wholly or partially within 2,500 feet of the wellheads and are located or take place within a regulated recharge area:
C Future Management
1 Management
Design water supply facilities for stages or incremental construction, where feasible, to permit maximum flexibility to accommodate changes in population and economic growth, changes in technology for water supply management, new scientific understanding, and possible new or revised management standards.
2 Management/Education
Encourage per property water metering/tracking within municipalities and rural areas of region.
Management:
Apply to the EPA to locally administer the minimum hazard certification program.
Management:
The Department of Public Health and Department of Natural Resources may develop an assistance program for abandoned and improperly plugged water supply wells.
Management:
The following new facilities, sites, units or potential routes must not be located within a delineated regulated recharge area: 1.) low level radioactive waste sites; 2.) class V injection wells; 3.) municipal solid waste landfills; 4.)special or hazardous waste landfills
Management:
Local water protection programs established in community well recharge area(s) as determined by a groundwater protection needs assessment, allows a community to focus its management efforts, avoid excessive management and regulation in areas that do not contribute groundwater to the wells, and avoid spending time and funds on protecting non-critical areas where groundwater contamination is low.
Education VI
1 Education
Encourage, facilitate and provide technical assistance to water supply operators in the preparation of local water supply and management plans that are consistent with the guidelines in a regional plan. Review of the local plans will result in a collective regional plan.
2 Education
Promote water conservation on all levels through education, fact sheets and water audits.
3 Education
Notification to private water or gas owners on existing laws and potential sealing procedures.
Conservation VII
1 Conservation
Identify and preserve and/or restore key aquifer recharge areas, key stream reaches, and ecosystem sensitive stream flows. Water supply planners also must understand the nature, extent, volume and trend of impacts (such as water withdrawals) on
2 Conservation
Increase efficiencies of water withdrawal, treatment, distribution and use, and use of water from otherwise reduced (such as reused water, desalted storm water, and brackish/low use of surface water and groundwater).
Research I
A Wells
Use Existing resources.
Increase use of these resources.
Provide additional resources.
Research
1 Research
Collect and analyze groundwater samples from installed to Mid-Jan Plain, Champaign, Ford, Vermilion Counties to assist in determining flow patterns in these areas.
2 Research
New observation wells and streamflow measurement sites need to be developed where their may be significant groundwater/surface water interactions to quantify impacts by groundwater pumpage on streamflow.
3 Research
Continue downhole logging in boreholes in east-central Illinois to provide additional information on the character of aquifer materials composing the Mahomet Aquifer
1 Research
Conduct a study to establish very accurate baseline elevation data of the land surface in Champaign County so that earth subsidence due to drawdown of groundwater in the Mahomet aquifer can be accurately measured
2 Research
Evaluate innovative geophysical methods for characterizing groundwater-surface water interactions. Alternative methods include groundwater temperature, earth, self potential and
Communication II
A Stakeholder Management
1 Communication/Management
Encourage all water supply managers and other stakeholders in the region to review a regional plan , suggest modifications, and become partners in regional water supply planning and management.
2 Communication:
Use planning and zoning ways to inform citizens and developers of locations of well setback areas and potentially contaminating land issues.
Legislative, government, Management, Communication
Develop local water supply management plans to be in compliance with guidelines contained in regional plan, and that the local plans be reviewed independently.
E Communication With Stakeholders
1 Communication-Education
Continue discussion regarding ways to build stakeholder involvement throughout the region.
Management V
A Develop Committee and Plan
1 Management
A critical early step for the Mahomet Aquifer Consortium to identify its resource needs and to take action to secure them. Stable and adequate funding from state government through the Illinois Department of Natural resources and local entities is essential to support efforts to implement a regional plan. Federal funds should also be pursued as a possible source of funding.
2 Management
Coordinate implementation of a regional plan with monitoring and reporting of progress to establishing accountability.