

General Themes of the Questions – Spring Green – Draft 11/22/2010

1. Past and/or present conditions on or in the vicinity of the Wisconsin River influencing groundwater in the West Basin (River versus Impoundments).

Statement 1: In response to the question of how long various impoundments by the Wisconsin River have been in place, we know Long Lake has been there for at least 70 years.

Question 1: How much has the sloughs that have dikes, 3 or 4 in number, silted in over the last 50 years?

Statement 3: A statement was made relative to a clarification of the purpose of the Lower Wisconsin State Riverway Board in this process. It is composed of nine citizen members including Donald Greenwood, representing Sauk County, Greg Greenheck, who represents Richland County. They welcome good science and objective analysis into this issue. The questions of the Board will relate to water quality, possible impacts on local flora, fauna, and wildlife.

Question 16: What is the relationship between water levels in Bakkens Pond and groundwater levels up gradient from the pond? In other words, is Bakkens Pond the reason for high ground water in our river valley?

Question 18: When were these areas along the river (Bakkens Pond, Smith Lake, Long Lake, Crusan Slugh) created, who paid for that development, and who has responsibility for maintenance?

Question 19: What relation does the level of the waters in the Wisconsin River have relative to groundwater levels in the river valley?

Statement 6: A statement was made that the berms associated with Bakkens Pond were built in 1968. The model by the Wisconsin Geological Natural History Survey (Madeline Gotkowitz) found that these structures do not cause flooding in western basin; Zolidis (Montgomery Associates); Powers (BT2 Inc.); Henningsgard (General Engineering Co.) all stated that Bakkens pond did not cause flooding.

Statement 8: We have had standing water since 2007, and have had our sump pump running constantly ever since. This person believes it is a manmade problem due to the installation of Bakkens pond. The airport runway and how it was constructed may also be a contributing factor to the high water levels.

Question 24: Is there historical information regarding groundwater levels prior to installation of Bakkens Pond and Long Lake?

Question 45: What impact will there be on water levels in Bear Creek or Bakkens Pond if the water is released in those locations, and will water from West End fields degrade the environment and negatively affect habitat and species if it is released to Bear Creek or Bakkens Pond?

Question 50: Are there meteorological trends and/or long-range forecasts that suggest the probability of more of the same kinds of weather events we are currently experiencing in the Upper Midwest region? Should they be factored into our long-term planning?

2. What are the various economic impacts of the flooding and the suggested remedial actions?

Question 3: What was the real economic impact on agricultural, residential and other interests from groundwater flooding?

Question 4: What will be the economic impacts of the remedial ditches?

Question 6: What was the environmental impact of the flooding, and how will this change with the drainage/flood control ditches in place?

Question 8: What will be the maintenance costs associated with the ditches?

Question 17: How much land associated with the ditches will be removed from the tax rolls, and what will be the impact of this on property taxes?

Question 25: What is the economic impact of flooding broken out by costs to the farmers, the town, or other interests in the valley?

Question 33: Will the ditches in sand be stable and how will they become vegetated for stability?

Question 43: Will a "solution" to the West End water problems benefit farmers in the Town of Buena Vista or increase their risks of flooding?

Question 47: If a solution is agreed upon and developed, where will the money come from for design and construction?

Question 49: Are federal funds currently available to "bail out" farmers whose land and homes seem to be prone to continued flooding from ground and surface water so they can re-establish their occupations on lands better suited for farming?
Example: Mississippi River bottomlands farm relocations.

3. The role of agriculture in the issue and potential solutions

Question 5: To what extent will the remedial ditches carry agricultural sediments and chemicals in the runoff?

Question 11: What is the different between ditches for flood control and those for agricultural drainage, and what is being proposed?

Question 15: To what extent is it feasible in these sandy soils to use large tile drains with laterals into farm fields to move water out of the saturated areas?
How far can you move water with tile drains?

Question 26: What is the role of the agricultural irrigation pumps on groundwater levels? Do we know how many pumps are in operation or their capacity?

Question 30: To what extent, if any, does agricultural irrigation fill up the pores in the top layers of soil reducing the ability of the soil to adsorb any rainfall?

Question 46: Are there farming practices that can be adopted that will contribute to a solution to the problems?

4. Questions related to hydrology, context, infrastructure and land use in the basin.

Question 2: Would groundwater be affected by sale of the county forest (assuming that development will occur and create additional paved surfaces)?

Question 7: To what extent would flooding and/or high groundwater be prevented if concrete culverts were installed under roadways?

Question 9: What is the status of the Drainage Board?

Question 10: What is the feasibility of using a system of small dams in the hills to manage some of the water retention needs?

Question 14: Is there sufficient elevation difference so that the ditches will move water during high water periods?

Question 27: Do we have any maps of historical data on where wetlands used to be pre-settlement or even 100 years ago?

Question 28: What proportion, if any, of the area flooding would be considered a wetland. Would these areas revert to a wetland if nothing were done?

Question 29: To what extent, if any, have the changes in land use, from the historical to the current, influenced water processes in the valley?

Question 32: To what extent, if any, does the lack of culverts associated with all the roadways and railroad in the area contribute to groundwater flooding?

Question 34: To what extent has the removal of surface vegetation in the valley, and the important role of evapotranspiration these plants played, have on current groundwater levels?

Question 48: What federal, state, and county (local) laws and ordinances promote, support, control, or prohibit certain practices that would alleviate or exacerbate problems related to the conditions experienced from 2008 to the present?

5. Airport-specific questions

Question 31: Was the airport built on a historic wetland? Would the federal government build an airport in a wetland?

Question 40: What kinds of water retention will FAA rules allow near the airport, if any?

6. Impacts of East and West potential solutions

Statement 4: A concern was voiced regarding having a ditch into the county forest (pine lands) and the potential that would create for flooding in neighboring residential areas.

Question 13: How will the mitigation and prevention efforts on the east side of the valley influence what is needed on the west side of the valley?

Statement 7: Concern was expressed that an open ditch could begin to resemble an open sewer with trash and other materials accumulating in them. Is an underground ditch feasible?

Question 36: Won't the Big Hollow Flood Control Project take care of most of the West End problems?

Question 39: Why can't the outlet for the water be to Bakkens Pond?

Question 44: Will a solution to the West End water problems benefit residents of the Pinelands Community and the Village of Lone Rock or will it increase their flood risks?

7. Either general statements or specific technical questions

Statement 2: This person would like to see more activity and solutions to emerge from the process.

Statement 5: As we look for solutions we should be thinking of the long-range future – 10 to 20 years – for this area.

Statement 9: A statement was made that even after the long dry period we had in the latter half of the summer, even minimal rainfall brings groundwater levels back above the surface.

Question 12: Trees have been removed from the hillsides. What is the percolation difference between hill slopes that are forested versus those where the trees have been removed?

Question 20: How much detailed information do we have on the soil layers in this western area? Why does some water disappear next to the airport while a short distance away the water just ponds on the surface?

Question 21: What is the relation, if any, between the levels of water in the Wisconsin River, precipitation, and groundwater levels?

Question 22: Do we know the variance in surface of the groundwater in the Western Basin?

Question 23: What is the speed at which the groundwater moves toward the Wisconsin River in different part of the river valley?

Question 35: What are the causes of the chronic water problems on the West End?

Question 37: Where is the “best” place to outlet the water?

Question 38: How does the water get from the wet areas to the outlet?

Question 41: Is setting up a pump at the low spot in the Peck Road/Mercer Road area and piping the excess water from there a viable option? If so, where should the pipe go? How big a pump and pipeline will be required? Cost?

Question 42: How far back in the landscape does “bank storage” have an impact when the Wisconsin River is in flood stage or a high water condition?