

**PORTAGE COUNTY GROUNDWATER CITIZENS ADVISORY COMMITTEE
CONFERENCE ROOM 5, COUNTY ANNEX
THURSDAY, January 9, 2014 - 7:00 P.M.**

MEETING MINUTES

GROUNDWATER CITIZENS ADVISORY COMMITTEE (GCAC) MEMBERS LISTING:

MUNICIPALITY	MEMBERS NAME	Attendance	MUNICIPALITY	MEMBERS NAME	Attendance
TOWNS:		01/09/14	TOWNS:		01/09/14
Alban	VACANT		Plover	Barb Feltz	Absent
Almond	Edward Burns	Present	Plover Alternate	Nancy Lila	Absent
Amherst	Mike Burress	Present	Sharon	Casey Jakubek	Present
Belmont	Mike Warzynski	Present	Stockton	Richard Filtz	Present
Belmont Alternate	Rita Walkowicz	Present	VILLAGES:		
Buena Vista	John Ruzicka	Present	Almond	Richard Burns	Present
Buena Vista Alt	Roger Turzinski	Present	Amherst	Mike Hinrichs	Present
Buena Vista Alt	Lynn Isherwood	Present	Amherst Junction	VACANT	
Carson	Fred Copes	Absent	Junction City	Peter Mallek	Excused
Dewey	Dennis Meis	Present	Nelsonville	James Walker	Present
Dewey Alt	Kathy Girolamo	-----	Park Ridge	Dan McFarlane	Present
Eau Pleine	David Hansen	Present	Park Ridge Alt	Christine Neidlein	-----
Grant	Mary Kiedrowski	Present	Plover	Dave Fritsch	Present
Grant Alt	Scott Provost	-----	Rosholt	VACANT	
Hull	Tim Zimmerman	Present	Whiting	Matt Saloun	Present
Lanark	Bill McKee	Present			
Linwood	Garth Frost	Present	CITY:		
New Hope	George Guyant	Present	Stevens Point	Joel Lemke	Present
New Hope Alt	Cathy Derezinski	-----			
Pine Grove	VACANT				

STAFF PRESENT: Ray Schmidt, Jeff Schuler, and Patty Benedict, Planning and Zoning Department.

OTHERS PRESENT: Dave Wilz – Town of Hull Supervisor, Jim and Barb Gifford, Mark Hemmerich, Jim Grubba, Ken Schroeder and Nathan Sandwick – University Extension (UWEX), Barry Jacowski – County Board of Supervisors District 23, Gale Gordon, Patty Dreier – County Executive, Roger Bentley – Town of Plover Supervisor, Pete Arntsen, Lisa Shirek – Wisconsin Farmers Union.

1. CALL TO ORDER: The meeting was called to order at 7:00 p.m. by Edward Burns, Chair.

2. INTRODUCTION OF NEW MEMBERS: Mike Warzynski, Town of Belmont.

3. REVIEW/APPROVAL OF MINUTES FROM NOVEMBER 7, 2013: Motion by Guyant to approve the minutes, second by Hinrichs. Motion carried by voice vote.

4. CORRESPONDENCE: None.

5. E. BURNS READ THE PUBLIC NOTICE: Members of the public who wish to address the Committee on specific agenda items must register their requests at this time with such comments subject to the reasonable control of the Committee Chair as set forth in Robert's Rules of Order. No one registered to speak.

6. PRESENTATION: LITTLE PLOVER RIVER (LPR) BASIN PROJECT

E. Burns noted many GCAC members were present at the meeting held at the Plover Municipal Building on Tuesday, January 7. Schmidt provided a handout and stated the information can also be found on the website on the back page of the handout. (<http://fyi.uwex.edu/littleplovermodel/>) Schmidt estimated 250 people attended the meeting, with a lot of interest in this project.

Schmidt said the DNR is providing funding for the U.S. Geological Survey (USGS) and the WI Geological Natural History Survey (WGNHS) to do a transient model of the LPR Basin. Criteria, such as location of a new municipal well or taking an irrigation well out of production, can be input and the model will show the effects on the LPR.

Schmidt noted the Village of Plover has plans to take as many as 1,000 acres out of irrigated agriculture in the LPR Basin.

Schmidt handed out a map of the LPR Basin, showing the boundaries of the study area where modeling will be done. Being a transient model, it can give variable output based on the input.

After the model is developed, Fritsch said he understands it can be used in other areas of the state. Schmidt confirmed, and said one of the reasons for debuting the model in the LPR Basin is because of the large amount of research already available. All of the detail can be input into the model and be up and running much sooner than using a watershed without prior collected data.

Arntsen asked what the model will be used for as an end product, i.e. well siting information for DNR, or as a legislative tool for establishing rules and standards. Schmidt believes it will be used mainly as an educational tool on a multi facet basis rather than an individual well or farm basis, but could also be used to make more informed decisions. At the meeting on January 7, Arntsen said the DNR indicated they can only do what the legislature allows. Schmidt said Ken Johnson, DNR Water Administrator, believes the DNR has made rapid progress since 2010, within the boundaries of statutes and code.

McFarlane pointed out that the website previously mentioned has videos explaining the application and program used to develop the model, showing it in action. The video gives an idea what the model can do and how it is different from previous models. Schmidt said the MODFLOW software being used is a standard program. It was used in the 1990s when wellhead protection areas were done in Stevens Point and Whiting. It is even better developed now and outputs are more useful.

Zimmerman referred to the Grand Marsh area, saying residents feel they are not getting timely responses from DNR addressing their problems. DNR has said staffing and budget are issues. Zimmerman suggested perhaps the DNR may not feel comfortable addressing problems until this model is complete, or will it take persistent landowner complaints? Schmidt said DNR does not act unless they have a lot of information to direct them. He did not get the impression that DNR would not act on the Grand Marsh area until the model is done.

Dreier asked how much is budgeted for the project and where did the money come from? Schmidt replied approximately \$200,000 is coming from DNR's budget. He believes a portion came from the Environmental Protection Agency (EPA). He added donations were requested from interested parties, but does not know whether any have been received. To use in other areas, Dreier feels it will take many years for the model to provide useful and accurate analysis, dependent upon the amount of data collected, which will vary in each watershed.

Gifford said another reason the LPR is being used is because it is a simple system. It is six miles long and has no tributaries. A lot of time would need to be spent collecting data for river or lakes with streams feeding into them. Dreier questioned the cost and length of time to use the model in other watersheds and whether it is a realistic and useful tool for the Central Sands area. Schmidt asked Arntsen to comment. Arntsen said it is possible to model situations in the LPR and apply to areas with similar aquifer properties. If conditions vary from the LPR in certain ways, the response may vary in a similar manner. Variables such as the amount of water, type and permeability of the soil will have different effects.

Turzinski believes the model needs to be based on information such as different depths, distance to bedrock, and permeability of soils for each well drilled, whether private or high capacity. A good portion of the data has been collected. When this study is completed, E. Burns said it will be an excellent stepping stone for adding different types of soils, depths to water, etc. Schmidt noted well drillers are a main source of data, but some may not understand the strata in the ground, or may not report in the same way. The LPR Basin has good bedrock, precipitation, and depth to groundwater data collected over many years.

Filtz questioned the reliability of water quality data, based on his experience replacing his well. Schmidt said there is a difference in data quality between using a field test kit versus sending to a lab.

McKee stated there are between 2,000 and 3,000 existing data points (for existing high capacity wells) in the sand plains. Data collection information must be input on those wells. While expensive, if every well had depth to water, gallons pumped, and precipitation recorded by remote sensing, it would be world class system.

Schmidt said that could be an outcome of the study. Hinrichs said a basic data recording unit can run about \$200. Sensors were estimated to cost an additional \$2,000.

E. Burns said he spoke with Mary Beth Kniffin, a PhD student working on the project. He suggested having her come to the next meeting. Schmidt said she is conducting interviews with different stakeholders, getting their opinions on groundwater and what they expect from the study. UWEX will use the information to determine the approach and type of education needed. Schmidt said Ken Bradbury (WGNHS) has committed to speak to the GCAC about the project at one of the next meetings.

7. UPDATE: TOWN OF HULL REPLACEMENT WELLS IN THE VICINITY OF THE CITY OF STEVENS POINT MUNICIPAL WELL #11

Schmidt said there has been controversy in the area of the City of Stevens Point (City) Well #11 and the surrounding wells in the Town of Hull. Since Well #11 went online in June 2012, a number of residents have replaced their wells. Schmidt referred to a GIS map showing the location of Well #11 and surrounding residential wells with records of well depth and depth to groundwater. There are high capacity irrigation wells in the fields east of the Plover River, but none west of the Plover River. The City has other municipal wells along the well field. From the depth information, groundwater contours can be made. From the west, Schmidt pointed out the contours indicate the water flows toward the river.

Schmidt said the tan dots on the map represent parcels with more than one well on record. Because of the sandy soil and shallow groundwater, many of the initial wells installed were driven point wells. Throughout the Town of Hull, many have been replaced over the years. Schmidt gathered information from well construction reports to determine how many wells were replaced near Well #11 prior to coming online: 2003 – four, 2004 – five, 2005 – four, 2006 – three. In 2012, the year Well #11 came online, five wells were replaced and in 2013 there were 17. Schmidt said some were replaced because they were driven point wells and were not producing anymore even though the groundwater was high enough. He gave this information to Steve Gaffield, Montgomery & Associates, Madison, WI, the consultant working with the Town of Hull.

Burress asked if there are more City wells in the area. Schmidt replied the nearest is about ½ mile south and none north of Well #11. McKee stated there appears to be a relationship between the new well and 17 wells having to be replaced in 2013. Schmidt said he cannot say whether there is cause and effect or a correlation.

Zimmerman said he was told by John Holdridge (Town of Hull Chair) that 35 wells were replaced in 2012. Schmidt said the information he presented comes from DNR well construction reports, which are updated as of the end of 2013. Lemke said the number reported by Holdridge could be from a survey conducted by the Town of Hull, which encompassed a larger area.

Lemke was asked to describe Well #11. He replied it is a collector well, and described it essentially as an upside down silo in the ground with a three foot concrete wall, 105 feet deep by 13 feet across. At 102 feet, near the bottom, there are eight horizontal screens measuring between 140 and 165 feet, giving an approximately 360 foot maximum horizontal reach. Schmidt said there is a high volume of pumping capacity, but it is spread out. The cone of depression is not as pronounced as it is with a vertical well. Lemke was asked how many feet of water are in the well. He estimated 80 feet. There is a continuous reading device on the well to indicate water levels during pumping and when not pumping.

Referring to replacement well construction data on parcels having a previous well, R. Burns asked if there is depth to water information on replacement wells to compare to original wells. Schmidt replied many original wells were driven point wells and reports were not filed.

Hemrich asked if the City checked homes around Well #11 between 2011 and 2013 and again when Town of Hull residents reported having issues. Before the well was put online, Lemke stated the City mailed letters to residents within 1,500 feet of the well, offering a well test to determine information such as depth to groundwater and well production, as a basis for comparison. He estimated 58 letters were sent, with 44 residents responding. Hemrich said his son was one of the respondents. From the time the first test was done to the second test, his point is down from five feet (of standing water above the screen) to one foot.

Lemke said through the first year of operation, the City received three calls. The same test was done. All testing was done by a third party. Two did not follow up and one called to say there was a cracked pipe in their well. No

other contacts were made until the recent development. A meeting was held at SPASH in August, with approximately 200 people in attendance. Tests were once again offered. Lemke said three calls were received. One did not have any previous tests, so follow up data was not relevant. Data was collected on the second, and the third declined the test.

Hemrich asked Lemke how many wells have been replaced since Well #11 went online. Lemke replied the numbers reported at this meeting are pretty accurate. Lemke said a survey, sent by the Town of Hull to a particular geographic area, asked those residents whether they have had their well replaced and what they believe was the cause for needing to replace the well. At the time, Lemke believes 33 wells had been constructed, but is uncertain of the reasons. Schmidt said one of the complications of the analysis, when looking at individual wells and depth to water reported by the driller, depends on the time of year. Two or three feet seasonal variations in the water table are normal without considering any other impacts, such as municipal wells. There are also multi-year variations. For example, the high water table, experienced in 1993, was between six and eight feet in places in the Town of Hull.

Lemke said collection of data from the monitoring well on the Well #11 site began within weeks following start up. The fluctuation seen in the monitoring well since start up has been within 1.3 feet up and down.

McKee asked how the site for Well #11 was determined. Lemke stated there was a lot of historic data to consider when doing well site development research. Test wells were done. He said this was the first site. It produced very well and had low nitrate levels.

E. Burns confirmed the original 44 respondents had their wells tested. Lemke answered yes, testing was done before Well #11 went online. Since then, there have been less than five tests requested. Lemke said the names of the respondents were provided to the Town of Hull so they could remind them to contact the City for further testing. Lemke added he has not met with the Town of Hull consultant yet, but looks forward to sharing information.

Zimmerman asked if the City foresees pumping Well #11 at the capacity of 13 million gallons, if for example, a water using industry locates in the area in the future. At present, Lemke said the City cannot pump greater than five million gallons per day from Well #11, because that is the limit that can be treated. Despite growth, on the average, Lemke said the City has seen the amount of water pumped slightly decrease the last few years in residential, commercial, and industrial sectors. He does not anticipate considering additional treatment for Well #11 in the near future. If the need arises, other wells can be targeted for treatment.

Zimmerman said those Town of Hull residents having well issues believe water is not staying in their wells, but is being drawn deeper. Lemke said monitoring and rainfall data collection will continue and it will be interesting to see the trends by summer. Schmidt said the GCAC and residents will be kept up to date on this issue.

Walker asked if the well is projected to meet residential and industrial development needs in the Stevens Point area for a particular period of time. Lemke said capacity is developed to meet peak day pumping demand with the largest well out of service, which was established at 13.5 million gallons in 1994. Prior to Well #11, the City's other collector well (Well #10) was the largest well, and if taken out of service, peak day demand could not be met. Lemke stated the City is pumping only to meet demand, but has the ability to pump more if demand increases. He said approximately 2.5 million gallons per day has been pumped for the last eight weeks of 2013. In 2012 and 2013, Lemke estimated between four and 4.5 million was the highest amount pumped, mainly during the summer months.

When considering the siting for a well, Hinrichs asked how large an area is needed for wellhead protection and recharge. Lemke explained the overlay zoning districts for all of the City's municipal wells. When first developed, the districts were established by distance, but are now determined by five or ten year time of travel. Within the districts, certain types of developments, such as gas stations, are not allowed. The City has purchased various properties adjacent to municipal wells over the years for wellhead protection and recharge areas. Lemke said, due to the area's sandy soils, issues can develop more quickly.

Lemke said annual well data has been collected dating back to 1988. There have been several instances of two to three feet fluctuations. He said there are many contributing factors and a lot of questions to be answered before conclusions can be drawn.

Isherwood asked if the well design is unusual. Lemke replied it is uncommon in a municipal setting to find formations that produce the amount of water to warrant constructing this type of well. If the formation is not going to feed water to the well at the rate needed to pump, it does not justify the expense. Well #11 construction cost between \$10 and \$14 million. There was additional (water) main construction down Highway 66 to Torun Road required to connect to the City's distribution system, and costs associated with treatment. The well itself cost approximately \$3.5 million.

8. PRESENTATION: PRECIPITATION VARIABILITY IN SOUTHERN PORTAGE COUNTY IN 2012 AND 2013

E. Burns stated their farm has been collecting rain gauge readings for 10 years. A black and white graph and a color graph were distributed. The black and white graph shows the monthly totals for May, June, July, and August from rain gauges in four locations. July 2012 was extremely dry. July 2010 had a good amount of rain. He explained the rain gauges are located within an approximately 15 mile area. He stated they have a total of 19 rain gauges. Referring to the color graph, the highest and lowest totals for the months of May through August shows the variability that can occur in one month. Averages for May and June were approximately 1.75 inches, and increased in July and August (3.04 inches and 2.09 inches respectively). He said the variability could explain different groundwater depths. The rain gauges are read every event and input into their computer, which calculates a monthly average.

R. Burns said they use the data to determine where, and how much, irrigation is needed. E. Burns said to maintain a crop, there has to be some (watering) consistency. R. Burns pointed out the overall average rainfall in July is approximately 3.7 inches; however, approximately .65 fell in July 2012, which explains the dramatic increase in Wisconsin pumping totals. In July 2010, E. Burns said there was a high of 12 inches and low of 8 inches between the four rain gauge locations.

McKee asked whether the amounts translate to recharge. He reiterated he feels data points spread over the area are more important than models. With so much variability, he questions how a model can be accurate. E. Burns suggested inputting high and low amounts into a model to get an educated guess. He said the state precipitation average is 32 inches per year, including snow melt, and wondered what is the variability month to month and area to area statewide.

Guyant asked how many in the agriculture industry track precipitation as closely as Burns. Turzinski said most producers keep track of rain for irrigating purposes. He said some of the large farms use ground moisture and precipitation sensors, which track and input data into a computer. Development of a variable rate irrigation system is being worked on, which would measure ground moisture and compare soil types to determine how much irrigation is needed.

Hansen explained how web based sensors work on the cranberry marsh. He can track a week of cycles, collecting data such as, when and how long crops were irrigated, if too much water was applied, soil and air temperatures, and moisture capacity of peat and sand based soils. There was discussion on the technology available.

E. Burns was asked if he has overall yearly rainfall averages for the entire farm. He responded the rain gauges are set up and taken down at different times every year depending on the weather. The rainfall information he presented was for the growing season from May through August. It was pointed out that recharge generally takes place outside the summer months. E. Burns said the amount of recharge is partially dependent on ground cover. If an inch of rain falls on bare ground, an inch goes to recharge.

There was discussion on using Weather Underground for current and historic precipitation and other weather data.

9. OBSERVED GROUNDWATER LEVELS AND STREAMFLOW REDUCTIONS IN 2012 AND 2013

Schmidt said six groundwater monitoring wells have been measured monthly for elevation since the 1950's. Comparing measurements taken the first week of January 2013 to those taken in December 2012, the groundwater levels were down four to six inches. In July 2013, levels were down three feet, so the level nearly rebounded by the end of the year. Schmidt said fluctuations occur, depleting groundwater during the growing season, recharging before the ground freezes in fall and after spring thaw. USGS maintains the well data, which can be accessed on their website. Schmidt said most levels are fairly steady, but there are areas of the county

that have dropped two to three feet. In the area near Two Lakes, the level is below where the lakes would be naturally and it does not recover. Schmidt was asked for a map of groundwater flow. He replied a map with groundwater contours is available on the County website (www.co.portage.wi.us, pull down Online Records menu, click on Online Mapping). Schmidt said depths to water are determined by well driller reports and surface water levels. Jacowski said according to USGS, most of the lakes in the Almond area are runoff lakes. Schmidt said very few of the lakes in Eastern Portage County receive significant water from runoff; most are fed by groundwater. Based on USGS classifying the lakes as runoff lakes, Jacowski said agribusinesses have done their best in the last 40 years to limit runoff and now lake levels are down. Schmidt doesn't believe there is a correlation. Runoff is a quality issue, minimizing pollution running into lakes. Precipitation may run down a hill into a lake, raising the level of groundwater at the lake; or it may raise the groundwater by soaking into the ground and moving laterally underground.

E. Burns said they measure their farm wells in spring and fall. In Fall 2013, of the 29 wells, he stated more than 50% were at or above 2010 levels. He measured one of their wells north of Lake Huron prior to the meeting and it is up six inches from two months ago.

10. FUTURE MEETING TOPICS

Zimmerman suggested having a visioning session after the next meeting, allowing each representative to present issues, concerns, and what is being done in municipalities. He proposed considering a metropolitan water district.

Schmidt distributed a two sided map, asking members to look at the side with the small targets. The map shows a multi-county area, including Portage County, involved in a volunteer stream monitoring network in cooperation with DNR. The targets depict points being added to measure stream flow over time and, in the future, compare to groundwater levels and usage. The map on the opposite side with the large targets shows Portage County sites. Red targets indicate sites that have been monitored for a couple of years. Yellow targets indicate sites to be added. Portage County has a flow meter available for volunteers to use when collecting stream data. If members, or someone they know, are interested in receiving training and committing a few hours a month, contact Schmidt. Four volunteers have come forward so far and there are about 20 sites. The goal is to have each volunteer measure stream flow at three or four sites once a month. Training is provided by professionals. Initial time commitment at each site may take up to two hours, and about an hour thereafter. Volunteers are needed in the southeastern part of the County. A lake monitoring program, measuring lake levels, is planned in the future.

11. NEXT MEETING DATE

The next meeting is scheduled for Thursday, March 6, 2014 at 7:00 p.m., Conference Room 5, County Annex. Schmidt said the meeting will include moving forward with the Groundwater Management Plan.

12. ADJOURNMENT

Motion by Guyant, second by Walker to adjourn the meeting at 8:55 p.m. Motion carried.

/Patty Benedict/
Patty Benedict, Recording Secretary

/Ed Burns/
Ed Burns, Chair

3/6/14
Date

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CONFERENCE ROOM 5, COUNTY ANNEX
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New Hope	George Guyant	Absent	Stevens Point	Joel Lemke	Absent
New Hope Alt	Cathy Derezinski	Absent			
Pine Grove	VACANT				

STAFF PRESENT: Ray Schmidt, Jeff Schuler, and Patty Benedict, Planning and Zoning Department.

OTHERS PRESENT: Deb Jakubek, Nelsonville; Dan Helsel, Bob Smail, Eric Ebersberger, DNR; David Grandkoski, Town of Carson; Jennifer Glad, Golden Sands RC&D; Nathan Sandwick, UW-Extension; Patty Amman, Town of Hull; Bill Clendenning, Wood County Board of Supervisors; Bruce and Doreen Dimick, PWC; Katrina Shankland, 71st Assembly District Representative

1. CALL TO ORDER: The meeting was called to order at 7:05 p.m. by Edward Burns, Chair.

2. INTRODUCTION OF NEW MEMBERS: No new members.

3. REVIEW/APPROVAL OF MINUTES FROM JANUARY 9, 2014: Motion by McKee, second by Burress to approve the minutes as presented. Motion carried by voice vote.

4. CORRESPONDENCE: No correspondence presented.

5. BURNS READ THE PUBLIC NOTICE: Members of the public who wish to address the Committee on specific agenda items must register their requests at this time with such comments subject to the reasonable control of the Committee Chair as set forth in Robert's Rules of Order. No one registered to speak.

6. PRESENTATION: THE STATE OF GROUNDWATER USE AND MANAGEMENT IN PORTAGE COUNTY – CURRENT KNOWLEDGE AND FUTURE DIRECTIONS – BOB SMAIL AND ERIC EBERSBERGER: Smail thanked the GCAC for the invitation to present. They will be covering what the DNR knows, what they are working on, and going forward with the state of the groundwater in the Central Sands area, especially Portage County. Smail said there is a tendency to believe it's an either/or situation between fish and irrigation. He said part of the DNR's mission statement reads, "To ensure the right of all people to use and enjoy these resources in their work and leisure." The DNR tries to achieve a balance between issues, which can be a difficult and sometimes contentious task.

Smail said they will cover Portage County's groundwater availability, the groundwater dependent surface water resources, and groundwater withdrawals and uses. Management challenges include interaction between uses and water features, legacy effects, and future trends. Finally, they will cover what the DNR is doing – their reporting and conservation program, the Little Plover River modeling project, the Central Sands strategic analysis, and their high capacity well review process.

Smail explained a map, which shows two thirds of Portage County is covered by a layer of sand and gravel, to a depth of 50 feet or more and saturated with water. In some areas, at a minimum, there is 40 to 50 feet of groundwater. In the southwestern part of the county, there are 150 feet of saturated sand and gravel under the ground surface. The Eastern half of the county is rocky where the glaciers ended and retreated. The Western portion contains sand from melting glaciers. He noted the elevation in the 12 miles from Plover to the Biron dam drops only 40 feet. In contrast, in the seven miles from Polonia to Nelsonville, the elevation drops 150 feet. The Eastern part of the county has higher gradient, while the Western part is very flat. The water table is very high in the flat areas, with groundwater at the top. Any changes in the water table from withdrawals, landscape changes, or weather have dramatic effects on surface water resources.

Smail shared a map of trout streams, seepage and spring lakes, in the Eastern two thirds of the county. In the Northwestern one third of the county, the bedrock is higher and the area is dominated by runoff and surface water systems. Trout need cold water, which is provided by groundwater in the Eastern two thirds of the county. Portage County plays a significant role in the \$2 billion statewide fishing economy. Surface water features add greatly to property values, tourism, and local employment, as well as aesthetic, cultural and ecological values.

Regarding groundwater withdrawals, Smail said there is ample groundwater and the local economy is driven by groundwater sources. Groundwater supplies drinking water, water for the food processing, paper, and other industries. Wisconsin ranks either first, second, or third in the nation for specialty crop production - potato, green bean, sweet corn, peas, carrot, and cranberry, which generates \$6 billion of economic impact per year. He referred to a groundwater use map, stating the dots represent high capacity wells. The highest density of high capacity wells is in the area southwest of Plover and toward the county line.

Smail referred to pie charts showing 2011 and 2012 groundwater withdrawals. There was a 35% increase in total withdrawals across the county from 2011 to 2012. To give context to the volume of water, spread equally over the land surface of the entire county, in 2011, the water would be 1.5 inches deep, and 2.5 inches in 2012. Smail said it sounds like a lot of water, but thinking in terms of rainfall, it would be a couple of good rainfalls. He said the numbers fall within a fairly small margin compared to precipitation in any given year. The variability in climate and weather are the biggest drivers in changes seen in hydrology on the landscape.

Smail reported there are nearly 1,150 high capacity wells in the county. By statute, high capacity wells are defined as any well that has the pumping capacity to withdraw 100,000 gallons per day. He said about two thirds of the wells are above 70 gallons per minute, or 100,000 per day. The remainder are low capacity wells, but are tracked because they are on a property that has a high capacity well.

There are 17 new high capacity wells approved in the county, but not drilled yet, and 16 applications are pending. Looking over the last five years of data, he pointed out more new high capacity wells are being located in the Eastern part of the county on the edges of irrigated areas. The density of high capacity wells in some sections of irrigated land is at a maximum. He noted that over the last five years, 26 high capacity wells have been abandoned.

Smail spoke about some of the management challenges. He used the Two Lakes area, near Almond, as an example. He cautioned that groundwater levels go up and down. When groundwater is removed through high capacity wells, nearby surface water sources and the water table can be affected. However, the system is complex; if groundwater levels go down, it does not automatically mean high capacity wells are causing the impact, and vice versa. Precipitation also drives the system. Smail referred to maps depicting the location of high capacity wells in the Central Sands area, and several aerial photos of the Two Lakes area from 1935 to 2013. In 1935, there were no high capacity wells in the Central Sands area and Two Lakes were full. Around the mid 1950s, the first wells were installed for center pivots. Levels for Two Lakes began to drop. In 1975, lake levels were very low. Between 1965 and 1975, a lot of high capacity wells were installed. From 1975 to 1980, the greatest numbers of high capacity wells were installed; however, the aerial photo in 1985 shows the lake levels at their fullest. In 1995, more wells were installed, and the lake levels once again contracted. In 2013, the

lake levels were very low. He reiterated lake levels are associated, but not directly correlated with the number of wells and withdrawals. There is a need for better scientific understanding, modeling tools, science, and experimentation.

Smail said another management challenge is determining the effect of multiple high capacity wells on a stream, and/or other wells. They can estimate the reduction in flow on a stream from a single well; however it becomes difficult with multiple high capacity wells and expanding out to a complex hydrological system with drainage ditches and other creeks. He repeated the need for modeling and developing better understanding.

Smail explained that the Drainage District causes some issues. The Drainage District was approved in 1898; however, some ditches existed before that. Work began in 1904, but there are areas in the central part of the Drainage District where drainage did not work properly and are now owned by the DNR. The intent of the drainage ditches is to speed water off the landscape to the rivers. The Drainage District does not have any effect on the wells north of Stevens Point, but it may in certain areas, it depending on the local features, hydrology, and system.

Smail reported the average age of a high capacity well is over 30 years old in Portage County. The oldest well still in operation was constructed in 1957.

Looking at the high capacity well approvals over time, 1977 was a peak year, with 344 approvals statewide and 116 in the Central Sands area. Another spike occurred in 1988, then leveled for a number of years until a dramatic spike in 2012. Contributing to the spikes were economic factors, such as corn prices, and precipitation deficit. Turzinski added the arrival of McCain Foods, Del Monte, and American Potato around 1977 increased potato and vegetable production.

Smail talked about what is currently being done and plans for future resource management. The DNR is working with growers and well owners to pinpoint well locations, improve on quality control with water withdrawal reporting, and improve on ways withdrawers provide accurate data. A program is being developed statewide to identify irrigation rates on different crops, establish an average water use benchmark for each crop, identify the most efficient growers, and share information for others to try.

Smail noted the most common irrigated crop statewide in 2012 was corn. The Central Sands area also has specialty crops – potatoes, sweet corn, and beans. He added the DNR is working to identify, test, and promote conservation practices in irrigation, municipal water, and industrial sectors to promote recharge, reduce withdrawals, and protect water quality.

The DNR, U. S. Geological Survey (USGS), and Wisconsin Geological and Natural History Survey (WGHNS) are conducting a pilot study of the Little Plover River (LPR). The goal is to develop a flow and optimization model, taking into account all of the high capacity wells, different features on the landscape, and other issues affecting the resources. They hope to expand the study to include the entire Central Sands region and other areas of the State to assist with management decisions and serve as an educational tool for the public and technical community.

A strategic analysis will be written by DNR staff to summarize the state of the science, describing environmental, economic, and social issues; summarize existing monitoring and management efforts and the current regulatory framework; and provide a public process to develop possible long term solutions for groundwater and surface water resources in the Central Sands.

Ebersberger spoke about how the DNR reviews high capacity well applications. He said there has been a lot of interest and some controversy the last couple of years. The DNR is involved in litigation and there is related pending legislation. He provided a brief history of high capacity well reviews, related to the impacts of the quantity of water withdrawn to other waters. High capacity well approvals were originally conducted by the Board of Health. Wisconsin has one of the earliest high capacity well laws, which dates back to 1945. The process remained basically the same until 2003, when Act 310, the Groundwater Quantity Law, was introduced. The most recent changes took place with the Supreme Court's Lake Beulah decision of July 2011.

Prior to 2004, high capacity well applications were reviewed for adverse impacts on municipal water utility wells. An adverse impact would be if the well draws the water level down 10 feet or more. If yes, further investigation was conducted. If not, the well was approved.

After 2004, when Act 310 went into effect, additional criteria required environmental review. Ebersberger went over the flow charts in the Power Point presentation outlining various situations, some requiring Environmental Assessments (EA). After conducting an EA, under statutes, a well cannot be approved unless conditions are imposed to avoid significant adverse impacts. Very few EAs were conducted because well drillers avoided installations in the areas where EAs were required.

In July 2011, the Lake Beulah case was decided by the Supreme Court. One of the key issues was whether the DNR's authority is limited to the restrictions in statutes. The Supreme Court said the DNR has the authority and general duty to consider whether a high capacity well will harm waters of the State. Waters of the State includes all surface water, ground water, and includes wells. If the DNR is presented with concrete scientific evidence of potential harm, it must be considered. As a result of the Supreme Court decision, the DNR's high capacity well review process changed. When an application is submitted, it is reviewed for possible adverse impact on a water of the State, and if so, conditions are imposed to prevent the impact, or the application is denied.

Since July 2011, Ebersberger noted reviews have tripled and become much more complicated, time consuming, and controversial. A hydrogeologist reviews the application and calculates the draw down at the proposed capacity of the well and determines the cone of depression created. An equation computes how much base flow will be removed from any body of water that may be affected by the high capacity well. Wetland impacts are also considered, as well as private wells. During the review process, if a water body may be adversely affected, an applicant may be asked whether they really need the requested levels of withdrawal, or if they could move the well, or if they could they case the well through a confining layer so as to not draw from groundwater feeding the water body. Up to 40% of the applications have conditions, i.e. restricting the high capacity well to a certain location, restricting the allowed pumpage, or placing restrictions on the construction to avoid impacts.

One of the issues in litigation, which is particularly controversial, is cumulative impacts. According to DNR's attorneys, their legal authority is limited to looking at the impacts of a proposed well, and any other wells, on contiguous property owned by the applicant. Litigants are challenging approved wells, believing those wells should have been denied based on cumulative impacts of wells on other properties. Ebersberger stated a decision is not expected until summer or later.

Another issue in litigation is whether the DNR has legal authority to issue a monitoring condition for certain wells. An application was submitted, requesting a certain amount of water, along with a complex model. The DNR hydrogeologist reviewing the application and model felt it was close to the level of significant impact. A condition was imposed to require monitoring wells to verify whether the system responded as the model predicted. The applicant challenged the DNR's legal authority to require monitoring. An administrative law judge ruled the DNR has the legal authority to require monitoring, which is being further appealed by the applicant. The appeal has been heard and they are awaiting an opinion.

A question was raised regarding the Richfield Dairy appellate court decision, which directs the DNR to consider cumulative effects. Ebersberger replied the decision was based on a challenge whether the DNR had complied with the Wisconsin Environmental Policy Act (WEPA) and whether the environmental analysis was sufficient. The DNR acknowledged that NR 150, the administrative code implementing WEPA, requires considering cumulative impacts and the court indicated the DNR did not do an adequate job with respect to WEPA compliance, which is a disclosure document. Ebersberger said it is a different issue and not directly related to DNR's legal authority to condition or deny the high capacity well.

Turzinski said the DNR approves a majority of the high capacity wells. Well drillers know where to place wells and the DNR works with applicants, placing conditions where necessary. Ebersberger said written denials are rare, but conditioned approvals are common. Applicants may be offered suggestions for changes to make their original request acceptable. If the applicant chooses not to make the changes, a denial is not issued, but the application becomes idle.

McKee asked, when conditions are placed, are the conditions monitored over time? Ebersberger replied, before the Lake Beulah decision, very few wells were conditioned. Well owners must report their monthly levels of withdrawal to the DNR annually.

McKee complimented Smail and Ebersberger on their presentations and appreciated hearing their explanations on the complexities of the issues. Smail said any solutions going forward cannot happen with finger pointing, and must involve all parties at the table.

Ebersberger said it is difficult to make assumptions about what impact any high capacity well is having on a water body. One of the things the DNR hopes to learn from modeling efforts and groundwater flow models, such as the Little Plover River modeling project, is to use fact based scenarios to work toward management options and solutions.

Ebersberger said calculating the impact of multiple wells takes sophisticated analysis. It is not as simple as figuring the draw from one well and multiply by the number of wells. Variables such as wells at different depths, stream flows and levels driven by weather can cause large changes. Characteristics of the aquifer and area geology are also factors.

Zimmerman asked if the DNR has the ability to change conditions on approved wells. Ebersberger replied the DNR believes they have the authority. Zimmerman said an approval may have been made using the best science available at the time of approval, but conditions may have since changed. In a case where a water body is adversely impacted cumulatively, Ebersberger said remedies are complex. If the DNR was forced to take action, how are they to determine which approvals to modify and by how much?

In regard to the LPR, Ebersberger said scientists use an optimization package, which generates different decision options. Making assumptions of a certain type of land cover, level of precipitation, and drainage, they can look at individual wells and play with different scenarios to determine pumping amounts while maintaining a minimum flow.

Ebersberger gave a hypothetical situation. A property owner does not currently have a high capacity well on their property and applies for one. The DNR determines the affected water body is already significantly impacted by neighbors' wells. The owner references a 1974 Supreme Court decision setting the modified reasonable use doctrine, which says that property owners have the privilege of withdrawing a reasonable amount of groundwater. Because of the neighbors' wells causing impacts, the property owner would be denied a permit for a well, and may have to take the neighbors to court. He believes it is an awkward framework to resolve the issue.

Zimmerman said there are shallow sand point wells in the Town of Hull that have dried up, suspecting a City of Stevens Point well as the cause. He asked if the issuance of the high capacity well permit can be challenged in cases where it is believed to cause wells to dry up. Ebersberger said high capacity well approvals can be challenged within 30 days of issuance. Anyone feeling they have been unreasonably impacted by a well, can initiate civil action.

Burns asked Ebersberger to speak about SB302 and AB679. The bills were introduced by Senator Kedzie. Ebersberger said the DNR does not take a position on the bills. The provisions of the original bill would restrict the DNR's ability to condition wells, i.e. requiring monitoring, rate of pumping, location, depth of casing, etc. It would also limit circumstances under which the DNR could modify or rescind an approval. An amendment was made to the bill to change DNR's reviews to use only pre-Lake Beulah criteria.

Burns asked about transferring high capacity well permits when land is sold. Ebersberger said language in administrative code could be interpreted to allow authority to do a new review. At this time, the DNR records property transfers, but has not been doing new reviews. Conditions placed on well approvals transfer to new property owners.

Burns asked whether Scott Krug has introduced a similar bill. Ebersberger said Krug's proposed legislation has not been introduced yet; parts are similar, but there are also different provisions.

Zimmerman asked about EPA's Public Protection Doctrine, and whether DNR follows State or Federal law. Ebersberger replied DNR reviews are primarily State law driven.

Schmidt asked if pumping reports landowners must submit are compared to the original permit. Smail replied yes. They check for possible reporting errors, exceeding permitted pumping levels, and potential violations. He noted the data reported is consistently good.

Schmidt said a well with the capability of pumping 1,000 gallons per minute, over 24 hours pumps 1.4 million gallons. When high capacity wells are installed, they pump water whether a dry or wet year. Smail said high capacity wells have an average age of 30 years. Efficiency has improved on some of the new irrigation systems and decreased the need to replace wells. More area can be covered with the same capacity using low pressure systems. Some farmers are using precision agriculture, variable nozzles, and apply different rates depending on soil conditions.

Schmidt asked whether a well can be used for a different purpose, i.e. water bottling, if they are not pumping to the allowed limit. Ebersberger replied irrigation wells are nonpotable and not approved for drinking water. Landowners must report what the water is used for by use codes. The key issue is volume and whether they stay within their limit. Smail said actual pumpage amounts versus total capacity varies in any given year, but averages under 20% of total capacity is being withdrawn.

McKee said there are 3,100 wells currently in the sand plains. He asked how many wells the sand plains can handle. Ebersberger said he would look more at total water withdrawn rather than the number of wells. What level of groundwater withdrawal can sustain surface water health? The LPR model should help in answering what those levels are.

Jacowski feels limiting the number of wells may not be the best answer. He suggested irrigating at night will decrease the amount of evaporation.

Sandwich asked Smail and Ebersberger for suggestions on how Portage County should use the information that is expected from the LPR model. Ebersberger recommended inviting Dr. (Ken) Bradbury, Wisconsin Geological and Natural History Survey, and Dr. (Mike) Fielen, U.S. Geological Survey, to make a presentation. Ebersberger said once the technical modeling is complete, he suggested having communities engaged in discussion of management options.

Burns thanked Smail and Ebersberger, noting the presentation provided clarifications and cleared up misinformation.

7. DNR RESPONSE TO HIGH CAPACITY WELL PERMIT REVIEW RESOLUTION: Burns felt this agenda item was covered during the presentation.

8. UPDATE: LITTLE PLOVER RIVER (LPR) BASIN MODELING PROJECT: Schmidt encouraged members check out the LPR Modeling Project website (he will provide the website address) that provides a good explanation. There is a 30 minute video presentation. Schmidt said Ken Bradbury and another member of the team will present at the May GCAC meeting. The project will be established by that time. Burns said Mary Beth Kniffin, a PhD student working on the project, would like to do personal interviews to get public opinion and attitudes on the project.

9. UPDATE: TOWN OF HULL REPLACEMENT WELLS IN THE VICINITY OF THE CITY OF STEVENS POINT MUNICIPAL WELL #11: Schmidt reported well information, groundwater flow maps, and depth to groundwater information has been provided to the hydrologist hired by the Town of Hull. Schmidt updates Portage County's GIS with well information from DNR's database monthly. He cautioned that not all wells installed are reported to the DNR by the well driller. He reported there have been a number of abandoned wells in the Town of Hull area, which are also entered into the County GIS.

Zimmerman said 44 wells have been replaced to his knowledge. The DNR permitted the City of Stevens Point well, and acted properly; however, wells in the area have dried up in a short period of time. Data is being gathered and will be presented to the Town of Hull Board in March or April. The Town of Hull is in the process of forming a Water Commission to monitor these types of issues.

Schmidt stated municipal wells are better modeled than other high capacity wells before being approved by DNR to begin test pumping, then production pumping. He said, according to George Kraft, groundwater is naturally at a certain level, and streams at a certain flow. Any well, high capacity or private, installed to pump water for consumption modifies groundwater.

Hinrichs believes it would be advantageous to see how modeling is done for municipalities. Fritsch stated engineering studies are done before applying for a municipal well. A test well is put in and pumped for 30-45 days straight to get an idea what the permanent well will do. Hinrichs asked if there is enough water coming into the system to support what is being withdrawn. Fritsch said that is considered, as well as water quality, nitrates, iron, manganese, or other elements that would require treatment. Hinrichs asked to have a short presentation at a future meeting on the steps taken to site municipal wells.

10. GCAC AND SUBCOMMITTEES: MISSIONS AND MAKEUP:

Schmidt distributed descriptions of the mission statements of the three subcommittees and what has been done in the past. The Continuous Assessment Subcommittee (CAS) submitted a report on groundwater quality to GCAC and the County Board, and for the time being, their work is complete. The CAS is now one with the Public Involvement and Education (PIE) Subcommittee. McKee said the PIE members are working on articles for the newspaper. Schmidt said subcommittee members can be members of the public; however the chair must be a GCAC member appointed by their municipality.

11. GCAC MEMBER REPORTS:

Mallek, Village of Junction City, explained the Village has a municipal wellhead ordinance, which prohibits highway right-of-way in the recharge area. During the rerouting of U.S. Highway 10, Department of Transportation (DOT) representatives assured the Village contamination would not be an issue. Mallek said the nitrate levels in one of the three wells is increasing at an alarming rate. There is strong evidence pointing to the ponds dug for fill for the construction of U.S. Highway 10. The Village gets their water through fractured bedrock. The ponds were dug in former farm fields down to the fractured bedrock. There is runoff from the highway. In the next several months, the Village may have to shut down the well. They will barely meet peak demand with the other two wells. Their options are to construct a new well or treat the existing well water, with costs estimated between \$750,000 and \$900,000. When the ice thaws, the UWSP and Rural Water Association will assist with testing the ponds to determine the source. It is not known whether there is any legal recourse with the DOT or the contractors that dug the ponds. In addition, culverts were installed under the highway at County Road O, which drains everything east of the area into the parking lot within 50 feet of the wellhead. Mallek said samples are tested quarterly and they are hoping the nitrates levels may drop from the current 9.6.

12. NEXT MEETING DATE

The next meeting is scheduled for Thursday, May15, 2014 at 7:00 p.m., Conference Room 5, County Annex.

13. ADJOURNMENT

Motion by McKee, second by Hinrichs to adjourn. Motion carried by voice vote. The meeting adjourned at 9:05 p.m.

 /Patty Benedict/
Patty Benedict, Recording Secretary

 /Ed Burns/
Ed Burns, Chair

 5/15/14
Date

**PORTAGE COUNTY GROUNDWATER CITIZENS ADVISORY COMMITTEE
CONFERENCE ROOM 5, COUNTY ANNEX
THURSDAY, May 15, 2014 - 7:00 P.M.**

MEETING MINUTES

GROUNDWATER CITIZENS ADVISORY COMMITTEE (GCAC) MEMBERS LISTING:

MUNICIPALITY	MEMBERS NAME	Attendance	MUNICIPALITY	MEMBERS NAME	Attendance
TOWNS:		5/15/14	TOWNS:		5/15/14
Alban	VACANT		Plover	VACANT	
Almond	Edward Burns	Present	Plover Alternate	VACANT	
Amherst	Mike Burress	Present	Sharon	Casey Jakubek	Present
Belmont	Mike Warzynski	Present	Stockton	Richard Filtz	Absent
Belmont Alternate	Rita Walkowicz	Present	VILLAGES:		
Buena Vista	John Ruzicka	-----	Almond	Richard Burns	Present
Buena Vista Alt	Roger Turzinski	-----	Amherst	Mike Hinrichs	Present
Buena Vista Alt	Lynn Isherwood	Present	Amherst Junction	VACANT	
Carson	Fred Copes	Present	Junction City	Peter Mallek	Excused
Dewey	Dennis Meis	Present	Nelsonville	James Walker	Absent
Dewey Alt	Kathy Girolamo	-----	Park Ridge	Dan McFarlane	Present
Eau Pleine	David Hansen	Excused	Park Ridge Alt	Christine Neidlein	-----
Grant	Mary Kiedrowski	Present	Plover	Dave Fritsch	Present
Grant Alt	Scott Provost	Present	Rosholt	VACANT	
Hull	Tim Zimmerman	Present	Whiting	Matt Saloun	Absent
Lanark	Bill McKee	Present			
Linwood	Garth Frost	Present	CITY:		
New Hope	George Guyant	Absent	Stevens Point	Joel Lemke	Present
New Hope Alt	Cathy Derezinski	-----			
Pine Grove	VACANT				

STAFF PRESENT: Ray Schmidt, Jeff Schuler, Steve Kunst and Amy Goffin, Planning and Zoning Department.

OTHERS PRESENT: Ken Bradbury, David Grandkoski, Penny VanTassel, Cecile Stelzer-Johnson, Dana Duncan, Thomas Duncan, Matt Jacowski – Portage County District 22; Bill Leichtnam, Bruce and Doreen Dimick, Barbara Gifford, Lynn Isherwood, Jim Wysocki, Jacqueline Wille, Rep. Scott Krug – 72nd Assembly District; Barry Jacowski – Portage County District 23; Gail Kretschmer, Pete Arntsen, Bob and Diane Grueneberg, Jerry Walters – Portage County District 17, Joe Friday, Joe Greening, Nic Schmeiser, Ken Schroeder – UW Extension; Patty Dreier – County Executive.

1. CALL TO ORDER: The meeting was called to order at 7:05 p.m. by E. Burns, Chair.

2. INTRODUCTION OF NEW MEMBERS: No new members.

3. REVIEW/APPROVAL OF MINUTES FROM MARCH 6, 2014: Motion by McKee, second by Lemke to approve the minutes as presented. Motion carried by voice vote.

4. CORRESPONDENCE: No correspondence presented.

5. BURNS READ THE PUBLIC NOTICE: Members of the public who wish to address the Committee on specific agenda items must register their requests at this time with such comments subject to the reasonable control of the Committee Chair as set forth in Robert's Rules of Order. No one registered to speak.

6. PRESENTATION; LITTLE PLOVER RIVER BASIN MODELING PROJECT – KEN BRADBURY:
Bradbury thanked the Groundwater Citizens Advisory Committee (GCAC) for the invitation to present.

Complete PowerPoint presentation on file.

A question was asked about what some terms meant. Bradbury stated:

- Stratigraphy – the geological layering

- Heterogeneity – a lot of variations and/or change; such as clay vs. sand
- Aquitards – will not allow water to go through; such as clay and silt
- Kv:Kh - vertical conductivity ratio to the hydraulic horizontal conductivity; meaning water might move more rapidly and this tells the ratio between the two.

Zimmerman asked Bradbury if this model will be used outside the Little Plover River, can he push north to the Town of Hull. Bradbury replied the Town of Hull should be included in the model and it will be very useful to that area as well as many others. Zimmerman asked once the study is done, would the instrumentations be left or maybe even taken over by the County or City to continue monitoring. Bradbury replied they do not plan on leaving any instrumentation behind. The model will end up being used by consultants, university students or professors as a tool for informing decisions; but training would be provided.

McKee asked how many lakes are in the study. Bradbury replied there are about 5 or 6 lakes in this area that will be in this study.

E. Burns asked where Bradbury will get the evapotranspiration rates for rooftops and asphalt. Bradbury replied rooftops and asphalt do not have any, it is all evaporation. There was discussion on how to measure evaporation; Bradbury stated that is something he will have to look into and put into the model to test to see how much of a difference it makes.

An audience member asked if the model can measure the water underground; example being: Whiting to Plover. Bradbury replied yes, the model is very good at showing water balance calculations; and this will help find better places to put wells.

Zimmerman asked how this model will transfer to other locations with different geophysical properties (rock or clay). Also, this was done because the Department of Natural Resources (DNR) wanted water laws to be based on science not assumptions, so will that change the water laws in Wisconsin. Bradbury replied the change of water laws is above his pay grade; and the DNR is definitely looking for science based objective decision-making tools, and these tools can be applied anywhere. Zimmerman asked how they would be able to integrate the climate change from year to year into the model. Bradbury replied they will be able to put different conditions into the model and run many scenarios to see what the range of outcomes might be.

An audience member asked about lake and stream elevations. Bradbury replied they started with the digital elevation models that seem to be very accurate, but old topographic maps do a better job of getting the stream elevations correct. Although streams change, so they will have to go back with their high resolution GPS and take shots in order to make sure they are correct.

An audience member asked about how they know how much water is being used out of each well; is there a meter in every well. Bradbury replied there is not a meter in every well; they have to rely on what the pumpers report. An audience member asked if the data could be skewed. Bradbury replied that is a question for Bob Smail; and Smail has compared what the growers report shows, to what crop has grown, and what the water needed by that crop is, and he says it balances very well. An audience member stated this does not take into consideration small wells. Bradbury stated an average home does not use very much water compared to irrigation wells. He stated it was brought to his attention awhile back that people irrigate their lawns and fill pools, and Bradbury stated in those instances, it might be worth looking into a few domestic wells.

Burress asked if the presentation was available on the web. Bradbury stated the website has not been updated lately, but plans on getting all information on there soon.

An audience member asked about how long until this study is completed. Bradbury stated this study should be completed in about a year.

Lemke asked what the timeframe is for looking for information to calibrate the model and how far from the north boundary of the study area. Is it straight west to the Wisconsin River? Bradbury replied yes, and if there is data available, it would be very useful for his studies.

E. Burns thanked Bradbury for his presentation and hard work.

7. UPDATE: LITTLE PLOVER RIVER WORKGROUP:

Schmidt stated there is currently healthy water flow by Kennedy Avenue, Country Road R, and Hoover Avenue. From 2005 through January 2011 the River was below the public rights flow at County Road R and Hoover Avenue; but in late 2011 through early 2012 there was good flow.

Schmidt visited the River earlier in the day and saw some nice sized fish; bigger than he is used to seeing. He also saw a few monitoring stations that Fritsch said could belong to the Wisconsin Institute of Sustainable Agriculture (funded by potato and vegetable growers) in addition to Bradbury's.

Del Monte moved their spray wastewater from south of County Road B, to north of County Road B. Del Monte now sprays their non-contact cooling water closer to the Little Plover River, and that contributes to the streams flow.

Schmidt stated the Land Preservation Committee and DNR teamed up to provide money to purchase about 110 acres of irrigated land; the actual grant application was completed by the Village of Plover. By taking that land out of irrigated agricultural, it will leave more groundwater in the system to feed the Little Plover River.

Schmidt stated a happy accident that happened was the closing of the Whiting paper mill, as it stopped withdrawing a million plus gallons a day from the Village of Whiting wells, and that helped improve the flow of the Little Plover River.

McKee asked if all of these things were done without legislation. Schmidt replied yes, except for the Public Rights Flow at County Road R; it is at 4 cubic feet per second and that was used as a guideline for the Land Preservation Committee and DNR grant.

Zimmerman stated he sees everyone contributing to a problem. Everyone is trying to help the Little Plover River without it being regulated; but how will it be assessed if people are skewing the results? Schmidt replied they will be modeling what suggestions people give them for things that might help. Bradbury stated he will need numbers on crops when they get that far, then he can make predictions on what the costs might be. An audience member stated farmers rotate their crops from year to year. McKee stated some do and some do not. Schmidt stated every farmer is different, and they all rotate their crops differently.

An audience member asked Schmidt if he has ever heard of any studies about diverting treatment plant discharge, and returning it to the aquifer rather than discharging it into the Wisconsin River. Could it be piped uphill to restore the aquifer like Almond does? Schmidt replied that the Village of Almond has a spray wastewater field with irrigation, and also private wells and municipal sewer systems, but he has not heard of any studies. B. Jacowski asked what the amount of discharge is per day. Lemke stated for the Stevens Point treatment plant there is about 3-3.5 million gallons per day discharged into the Wisconsin River. It was then asked if this was from sanitary sewers; Lemke stated it is just wastewater. Bradbury stated all of the wastewater in the City of Verona gets treated and put back into Badger Mill Creek; piped out about 8 miles and goes both ways. R. Burns stated the Village of Almond pumps over 1 mile from the lift station out to the pond. Hinrichs asked Lemke if the 3.5 million gallons was more or less than what the wells produce; is there groundwater infiltration into the system that is getting treated that would be above what the wells are producing. Lemke stated they have infiltration issues to a point at certain times of the year like a lot of places, but there are also uses of water that never make it to the sewer, so generally speaking, the wastewater treatment plant is less. Lemke stated Stevens Point sewage load is far less because the City does not treat the paper mills' wastewater, they treat their own, but use water from the City.

8. DISCUSSION: PROPOSED GOLDEN SANDS DAIRY ENVIRONMENTAL IMPACT REPORT (EIR):

Schmidt stated quite a bit of the water feeding that area flows from Portage County into Wood and Adams Counties; and about 1/3 of the recharge area is in Portage County. There has been an EIR completed by Papadopulos and Associates, and submitted to the DNR. This will be reviewed by DNR staff over the next few months. The DNR will then put together a preliminary conclusion and write up an Environmental Impact Statement (EIS), post it for public comment, and then take into consideration any public feedback they receive.

Zimmerman asked what would happen if small sections of the report were not in line with regulations, are they modified. Schmidt replied he would be very surprised if they had to redo the entire report, if there were only some small areas that needed to be addressed. Schmidt stated there are 49 wells proposed; 2 for farming (watering

animals), and 47 for growing crops to feed animals. Each well will receive its own review and the whole plan is receiving an overall review. Wysocki wanted to clarify that the EIR is done by the applicant and the DNR writes the EIS as their own decision with its own information, and the DNR will accept, reject or modify anything it needs to. Therefore, if the DNR does not agree with what is there, they will change it or throw it out and start from scratch. Wysocki also clarified that the original well proposal was 49 and 47, but has since changed to 39 and 37 wells, respectively

Zimmerman stated there were concerns with pollution in wells by nitrates with the dairy farm near Nekoosa in Wood County; so does the EIS address those concerns? Schmidt stated the nitrate concentration is modeled in the EIR that was submitted to the DNR. Zimmerman stated his main concern is Portage County's wellwater being eliminated or contaminated. An audience member stated that the nitrate levels near the barns in Armenia were extremely high. Another audience member stated the polluters were fined, changed names, and now the DNR is thinking of raising the allowable level of nitrates. E. Burns asked that we save legalities for another time.

9. PRESENTATION: REQUIREMENTS AND PROCEDURES FOR DETERMINING CAPACITY AND SITING OF MUNICIPAL WELLS – JOEL LEMKE:

Complete PowerPoint presentation on file.

A question was asked about Stevens Point well #11 and how the water level dropped less than 1.5 feet; Lemke replied this referred to cases on average, and 1.5 feet is very little change.

Dreier asked how often they check monitoring wells. Lemke stated usually 3-4 times a month, but in the winter it is less because it does not change much. Dreier asked if that checked the quality and quantity as well. Lemke replied yes, there are several contaminants they test for. Dreier asked if well #11 was running constantly or if it gets shut off at any time, and at what capacity it is running. Lemke stated it runs all the time. Due to precipitation change, it needs to be running to be able to catch all the changes; and well #11 runs at 2,000 gallons a minute. An audience member asked what percentage of capacity that was. Lemke replied the treated capacity of the plant is about 40%.

10. UPDATE: TOWN OF HULL REPLACEMENT WELLS IN THE VICINITY OF THE CITY OF STEVENS POINT MUNICIPAL WELL #11:

Schmidt stated he told the Town of Hull Chairman, John Holdridge, that he would keep the GCAC updated and informed about what is going on in the Town of Hull. The Town met with their consultant, Steve Gaffield of Cottage Grove; and they are still in the process of gathering background information for Gaffield to decide whether or not well #11 has had any impact on the private wells.

Schmidt stated there have been a few more drilled wells installed in this area of Hull over the winter/spring to replace ones that have gone bad or were not code compliant.

Schmidt stated he has been watching a long-term monitoring well north of Jordan Road since the early 90's. In 1993, there was a lot of high groundwater and surface flooding in that area and the Town put in ditches to alleviate the surface flooding. Schmidt stated the Town put in a few monitoring wells to see how well the ditches were diverting the water to the creek, and as an early warning system should this high water ever happen again. Until this year there has not been steady spring rain and if it continues there could possibly be high water again.

Schmidt stated Holdridge made an open record request of the City to provide all documents relating to well #11, and the City is in the process of putting those together. Lemke stated people from the Town of Hull came by to review documentation to save on copies.

Schmidt stated there has been a High Capacity Well Permit applied for near Jordan Road and Torun Road; and it is currently being reviewed by the DNR. Schmidt stated he will continue to track this and keep everyone informed. An audience member asked what the well was for. Schmidt replied it is for an irrigation well for 80 acres of proposed crop land.

11. GCAC MEMBER REPORTS:

E. Burns provided a print out that shows the irrigation wells depth to water, and found it interesting to see the differences in water from the spring of 2010 until now.

**PORTAGE COUNTY GROUNDWATER CITIZENS ADVISORY COMMITTEE
CONFERENCE ROOM 5, COUNTY ANNEX
THURSDAY, July 17, 2014 - 7:00 P.M.**

MEETING MINUTES

GROUNDWATER CITIZENS ADVISORY COMMITTEE (GCAC) MEMBERS LISTING:

MUNICIPALITY	MEMBERS NAME	Attendance	MUNICIPALITY	MEMBERS NAME	Attendance
TOWNS:		7/17/14	TOWNS:		7/17/14
Alban	VACANT		Plover	Joe Firkus	Present
Almond	Edward Burns	Present	Plover	Roger Bentley	Present
Amherst	Mike Burress	Present	Sharon	Casey Jakubek	Present
Belmont	Mike Warzynski	-----	Stockton	Richard Filtz	Absent
Belmont Alternate	Rita Walkowicz	Present	VILLAGES:		
Buena Vista	John Ruzicka	Absent	Almond	Richard Burns	Present
Buena Vista Alt	Roger Turzinski	-----	Amherst	Mike Hinrichs	Present
Buena Vista Alt	Lynn Isherwood	-----	Amherst Junction	VACANT	
Carson	Fred Copes	Excused	Junction City	Peter Mallek	Present
Dewey	Dennis Meis	Present	Nelsonville	James Walker	Present
Dewey Alt	Kathy Girolamo	-----	Park Ridge	Dan McFarlane	Present
Eau Pleine	David Hansen	Excused	Park Ridge Alt	Christine Neidlein	-----
Grant	Mary Kiedrowski	Present	Plover	Dave Fritsch	Absent
Grant Alt	Scott Provost	-----	Rosholt	VACANT	
Hull	Tim Zimmerman	Present	Whiting	Matt Saloun	Absent
Lanark	Bill McKee	Present			
Linwood	Garth Frost	Present	CITY:		
New Hope	George Guyant	Absent	Stevens Point	Joel Lemke	Present
New Hope Alt	Cathy Dereziński	-----			
Pine Grove	VACANT				

STAFF PRESENT: Ray Schmidt, Jeff Schuler, and Amy Goffin, Planning and Zoning Department.

OTHERS PRESENT: Jerry Walters – Portage County District 17, Ken Bradbury, Maribeth Kniffin, Nathan Sandwick – UW Extension, and Patty Dreier – County Executive.

1. CALL TO ORDER: The meeting was called to order at 7:05 p.m. by E. Burns, Chair.

2. COUNTY EXECUTIVE ADDRESS: GROUNDWATER STEWARDSHIP: Dreier thanked the Committee for allowing her to speak. Dreier provided members with a complete packet of her Address on Groundwater Stewardship. Dreier also shared a picture of a billboard from her trip to California that stated “No Water Valley Farms 2014 = No Jobs.” (Packet on file)

Dreier asked GCAC members to work on action strategies over the next 6 months, and then get together and share ideas so a plan can be put together.

E. Burns stated San Joaquin Valley is all runoff water. McKee stated they have started to drill. E. Burns stated San Joaquin Valley receives water allotments, so they have been regulated. Dreier stated they will have to spend about \$500 million dollars on pumping costs. Dreier stated she does not know how similar Portage County is to them, but she would rather not find out, but instead prevent it from getting that far.

Dreier stated for the next 6 months she will conduct listening sessions in every municipality in Portage County, in hopes to gather more ideas on how to improve our groundwater situation. E. Burns stated the improvement of groundwater would have to be a voluntary act; we do not have any authority. Dreier stated if there was authority created you could. R. Burns asked if she was going to create County laws that supersede State laws. Dreier stated that is not what she is intending to do, just make stewardship a way of life. That would be what we need to discuss; what homework we need to do. Schmidt stated what we need is motivated people, and some are in this room. Dreier stated she is just looking for a small group of people that would like to participate in this.

Walters stated the Little Plover River Group is the model for the State on Groundwater Stewardship, with all the work they have done. Del Monte spent between \$3-5 million dollars to buy property along the Little Plover River (LPR), and their cooling water is pumped into a pond that runs into the LPR. Walters also stated the Village of Plover, with the help of the Department of Natural Resources (DNR), purchased property and got farmers involved. At their own volition, only one farmer along the LPR is growing potatoes this year to save on water. There is a lot of science going on above and below the ground. There has been a tremendous amount of work done by the Little Plover River Group, which has gotten the villages and farmers to do things of their own volition. Dreier asked Walters if he is saying to just let it be then. Walters replied no, you are looking for direction to get better stewardship and he is stating the direction has been taken already by farmers, manufacturers, and municipalities. All of which are being used right now as a model for the entire state of Wisconsin on how to be a good steward of the groundwater and surface water. Walters stated we do not need to reinvent the wheel; the wheel has already invented, the County just needs to build on what has already been built. The stewardship Dreier is looking for is there; what needs to be done is to find out the ideas of the Little Plover River Group, and how to get funding to do what they are not able to. Dreier stated she did not mention the Little Plover River Group because she did not want people thinking in only one way; she wants to keep ideas open. Dreier stated she would love comments and feedback; positive or negative, and thanked the Committee for their time.

3. INTRODUCTION OF NEW MEMBERS: E. Burns introduced Firkus and Bentley as new members for the Town of Plover, and asked them to tell a little about themselves.

Firkus stated he is a farmer, has 3 children, and 6 grandchildren. McKee asked how many wells are on his farm. Firkus stated he has only one well and farms 200 acres.

Bentley stated he works in the Biron paper mill and takes care of the inlet of the water supply to the mill and the effluent going out, and has lived in Plover for 20 years.

4. REVIEW/APPROVAL OF MINUTES FROM MARCH 6, 2014: Motion by McKee, second by Burress to approve the minutes as presented. Motion carried by voice vote.

5. CORRESPONDENCE: No correspondence presented.

6. E. BURNS READ THE PUBLIC NOTICE: Members of the public who wish to address the Committee on specific agenda items must register their requests at this time with such comments subject to the reasonable control of the Committee Chair as set forth in Robert's Rules of Order. No one registered to speak.

E. Burns asked that when audience members address the Committee, to please state their name prior to speaking.

7. SUSTAINING CENTRAL WISCONSIN GROUNDWATER – MARIBETH KNIFFIN:

Kniffin stated the title was incorrect; she will not be speaking about Sustaining Central Wisconsin Groundwater, but rather Tunnel Channels based on the case study on Long Lake. Kniffin stated she was a PhD student at University of Wisconsin Madison with a background in Hydrogeology and Biology.

Complete presentation on file.

Bentley asked how deep tunnel channels are. Kniffin stated they were 10-20 feet beneath the ice; they are now depressions since the ice has melted.

Kniffin thanked Bradbury and others who helped with this project, and asked if there were any questions. McKee asked how do we know what is underneath us. Kniffin stated geoprobing; which is something they will be doing on the LPR for another project. Drilling and physically looking at it or doing different geophysical methods; such as using different equipment to transmit waves into the subsurface.

Hinrichs asked how the water flows through different sediments. Kniffin stated the water will flow through the layers that have larger pores, such as gravel or coarse sands; the path of least resistance.

Bradbury clarified that today the groundwater flow direction is controlled by the topography and recharge, and whether it flows east or west will depend on where the divide is. Sandwick asked if getting a better understanding of the stratigraphy helps fine tune the model. Bradbury stated yes. Walters asked if that meant there are places

where we could spot wells that would be beneficial instead of detrimental; and would not be taking away from surfacewater. Bradbury stated most efficient wells will be in the most permeable places, and if we can determine where those are, those wells will have less drawdown, and have less impact than wells in less permeable places. Walters asked if Bradbury would be looking at more transient models then. Bradbury stated transient models have changed with time so that is one option, but also spatially where the best place is to drill a well. Walker asked if that just meant some places have a higher recharge. Bradbury stated yes, but also high conductivity, and transitivity of the aquifer (how fast the aquifer can move water). You would want to put your well in a place with a higher conductivity or higher yield; that would allow water to get to the well faster. Walker asked if that meant it would draw at a faster rate. Bradbury stated you can draw at the same rate with less impact or faster rate with same impact as before.

E. Burns stated "tide will change when society is ready." Dreier thanks Kniffin, and agreed with E. Burns. She stated she has learned a lot tonight, and thought there were some very good questions, and that is what she is looking for; a small group to discuss and ask these questions. Dreier stated if we do not ask questions and keep our heads in the sand, we will not get anywhere. We are all teachers, let's put something together to be able to teach people; "the time is now." R. Burns stated he had an issue with the phrase "we all have our heads in the sand, and we need to start now." R. Burns stated this discredits all of the improvements farmers have made in water conservation over the last 20-30 years; no one is pumping water just to pump water. Dreier stated she will say it differently next time, but feels that people do not know all of the successes, and this is part of the education we need.

8. UPDATE: TOWN OF HULL REPLACEMENT WELLS IN THE VICINITY OF THE CITY OF STEVENS POINT MUNICIPAL WELL #11:

Schmidt stated the Town of Hull received information from the City of Stevens Point about a month ago. It is being analyzed by Town of Hull's Hydrologist to determine whether or not well #11 has had an impact on surrounding wells. Schmidt spoke with Holdridge, and it will be about a month before the results come back from the Hydrologist. McKee asked if the City has a Hydrologist as well. Lemke replied if need be. Lemke stated there are lots of things that can happen with this; all the information has been provided. Zimmerman stated if this has caused damage, he suspects this concern will affect new wells in the future.

9. GCAC MEMBER REPORTS:

E. Burns passed out the most recent figures that show Wisconsin's 2013 Water Withdrawals. Schmidt passed out the most recent figures that show Portage County's 2013 Groundwater Withdrawals. Schmidt stated in 2011, we pumped just under 18 billion gallons, 2012 we pumped 33-34 billion gallons, and in 2013 it went down to 27 billion gallons. E. Burns asked if they could get a summary that shows 2011, 2012, and 2013 together. Schmidt stated yes, and he would get that information out to the Committee.

McKee stated R. Burns' industry had significant changes in the last 20 years to conserve water. McKee stated the real issue in terms of management to him is the number of wells. There have been a number of new wells in the last few years; where is the control on the number of wells. McKee stated another point of Dreier's that he believes in is "time is now;" it is the will of the agricultural industry. Walters stated they are willing to do anything; they have been doing everything they can to save a dollar. Dreier stated she learned on a farm visit, that if there were more wells, they could have irrigated all the fields at night and used less water than waiting to do certain fields at certain times during the day. Firkus asked why sprinklers are going after a day of rain or when it is raining. E. Burns stated they like to irrigate when it rains because you do not have to irrigate as much; if it rains ¼ inch and you need a ½ inch, you're saving on irrigating.

10. NEXT MEETING DATE

The next meeting was scheduled for Thursday, September 18, 2014 at 7:00 p.m., Conference Room 5, County Annex.

11. ADJOURNMENT

Hinrichs moved to adjourn the meeting; seconded by McKee. Meeting adjourned at 9:02 p.m.

Amy Goffin, Recording Secretary

Ed Burns, Chair

Date

**PORTAGE COUNTY GROUNDWATER CITIZENS ADVISORY COMMITTEE
CONFERENCE ROOM 5, COUNTY ANNEX
THURSDAY, September 11, 2014 - 7:00 P.M.**

MEETING MINUTES

GROUNDWATER CITIZENS ADVISORY COMMITTEE (GCAC) MEMBERS LISTING:

MUNICIPALITY	MEMBERS NAME	Attendance	MUNICIPALITY	MEMBERS NAME	Attendance
TOWNS:		9/11/14	TOWNS:		9/11/14
Alban	VACANT		Plover	Joe Firkus	Present
Almond	Edward Burns	Present	Plover	Roger Bentley	-----
Amherst	Mike Burress	Present	Sharon	Casey Jakubek	Present
Belmont	Mike Warzynski	Present	Stockton	Richard Filtz	Present
Belmont Alternate	Rita Walkowicz	Present	VILLAGES:		
Buena Vista	John Ruzicka	Present	Almond	Richard Burns	Excused
Buena Vista Alt	Roger Turzinski	Present	Amherst	Mike Hinrichs	Absent
Buena Vista Alt	Lynn Isherwood	-----	Amherst Junction	VACANT	
Carson	Fred Copes	Present	Junction City	Peter Mallek	Absent
Dewey	Dennis Meis	Present	Nelsonville	James Walker	Absent
Dewey Alt	Kathy Girolamo	-----	Park Ridge	Dan McFarlane	-----
Eau Pleine	David Hansen	Absent	Park Ridge Alt	Christine Neidlein	Present
Grant	Mary Kiedrowski	Present	Plover	Dave Fritsch	Absent
Grant Alt	Scott Provost	-----	Rosholt	VACANT	
Hull	Tim Zimmerman	Present	Whiting	Matt Saloun	Absent
Lanark	Bill McKee	Present			
Linwood	Garth Frost	Present	CITY:		
New Hope	George Guyant	Present	Stevens Point	Joel Lemke	Present
New Hope Alt	Cathy Derezinski	-----			
Pine Grove	VACANT				

STAFF PRESENT: Ray Schmidt, Jeff Schuler, and Amy Goffin, Planning and Zoning Department.

OTHERS PRESENT: Jerry Walters – Portage County District 17, Barry Jacowski – Portage County District 23, Ken Schroeder, Dave Grandkoski, Sari Lesk, Tim & Karen Hannon, Nathan Sandwick – UW Extension, Scott Krug – State Assembly 72nd District, Katrina Shankland – State Assembly 71st District, Julie Lassa – State Assembly 24th District, James Gifford - Portage County District 14, and Patty Dreier – County Executive.

1. CALL TO ORDER: The meeting was called to order at 7:02 p.m. by E. Burns, Chair.

2. REVIEW/APPROVAL OF MINUTES FROM JULY 17, 2014: Motion by McKee, second by Burress to approve the minutes as presented. Motion carried by voice vote.

3. CORRESPONDENCE: No correspondence presented.

4. PUBLIC NOTICE: Members of the public who wish to address the Committee on specific agenda items must register their requests at this time with such comments subject to the reasonable control of the Committee Chair as set forth in Robert's Rules of Order. No one registered to speak.

5. OVERVIEW: COUNTY EXECUTIVE PROPOSED GROUNDWATER LISTENING SESSIONS: Dreier stated she will have 10 sessions that are currently in the process of being set up. The first confirmed session is September 30th at the Jensen Center from 6:30pm – 8:00pm. Dreier stated there will be two in each quadrant of the County, and after all sessions are complete there will be a debriefing session, of everything that was gathered at the end of January 2015. The concept is to have a groundwater 101 that would provide basic facts about groundwater that everyone agrees on, and then briefly point out items that are not agreed on or understood by everyone. Dreier stated information would be provided on how water works in each part of the County such as; what are the water features, what are current situations with water, how water is used. Example: if you were in Junction City you might talk about the sewage treatment plant. Dreier stated this is a good teaching opportunity so people understand watershed, and where groundwater stands in different parts of the County. The last piece of the session would be to gather what is going well with our groundwater, what are the issues, and

discuss ideas. Dreier stated after completing 9 sessions she will have a large list of pros, cons, and ideas that will be brought to session 10's debriefing. This will then show us common themes of issues we may want to pursue, and then these items develop into action strategies we would put into a Groundwater Management Plan for the County. Dreier stated this is her vision, and asked if anyone had any ideas or questions. Zimmerman asked if the listening sessions would be happening every week. Dreier replied her assistant Jami is working on availability/scheduling, there could possibly be a few in one week. Dreier stressed she will not tolerate shouting or finger pointing at these listening sessions. If it happens, the person(s) would be asked to leave. Burns asked Dreier how she plans on getting the word out. Dreier replied there will be press releases, and stated she will look for assistance from Planning and Zoning for recording of the small groups. Burns asked if Dreier could explain the small groups. Dreier replied a few tables with pens and paper to have small groups discuss and write down issues and ideas. Dreier stated she is still framing questions and an outline, but she has been studying a ton. Zimmerman stated discussing problems and concerns would mean you will have solutions which costs money, and asked if there is money available. Dreier replied there are no additional resources for groundwater in Portage County's Budget that she plans to propose in early October; not until we could achieve a vision together. Dreier stated we do not know all the concerns or solutions yet, that is why we are having these listening sessions. Dreier thanked the Committee for letting her speak, and asked for ideas or questions. Schmidt stated GCAC can certainly help with getting the word out, let their municipalities, friends, and families know. Burns asked if Committee members could be on an email list when the dates are set. Dreier stated that was a great idea, and she would let Amy in Planning & Zoning know so she can email the list to GCAC. Burns asked if anyone was familiar with work done by Pete Nowak, and stated he is a Professor from Madison who started some small group sessions similar to this, but his sessions fizzled out. Dreier promised Burns she will not fizzle. Burns stated he thought Dreier may want to get ahold of Nowak for some residual documentation.

6. GROUNDWATER AND SURFACE WATER LEVEL MESUREMENTS FOR 2014 COMPARED TO PREVIOUS:

Schmidt presented a slideshow that provided an overview on what we know about groundwater levels over time, as well as recently. (Complete presentation on file.)

Turzinski asked if the wells shown on the graphs were test wells or used for something. Schmidt replied they were monitoring wells, not used for anything but groundwater level monitoring. Turzinski asked if records were kept for the correlations between fluctuations of the depths of the groundwater on Lake Emily. Schmidt replied the groundwater well is at the edge of the Lake where the high-water mark would be. B. Jacowski stated looking at the graph, the water from July 2014 to August 2014 has gone down, and asked if that was correct. Schmidt replied yes, it has gone down about ½ a foot. Turzinski stated from July 2014 to current it should not be down because we have had a lot of rain and not a lot of pumping. Schmidt stated yes, that is strange. McKee stated there is a new well within the last year or two north of the Lake. Turzinski replied they would not have been using it much if at all in August. McKee agreed. B. Jacowski asked what the recharge rate is. Schmidt replied it depends on the subsurface material; the groundwater level will not start rising until everything from the surface down to the groundwater is completely saturated. The Town of Almond's groundwater is at about 100 feet, so it will take longer; the Little Plover River is only 8 feet making the groundwater table have a faster response rate, but that makes it deplete a lot faster as well. Schmidt stated there has been recharge in most areas of the County because of all the rain.

Burns asked if the Town of Plover well was affected by the sewer that was put in. Schmidt replied they did put a sewer in by County Road R, and asked Firkus when that was installed. Firkus replied about 7 years ago, 2007. Schmidt stated that was about when the Village put in the new well also. Burns asked about dewatering. Schmidt stated they dewatered when they installed the sewer east of I-39. Firkus asked what dewatering meant. Schmidt stated they put in high capacity wells so they can pump the water down to excavate and put piping in, and after it is all connected, they stop pumping and allow the water to rise. Burns stated there was about a 16 inch pipe run under the Interstate for about 2 years. Firkus asked if it there were multiple wells. Schmidt replied yes. Turzinski stated they used a horizontal well; drain tile is about 20-25 ft deep, put a screen with a sock over it, suck the water like an irrigation well; it was only temporary. Burns stated if the water was 12 feet down they must bury the sewer deeper. Turzinski stated 25 feet, which is where they laid the pipe.

Turzinski asked if the Bancroft well was in the drainage district. Schmidt replied if it is not, it is close, and stated drainage ditches keep the water table more level. Burns stated in 1993 he had a cattle pasture near the Bancroft well, and there was standing water; the graph shows water is down now. Schmidt replied he did not have the monthly readings here from 1993, like there are currently. B. Jacowski asked if today's readings are monthly. Schmidt replied yes, monitored by County staff. Burns asked what happened in 2004 that the water fluctuated so

much. Schmidt replied he is uncertain; could have possibly been recorded incorrectly. Walkowicz asked if the Tri County well fluctuates less because the ground is heavier and holds more water verses places with more sand. Schmidt replied the sand is finer in the southwestern portion of the County, and this well is actually in Wood County. Schmidt stated the closer you get to the groundwater divide, the more the groundwater fluctuates. B. Jacowski asked Schmidt if one of the groundwater levels was recorded incorrectly, then any one of the peaks on the graphs could be incorrect then. Schmidt replied he is pretty confident the rest of the results are accurate; and stated the graph does say "provisional data subject to revision." Schmidt stated he is going to talk to the gentleman at U.S. Geological Survey (USGS) that publishes these graphs online, and ask him to go back and review the data. Turzinski stated even if it is incorrect, it is the best we have to go on. Schmidt stated he does not look at the graphs and establish a trend; there is a trend, but not by using those statistical outliers and no one relies on these graphs for that purpose. McKee asked why we only use 4-5 test wells when there are numerous wells that have been drilled and not currently in use. Schmidt replied USGS has done a lot of work, and it has been determined they do not need all these wells in use and they cannot monitor them all. B. Jacowski stated he has 2 USGS wells on his farmland, and asked why spend the resources to put them in and not use them. B. Jacowski stated the variable precipitation would be very beneficial to watch. Schmidt replied the wells were installed back in the mid 90's when there was a federal project called "National Assessment of Water Quality and Quantity" (NAWQA), and before they could read them more than a few times, the funding ran out. Schmidt stated the wells were never abandoned, and the potential is still here to use them. B. Jacowski stated the potential is there to gather a lot of data, but no one is using it. Schmidt stated a well on B. Jacowski's land is being monitored. Dreier stated if we put together a volunteer group that would monitor the wells, that would be great. Where there is a will there is a way. There would need to be training to teach the volunteers the correct way to read, monitor, and record the well data. B. Jacowski stated he would check the well on his land but it is locked, and he understands because someone could contaminate it. B. Jacowski asked Schmidt if someone lied to him about monitoring the well on his land because he has not seen any tracks. Schmidt replied he does not know. E. Burns asked if that well was being monitored by Jess Haucke from the University. Schmidt replied he thought Haucke was monitoring it; she does a lot of streamflow monitoring and checks some wells. E. Burns stated Haucke checks the well south of his house and calls him every time. McKee asked if these wells are monitored manually. Schmidt replied yes, majority are monitored manually; there is one in Hancock that is on a continuous reader, and stated it is displayed on the USGS website. McKee asked how much a remote monitor costs. Schmidt replied he could find out from the Little Plover River Group (LPRG) as they have one out there that gives real time information, 24-7. B. Jacowski asked what the reader is; is it a floating ball with a transmitter? Schmidt replied it is a pressure transducer that is left in the well, and it senses the pressure on the transducer as the water above it rises, as water falls it is less pressure; has an automatic data recorder. Schmidt stated this particular one the LPRG uses has telemetry so it broadcasts the signal directly to the computer that records it onto the website in real time. B. Jacowski asked if anyone knew how much a reader like the LPRG has costs. Schmidt stated the last he knew it was around \$5,000, could possibly be a little less. Firkus asked how the wells are constructed, screen at the bottom? Schmidt replied the well used by LPRG is a drilled well with screen on the bottom. Firkus asked if the screen could get plugged. Schmidt replied that is very unlikely. B. Jacowski stated they are stainless steel screens. Burns stated he has been measuring a well for a few years, and measures it before each meeting and it is up a ½ foot since the last GCAC meeting. Turzinski asked what the fluctuation is on that well. Burns replied 1 ½ feet over the season; spring-time it is always high.

Burns passed out a graph comparing rainfall readings from August 2014 to past years. Burns stated he measured the rainfall at 4 different sites, and this year he only had to pump twice in August; it has been a good year for recharge. (Graph on file.)

7. LIKELY LEGISLATIVE PROPOSALS FOR HIGH CAPACITY WELL PERMIT REVIEW:

Lassa stated she is researching what Minnesota and Michigan are doing in terms of their groundwater management as they are facing similar issues. The Administrative Law Judge ruling stated under the public trust doctrine the Department of Natural Resources (DNR) has to look at cumulative impact for high capacity well permits, and Lassa fully anticipates this will be appealed. Lassa stated the ruling does make it more probable that former Senator Kedzie's Bill will be reintroduced next session; and she stated Senator Fitzgerald agreed to that statement as well. Lassa stated the Legislature is out until January; that is when the new session starts. The DNR gave a presentation in January 2014 about what they are looking to get out of the LPRG Project; which is putting together a water budget, or a bank that shows how much water came in, therefore you know how much water can be used. The DNR is working on this with USGS and some hydrologists from UW system.

Shankland stated the Supreme Court's unanimous decision for Lake Beulah stated that the DNR not only has the authority, but also the duty, to take into consideration the effects of high capacity wells on Wisconsin's groundwater. What the DNR has not been doing over the past 3 years according to the Richfield Dairy decision and the Administrative Law Judge who decided it, was they have not been taking into consideration the cumulative impacts. The Richfield Dairy decision had been made very clear that the DNR does have the authority to take into account cumulative impacts. It did not make clear whether or not they are required to, and this only applies to the Richfield Dairy case. Shankland stated she is waiting to hear what the DNR is planning to do next, and what their authority is. Shankland stated Senator Fitzgerald stated Bill SB302 or a Bill similar to it was going to come back in the next session, and her concern with this Bill is it takes the Lake Beulah decision and overturns it through law. That would essentially make the DNR unable to take any kind of scientific impacts into account when looking at conditions for permitting wells. In addition, in the last budget cycle (2013), motion 375 took away the ability for citizens to challenge well siting based on cumulative impacts. We are unsure what kind of effect the Richfield Dairy decision made on motion 375. Motion 375 is still law, but because the DNR now has the authority for cumulative impacts, there is a question of whether or not that is a challengeable decision in court based on motion 375. Shankland stated there is a lot pending just through the courts, and thinks there are two important things regardless of where you stand: 1. We should be able to use science to properly make permitting decisions as well as conditioning decisions; and 2. The citizens should have the right to challenge a well based on cumulative impacts when we do have the public trust doctrine in our Constitution. Shankland stated these are things she thinks legislation will have conversations about regarding what is going on with the Richfield Dairy decision; when and if it becomes a Statewide impact decision, and what kind of legislation they will be looking at. Shankland believes based on what Senator Fitzgerald said, this is only going to polarize the debate, it will make things a lot more contentious, more emotional, and she does not want any kind of legislation to favor any one group of people over another when it comes to this issue. It needs to be balanced, moderated, and needs to be sustainable; you do not want one party to come into Madison and pass legislation that significantly harms one group of people, and then four years later another party comes in to try and balance it out. You want all groups to come together and forge a solution that everyone can agree to, and that is what she has an interest in.

Krug stated he wants to make sure there is input from everyone; he put together a Citizens Advisory Group about a year ago in his district, including the 4 counties he works with (Portage, Adams, Wood, and Waushara) in hopes of coming up with a solution. Then realized rather quickly there is no "one" solution to anything. The proposal they worked on, that Senator Fitzgerald has taken and made reference to, is the alternate version of what Senate Bill 302 was. Senator Fitzgerald has made very clear that this is a priority to him and the Senate; we will see what the priorities of the State Assembly are. Speaker Voss of the State Assembly has said he would like to see a Statewide fix for groundwater issues as opposed to just a Central Sands fix. Krug stated he is more interested in looking at a Central Sands fix first. Krug stated he has been working with the farmers union and other groups to try and figure out how to bring Michigan's model to Wisconsin knowing how different Michigan and Wisconsin are. Krug's initial proposal was to look at the groundwater divide area, and give the DNR more authority, more money, more input, and more leeway to try and figure out why those fluctuations happen more in the continental divide areas; Krug believes this is a great area to start. The big point to make right now is that we do not know what the exact answer is, or what the data is telling us. We have some idea, but to go out and punish a certain group for certain actions that we do not know are the cause of the problem is not something he is interested in doing. Krug stated we need to do more studies, and find more correlation as to why things are happening the way they are in different locations. Krug stated it is never a popular decision to say the DNR should have more authority, but they are the regulatory agency in charge of this. By using the studies from the LPR, Ken Bradbury and others, we will see opportunities to get some real down-to-earth data that will tell us what exactly is happening in different locations, and then we can come up with a system that is more modified and fit individual situations. Krug stated the nice thing that is working for them right now is the Richfield Dairy case, it shows that the DNR has authority, and still has the mandate to look at cumulative impacts. We do not know how the DNR will react to that, but on the other hand there will be environmental groups who do not want to lose that decision entirely, and there will be growers and producers on the other side of the decision that do not want to implement it completely. That brings both sides to the table to discuss what the middle ground should be. Krug stated the decision to change motion 375 to allow the case to continue was advantageous, because the original motion said any ongoing cases related to this are being thrown out of court. So changing that motion allowed this decision to happen.

Burns stated there were a few things from Kedzie's Bill 302; replacement wells, and the permit were attached to the land; both very beneficial. Krug replied those are the things he talked to Senator Kedzie about changing.

There has to be transfer of ownership, and there has to be some attachment of the well to the land, because we need to create certainty for growers in order to keep property values in place. You have to have the ability to have a business model based on your current practice. Krug stated he has worked with the cranberry growers by looking at the drainage and the ditch to see how effective they are, because we need to find ways to increase recharge. Walters asked if the DNR or State has agreed on a particular science, because that seems to be an issue. Lassa replied that is what the LPRG was meant to do; the LPR was one of the most heavily studied rivers in the nation, and there has been a lot of data collected. The DNR put together the LPRG so they would be able to put together a management tool (water budget). Krug replied Walters made a great point; Krug's Groundwater Advisory Committee sat down and asked whose science they trusted. They were unable to pick one science because every area needs something different. Krug stated there are very valuable assets within UW Extension that will help aid in these decisions. B. Jacowski asked if we were falsifying data by using the LPR because it is so small; and stated DelMonte spent a lot of money to pump wastewater back to the LPR, and took land out of production in that area as well. B. Jacowski believes the LPR model should not be used because it is such a small watershed. Krug replied it shows everyone what the solution can be if people pitch in and help, and the study shows the process and success of it. Krug stated it is definitely not a bad thing that the LPRG found ways to have people voluntarily help to increase recharge. Having these discussions will push more voluntary efforts, and will create good science in the end. Lassa replied the important part of the LPRG is they are using data that has already been gathered in addition to collecting their own, and are looking at developing a tool of that watershed. Once the tool is developed and tested, it will then be able to be used in other parts of the Central Sands area. Krug stated they did leave the DNR with the ability to come up with new studies/ideas, things that were not legislatively procured. There is nothing stopping the DNR from going out to Long Lake in Waushara County, and coming up with a new assessment; or even going to Two Lakes in Almond. The LPR will be very valuable, but it is not the end, just a good starting point. Shankland stated if we want to see the DNR move through the Central Sands area and do more research, we need more funding for hydrologists. If SB 302 in its current form were to pass, we would take away the DNR's rule making authority and abilities. They would not be able to go to any of these places to do what they need to, based on what the Supreme Court decisions have told them. It is important to note that some of this proposed legislation could harm the efforts of giving the DNR the ability to look at the Central Sands area and help us figure out what we need to do. Lassa stated in terms of SB 302, there was not enough support in the Senate last session to pass it, even with the Republicans in the majority, because there were enough people concerned in the Republican caucus. After the election we will have to take a look to see how this issue will be addressed in terms of new, old, and reelected senators. At the end of the LPR project, the DNR will give the Legislature a list of options/recommendations to be able to choose from; policies and scenarios. It will then be left to the Legislature to review the recommendations and move forward. Turzinski told B. Jacowski the reason they chose LPR was because it was a small area, and was easier to develop the tools to measure groundwater flow and recharge. Those tools are supposed to be able to be converted to be used in many other locations. B. Jacowski replied a tool is only as good as the area it fits, and he is worried about it not working. Zimmerman stated there are no State efforts that define what to do after an issue with a drywell or high nitrates. Zimmerman asked if there was money being set aside from the high capacity well permits for water quality and quantity issues. Krug replied he believes the Department of Administration (DOA) and the DNR will get together at the next State budget and discuss those options. Krug stated he tried to build into the version of SB 302 to modify the version of Michaels Pipeline to state if there is damage to your well (quality or quantity), there needs to be a tool to assess where the damage came from. There needs to be a process and procedure so that owners can be adequately funded for damage caused. Zimmerman stated he was thinking of block grants to the County; there used to be a well replacement fund. The County should be keeping track of these well issues, and there should be taxes collected so it can be written off as a loss by the homeowner. Krug replied there does need to be funding; we cannot always go to the State taxpayers; we need to find ways to find causation as to what the problem is, and who to go back to. Zimmerman stated if you put off the problem, the problem will always be put off. Shankland agreed, and stated we need to be proactive. Krug stated we do need funding, but not from taxpayers, but instead from the people who may be related to the problem. E. Burns stated no one in Portage County will run out of water; everyone has drinking water. K. Hannon interjected and stated she is in the Town of Hull and does not have drinking water due to high nitrates. E. Burns asked if they could drill deeper. T. Hannon replied they are 65 feet deep and cannot go deeper due to bedrock. E. Burns referenced Michigan's balance protocol, and stated the time farmers need water the most is when it is the least available; that is when you would want to be conserving the most, so it would be interesting to learn how Michigan handles that. Lassa stated Minnesota has more of an urban/metropolis problem rather than agricultural, which is why they started looking at Michigan more. E. Burns stated his concern is the budget cycle. Lassa replied UW Madison is doing really good work in terms of irrigation science, and the best way to manage it. Hopefully one of the ways we can move that science along is to look at better ways of irrigation. One thing she

learned from a potato farmer was with temperature changes, they are able to have shorter growing seasons. Turzinski stated they have also developed new vegetables that use less water. Lassa agreed, and stated that is why we need to get people to the table so that they can figure out that everyone has the water they need, as well as quality. Shankland stated that is what the County Executive is trying to do, and she plans to attend a few of the listening sessions to get a better understanding of the local issues. Turzinski stated in regards to being proactive, it would be nice to see some sort of an incentive program to help with new irrigation technology. An adoption program that would help the farmers save money, because it is so expensive to get started. Krug agreed it is challenging to get started, and believes there should be an incentive program. There has to be some way to encourage people to do some of these different things, but to mandate that is something he is not interested in; would like to see an incentive program and see people use it voluntarily. Schmidt asked how long of a time period Legislature plans this water budget. Schmidt stated E. Burns has a long rotation, and not every crop uses the same amount of water, so the concept of having what you need might not be the same as what you want. If you can predict what the crops might use, then you can get ahead of it, and could figure out what the water budget needs to be, and then figure out how to do it. Krug replied you could, but that causes huge challenges when you start mandating and forcing farmers into certain rotations. Krug stated there are states that are in a lot worse shape with groundwater than Wisconsin, but we are at the point where we need to discuss it and find ways to improve. Guyant stated he has an idea for a money stream and incentive; why not charge high capacity users for what they withdraw, and this then gives them the incentive to conserve, and it gives revenue to take care of the problems it creates. The water is held in the public's trust; he has a well, and growers have multiple wells; they should pay since they are making a profit off their wells. Krug replied if there was a cycle that was stable and level; you could get some interest in that plan, but believes there are more amicable ways to do it. Turzinski stated if it cost farmers more to grow crops, it will then cost consumers more to purchase it. Walters stated if Legislature got together and removed the tax levy cap, it would create more money and alleviate some of the State money issues; could supply money for grants or funding for areas interested in helping. Shankland agreed, and stated she hears it all the time; not just levy limits, but shared revenue cuts as well. Budgets are really tight right now so this cannot be managed locally; she has seen a lot of consolidation of power towards the State level centralizing it, and then the State gets to micromanage every local unit of government, and that is not fair. It is a great idea, especially with matching funds, and thanked Walters for his suggestion. Lassa stated she understands what Walters is saying, but also knows what the political reality is right now. Walters stated it is a voice that needs to be heard. Lassa replied it is only going to get worse because Governor Walker had told the Realtor Association that he wants to ratchet back property taxes even more. Walters replied it does not matter who is in office; the Municipality wants to pay the bills. This County wants the freedom to investigate groundwater on a specific cause for a specific reason, and we are not being allowed to. Instead we have to beg for money or grants, and it costs the whole State money instead of the people who are interested, and that is wrong. Lassa stated you know it is bad when you hear from townships that they are turning their blacktop roads back into gravel; that was money that was invested by taxpayers in the past. B. Jacowski stated Guyant mentioned a revenue stream for withdrawal for high capacity well users; and wants to clarify he does not own a high capacity well, but in the defense of the farmers that do use them; those farmers also own at least 100 to a few 1,000 acres of recharge area that our wells may be drawing from. Guyant replied the recharge area would be there whether they farmed it or not. Shankland stated the courts have ruled that groundwater pumping is a privilege not a right, and that is why it is very interesting reading the Richfield's Dairy decision. It states how the DNR regulates, and how one does not own the water, it is held in the public trust. That is very important to consider when we talk about water rights and water issues; you do not own the water under your land, everyone does. Krug stated he believes we forget that there are a lot more high capacity wells than just agriculture; there are schools, and municipalities. You would be putting pressure on schools and residential buildings if you start charging for withdrawal on high capacity wells. Guyant replied pressure is incentive, and incentive means conservation, and that is what this is about. Krug replied he is not interested in telling school districts they have to pay more for water and cause more problems with their budgets. Guyant asked how many schools have high capacity wells. Krug replied there are several; in addition to recreational businesses. Guyant stated to raise taxes. E. Burns stated it does cost a lot to pump it out. Krug stated we need to come up with a system that will show us the cause of a problem if one arises; we do not do that right now. Filtz stated he has a bad well, they drilled down 176.5 feet, and the water is still not drinkable. E. Burns asked what the water level is at. Filtz replied 17 parts per million nitrates, and he was told that was a success; had atrazine levels and byproducts over the State standard. Filtz stated he asked Schmidt where he can get funding to test for these chemicals as it is very expensive; as is having to buy bottled water. Burress asked if there was a proposal to deal with Filtz's situation. Krug stated they have to find that causation relationship and figure out what caused the problem to the well; go back to the original cause and figure out where the compensation can come from. If it is seriously an agricultural issue, then we will have to go back to the growers in that area; we need to figure out where the issue came from,

causation relationships. Guyant asked who is going to pay for the testing of the wells and the research. Krug replied that is why we need to find a mechanism. Filtz stated he was 45-50 feet deep before, now 176.5 feet deep; how is that a success when he still has high nitrates and chemicals, just lower levels. Lassa stated it is very hard for individual homeowners because they do not necessarily have the resources to fix the situations themselves. Filtz stated when he rents out properties, he states in the lease individuals have to provide their own drinking/cooking water. Filtz stated he wants something passed so landlords have to advise tenants of these issues if applicable. Shankland replied she appreciated hearing from Filtz, and agreed that people need to be advised of a water quality issue if they are renting. Schmidt thanked Krug, Lassa, and Shankland for their attendance, and reminded everyone that Legislators are available to speak with all the time, and encouraged people to do so.

8. UPDATE: RESIDENTIAL REPLACEMENT WELLS NEAR THE CITY OF STEVENS POINT WELL #11:

Schmidt stated the Town of Hull's hired Hydrologist completed his review with the information provided by the City. The Town attorney has provided the Town with an analysis with whether or not the Town should sue the City. Schmidt asked Lemke if he had anything to add. Lemke stated pumping is going along status quo, and has been solid for over a year now, no fluctuation. Lemke stated he put in an open records request to obtain all the information that has been gathered since none of that has been shared by the Town. He does not know what the Hydrologists review says. B. Jacowski asked Lemke what the variation has been on well #11. Lemke replied that is hard to say as it is being pumped continuously, no rest state to measure from, but he would say less than 1 foot. Schmidt stated it will be interesting to see what comes out of the Hydrologists study; however it cannot be released yet because it may be leading to a lawsuit.

9. GCAC MEMBER REPORTS:

Zimmerman asked Schroeder what the name of the successor herbicide to atrazine is. Schroeder replied he does not have an answer on that; can contact his scientist and get an answer though. Zimmerman stated the UW did a study of 5 lakes by Madison, and the result of high nitrates was due to 29 day runoff pollution in the spring. Zimmerman stated a farmer in the Town of Hull has 80 acres and applied for a high capacity well permit; there was a petition signed by 75 people opposed to this, because they thought it would cause dry wells, and perhaps cause water quality problems due to runoff from the farm. The farmer offered to sell the Town of Hull 80 acres, and that has recently been withdrawn. The well was approved by the DNR with some restrictions/limitations. Zimmerman asked if this was a County issue because of possible water quality or quantity problems. Gifford replied this would not be a County issue unless you change the legislation, right now the regulation of high capacity wells is entirely in the hands of the DNR. Gifford stated this has to be taken care of; some solution has to take place in Madison. B. Jacowski replied he agreed; if the County tried to do anything, they would be dragged into the courtroom, and the whole County budget would go to defend us in court. It has to be something settled Statewide by Madison so we have a leg to stand on. Zimmerman replied he disagreed with Gifford and B. Jacowski because his problem in the Town of Hull is just as much the County's problem as well the State's. Zimmerman stated he did not say anything about regulations, only solutions. McKee stated there are two types of regulations; self-regulation and regulation from above. We self-regulate ourselves every day as individuals, communities, and corporate entities; and this is a much better path than regulation from above. Gifford stated he would not vote for the County to take unilateral action; the Board would vote against it because Corporation Counsel would advise them to. What the County can do is to come up with what they would like to see be done, and then spend their efforts working with Madison to make sure it can be done. B. Jacowski stated he believes it is a problem caused by all of us, and believes we have to work together. E. Burns stated it is a problem caused by all of us, and the only way forward is baby steps.

10. NEXT MEETING DATE

The next meeting was scheduled for Thursday, November 20, 2014 at 7:00 p.m., Conference Room 5, County Annex.

11. ADJOURNMENT

McKee moved to adjourn the meeting; seconded by Ruzicka. Meeting adjourned at 9:23 p.m.

Amy Goffin
Amy Goffin, Recording Secretary

Ed Burns
Ed Burns, Chair

11/25/2014
Date

**PORTAGE COUNTY GROUNDWATER CITIZENS ADVISORY COMMITTEE
CONFERENCE ROOMS 1 & 2, COUNTY ANNEX
TUESDAY, NOVEMBER 25, 2014 - 7:00 P.M.**

MEETING MINUTES

GROUNDWATER CITIZENS ADVISORY COMMITTEE (GCAC) MEMBERS LISTING:

MUNICIPALITY	MEMBERS NAME	Attendance	MUNICIPALITY	MEMBERS NAME	Attendance
TOWNS:		11/25/14	TOWNS:		11/25/14
Alban	VACANT		Plover	Joe Firkus	Present
Almond	Edward Burns	Present	Plover	Roger Bentley	Present
Amherst	Mike Burress	Excused	Sharon	Casey Jakubek	Absent
Belmont	Mike Warzynski	Present	Stockton	Richard Filtz	Excused
Belmont Alternate	Rita Walkowicz	-----	VILLAGES:		
Buena Vista	John Ruzicka	Present	Almond	Richard Burns	Absent
Buena Vista Alt	Roger Turzinski	-----	Amherst	Mike Hinrichs	Absent
Buena Vista Alt	Lynn Isherwood	Present	Amherst Junction	VACANT	
Carson	Fred Copes	Absent	Junction City	Peter Mallek	Present
Dewey	Dennis Meis	Present	Nelsonville	James Walker	Absent
Dewey Alt	Kathy Girolamo	-----	Park Ridge	Dan McFarlane	Absent
Eau Pleine	David Hansen	Absent	Park Ridge Alt	Christine Neidlein	Absent
Grant	Mary Kiedrowski	Present	Plover	Matt Saloun	Present
Grant Alt	Scott Provost	-----	Rosholt	VACANT	
Hull	Tim Zimmerman	Present	Whiting	VACANT	
Lanark	Bill McKee	Present			
Linwood	Garth Frost	Present	CITY:		
New Hope	George Guyant	Present	Stevens Point	Joel Lemke	Present
New Hope Alt	Cathy Dereziński	-----			
Pine Grove	VACANT				

STAFF PRESENT: Ray Schmidt, Steve Kunst, and Amy Goffin, Planning and Zoning Department.

OTHERS PRESENT: Jim & Barb Gifford, Jerry Walters – Portage County District 17, Barry Jacowski – Portage County District 23, Matt Jacowski – Portage County District 22, Ken Schroeder, Nathan Sandwick – UW Extension, Ken Bradbury

1. CALL TO ORDER: The meeting was called to order at 7:02 p.m. by E. Burns, Chair.

2. INTRODUCTION OF NEW MEMBER: None

3. REVIEW/APPROVAL OF MINUTES FROM September 11, 2014: Motion by Warzynski, second by Lemke to approve the minutes as presented. Motion carried by voice vote.

4. CORRESPONDENCE: No correspondence presented.

5. PUBLIC NOTICE: Members of the public who wish to address the Committee on specific agenda items must register their requests at this time with such comments subject to the reasonable control of the Committee Chair as set forth in Robert's Rules of Order. No one registered to speak.

6. PRESENTATION: LITTLE PLOVER RIVER MODEL – STATUS AND CAPABILITIES (KEN BRADBURY):
Complete PowerPoint presentation on file.

B. Jacowski asked what the Q7_10 line meant on the graph. Bradbury replied it is the 7 day average low flow expected to occur once every ten years or a 10% chance of happening every year for ten years; a common statistical measurement that hydrologist's use as a baseline low flow in streams. B. Jacowski asked how the public rights minimum flow was developed for the Little Plover River. Bradbury replied he was not involved when it was developed; and suggested going onto the Department of Natural Resources (DNR) website to read about how the public rights minimum flow was developed. Bradbury stated it is when Biologists go out and look at the historic records; the way the stream is currently, the fish populations, and they decide what flow is needed for an

ecologically healthy stream. McKee asked what the location of the core samples are relative to the stream. Bradbury replied they are within the topographic basin of the Little Plover River and the drainage basin; and stated he has a map later on in the presentation to show exact locations. B. Jacowski asked how deep core samples are. Bradbury replied core samples vary from 60 – 95 feet. Burns asked what the areas of recharge are that show zero. Bradbury replied places along the river that are actually groundwater discharge; other places have heavier soils so there will not be much recharge. J. Gifford asked if Bradbury used all the high capacity wells in his data; even those pumping only 10 gallons a day. Bradbury replied he used all the high capacity wells based on the DNR's database. Schmidt asked if the passive seismic imaging was shown in the sandstone thickness map. Bradbury replied yes; that measures depth to bedrock.

Zimmerman asked if there is a difference in water-flow discharge speed along the river. Bradbury replied if you go down to the DNR Conservancy land it picks up speed, more discharge; probably because of the bedrock ridge, it is forcing groundwater to flow up and into the stream. B. Jacowski asked where the DNR land is that has the bedrock ridge. Schmidt replied the bedrock high is near Plover/Whiting school (along Hoover Avenue). B. Jacowski asked if Bradbury was anticipating that as the water flows from east to west, it is hitting sandstone ridge. Bradbury replied yes; it is like an underground dam that forces the water around, and up into the stream. B. Gifford asked if there was a reason the Hoover monitor is not being used. Bradbury replied he believes it is because there was a bike path built, and it made it hard to get to; and would have liked to monitor in that location. Bradbury stated it is too expensive, but George Kraft has done some spot measuring there, so there are some records.

J Gifford asked if the model will show farmers if they can change out their crops. Bradbury replied yes; he wants the model to be used to look at different scenarios such as different crops. B. Gifford asked if the model can then be reversed to see what the flow was like prior to high capacity wells. Bradbury replied yes; it is called back-casting, and it removes wells and requires landscaping changes such as what roads, cities, and ditches were built. B. Jacowski asked if that meant we could go back to 1930 and 1950 when the stream dried up; how can we get an accurate back-casting. Bradbury replied this will not be 100% accurate; we can use weather records, but stated he can certainly make an effort by changing the number of wells and amount of precipitation to see what happens. B. Jacowski asked for an explanation for the difference in groundwater between the pumping well, monitor well, and streamflow. Bradbury replied water is coming out of storage; the storage is water in between grains of sand in the aquifer, and that is a time dependent process making everything farther from the well delayed; including the initial response and recovery. B. Jacowski asked if that would go against the cone of depression theory. Bradbury replied there is still a cone of depression; all part of the same theory. B. Jacowski asked if the cone of depression should be deepest at the irrigation well, and the well returns to normal, why that would not be the slowest point to return; is it because you were east of the well, and west of the moraine. Bradbury replied it does not matter where the moraine is; the farther you are from the well, the longer drawdown takes. Bradbury stated the recovery will happen rapidly at the pumping well, and slower the farther you are from the well. B. Jacowski asked if the resistance for the water to travel is less at the pumping well than it is at your monitoring well. Bradbury replied the resistance is not less; the time is less because it is closer. Bradbury stated the driving force is also the hydraulic gradient, and the hydraulic gradient is the amount of pressure change you have. The more you have, the faster the water wants to fill that hole. Example: If you dig a deep hole, the water will fill much faster than a shallow hole. Zimmerman asked if multiple wells have cumulative effect. Bradbury replied yes; having additional wells will depend on the distance between them called super-position effect. The closer the 2 wells are the more the cones of depression are going to intersect, and interact with each other making a more cumulative effect; if they are far away they may not interact at all. M. Jacowski asked if the difference on the monitoring well graph was 0.05 feet. Bradbury replied yes, about 1 inch. J. Gifford asked how rain is taken into consideration on the graphs shown. Bradbury replied the graphs include steady recharge (rain) as rain happens periodically. Bradbury stated as rain happens on the landscape, the recharge does not happen instantaneously, because the water has to go through and replenish the unsaturated zone first before it gets to the water table. Walters stated by viewing the graph of the drawdown at the irrigation well, monitor well, and baseflow; all levels resolve in the end even if the amount of water used was underestimated. Bradbury replied yes, and he is very comfortable with that; but some people may want to know what the least minimal flow is, and that is a concern. J. Gifford stated the concern would be if some time throughout the pumping months the stream is not being fed and might go dry, even though at the end of the year it will replenish itself to a healthy flow. Bradbury replied that is something he will look into and come up with error bounds. Walters asked if it would be beneficial on the baseflow to have the public rights flow put in. Bradbury replied yes; that is the sort of thing that will be done.

McKee asked when the tentative completion date is for the model. Bradbury replied the DNR is insistent that everything is completed by the end of June 2015. Bradbury stated then there will be a tool, and wants to be able to do optimization strategies that would help in knowing if farmers can change crops or move wells to improve stream flow. J. Gifford stated the real problem is the weather; we cannot predict what crops to plant because the weather is unpredictable. Schmidt asked E. Burns how far out he plans what crops to plant. E. Burns replied usually February; ordered some seed corn already, but it is returnable. E. Burns asked if Bradbury will verify the calibration throughout the summer as we receive different weather. Bradbury replied they are not planned to do any calibration past the end of the project, but could confirm it. Bradbury stated he looks at this model as a tool, and wants it to be used; and what is nice is the model can be updated as needed. B. Jacowski asked when the model is completed and published; will there be a list of parameters used. Bradbury replied yes; that is part of the publication. McKee asked how universal the model is; can it be used in the sand plains. Bradbury replied the physics and computer software are universal; you would need to acquire data in the area you are using it. J. Gifford asked if there would need to be seismic studies done in the different areas in order to use the model. Bradbury replied yes, because all areas are different. Bradbury stated models have different purposes; they focus on different geology, but the principals are all the same. B. Jacowski asked if Bradbury's work has taken into consideration the effect of evapotranspiration; example: farmers watering at night versus the day, or amount of wind/sun. Bradbury replied no not that specifically, but it is possible; and stated he can look into it more when they do scenarios. McKee asked what happens to the tool after it is completed. Bradbury replied it will be public domain; therefore, anyone can use it with the proper training in hydrogeology. Schmidt thanked Bradbury, and stated how much everyone has learned about the model due to his presentation.

Sandwick stated he has heard a lot of good questions, and asked GCAC to compile a list of questions for Bradbury prior to the completion of the project. Bradbury replied that was a good idea, and stated he did that with the DNR staff as well the previous week. B. Jacowski asked if Bradbury could share the concerns of the DNR to see how our concerns differ from theirs, and if we can find some common ground. Bradbury replied his meeting with the DNR was very technical, but could share the notes from the meeting. GCAC thanked Bradbury for his presentation.

7. OVERVIEW: COUNTY EXECUTIVE PROPOSED GROUNDWATER LISTENING SESSIONS:

Schmidt stated after a few listening sessions the County Executive realized they were receiving a lot of the same comments/questions from the audience. Schmidt stated even though they are receiving a lot of the same feedback, the County Executive will follow through, and complete the remainder of the listening sessions.

8. UPDATE: RESIDENTIAL REPLACEMENT WELLS NEAR THE CITY OF STEVENS POINT WELL #11:

Schmidt stated the Town of Hull hydrologist completed his report that analyzed the existing groundwater data from the area; and since there are attorneys involved, therefore, the report is not available to the public at this time. Lemke stated the report was drafted and given to the City, and its attorney for review.

9. GCAC MEMBER REPORTS: None

10. NEXT MEETING DATE:

The next meeting was scheduled for Thursday January 15, 2015 at 7:00 p.m., Conference Rooms 1 & 2, County Annex.

11. ADJOURNMENT:

McKee moved to adjourn the meeting; seconded by Kiedrowski. Meeting adjourned at 8:43 p.m.

Amy Goffin
Amy Goffin, Recording Secretary

Ed Burns
Ed Burns, Chair

1/22/2015
Date