

**Root River One Watershed, One Plan**  
**Work Group/Agency Technical Staff Meeting**  
**November 20, 2014**  
**Room 108, Fillmore County Office Building, Preston**

In attendance: Skip Langer (Olmsted SWCD), Drew Kessler (Houston Eng), Melissa Lewis (BWSR), Bree Maki (Winona SWCD), Dawn Bernau (MDA), Natalie Siderius (Winona Co), Ben Roush (MPCA), Shaina Keseley (MPCA), Matt Drewitz (BWSR), Pat Bailey (MDH), Steve Lawler (BWSR), Kevin Kuehner (MDA), Leslie George (DNR), Vaughn Snook (DNR), Jim Edgar (DNR), Daryl Buck (Winona SWCD), Katherine Logan (MPCA), Kristin Carlson (DNR), Anne Selness (Root River SWCD), Sheila Harms (Winona Co), Mark Deutschman (Houston Eng), Jennifer Ronnenberg (Fillmore SWCD), Donna Rasmussen (Fillmore SWCD), Justin Hanson (Mower SWCD), Jeanne Daniels (DNR), Gina Bonsignore (DNR), John Boyum (Fillmore SWCD)

**1. The meeting was convened at 1:05 p.m. by Jennifer Ronnenberg followed by introductions.**

**2. Presentation of the PTM app – Houston Engineering, Inc.**

Melissa Lewis introduced Mark Deutschman and Drew Kessler from Houston Engineering to explain PTM app, a tool being developed for the International Water Institute (IWI) for the Red River (the Red River Water Quality Decision Support Application).

- Origin grew from a need to prioritize areas of greatest sources and project locations.
- Plan is to be a publicly available application with a water quality and hydrology emphasis
- Three phases: Phase I for analysis and prioritization, Phase II for estimating measurable goals, and Phase III for targeted implementation.
- Available tools for use with PTM app are common sense and logic, watershed modeling such as HSPF, and hydrology modeling.
- Establish a common language that can be understood by all who use the information.
  - Prioritizing resources of concern and the issues affecting the resource
  - Establishing quantitative goals
  - Conceptualizing and prioritizing implementation strategies
  - Estimating implementation costs.
- PTM app structure has two parts: 1) a desktop version that uses ArcGIS tools and needs someone who can do basic GIS, and 2) a web application.
- It is an evolving product. The planning products could be an .mxd map that can be opened in one's own GIS program or a web-based map for prioritizing resources of concern, such as ecology or ground water.
- Use in the Root River watershed will be in application development as a pilot to calculate sediment yield (output from the HSPF model), TP Field-Stream Index (how much P is from the landscape vs. the stream channel), and annual runoff depth (where is the most runoff coming from) to prioritize subwatersheds for implementation by assigning a subwatershed sedimentation rank.
- Estimating measurable goals is another planning product.
  - 40-acre field size catchments
  - LiDAR data identifies how sediment is delivered plus where practices could go on the landscape.
  - Reduction ratio is based on hydrology
    - Where to put a practice in relation to where sediment is delivered, then what is the measured amount of sediment reduction?
    - Take the amount of water that would be treated to determine the reduction in sediment or look at effectiveness by placing the practice where the water will be to get the greater reduction.
    - The percent reduction in sediment at that BMP translates to the total potential reduction in the water resource at the outlet.
    - Scale can be adjusted which will change where those reductions are most effective.

- Can look at multiple impairments and find targeted areas that can address all of them.
- Cost effectiveness is based on average EQIP payments (can override with local amounts) and compare to total amount of treatment.
- In the web-based version, the practice is placed on the landscape and the watershed that is treated is identified and reduction is calculated. The desktop version will be finished first, and then the web-based application will be worked on.
- Workshops in the app products will be held in early January.
- Can be used for volume runoff (flood) reduction. Define altered hydrology, a common stressor in the Stressor ID report, by the time of travel from one end to another in the watershed.
- Ground water is a concern in southeast Minnesota. Have ground water sensitivity and sinkhole data. Karst considerations are especially important for dissolved nutrients.

### **3. Presentation of the Zonation Tool – Kristen Carlson (MNDRN)**

Kris Carlson presented the Zonation information. Zonation is an example of a values model to determine what is most important vs. a systems model which predicts what happens if something is changed.

- Zonation is a decision support tool; the output is not the answer. It happens through a four-step process:
  - 1) formulate objective: what are the conservation features you value, i.e. the data layers
  - 2) set weights on each conservation features (social valuation)
  - 3) run model (apply the optimization algorithm)
  - 4) synthesis: could be a civic engagement process, e.g. Pine River meeting where public set the weights.
- The process includes using the results of a weighted survey
- Identify areas that maximize benefits and reduce interference between competing land uses.
- Zoom in to a scale appropriate for the land use.
- The broad components for consideration are water quality, fish and wildlife, erosion and runoff, ecological corridors, and lands of concern (e.g. karst). Within each component are various data layers.
- Actions are taken based on the information provided by tool. An analytical hierarchy is established using pairwise comparisons so that each is compared with all others. Maps can be produced to use with the public in choosing priority areas. A cost/benefit analysis equals the probability of success with cost and benefit.
- Inputs from other models can be incorporated into the zonation model

From BWSR's perspective, Zonation is a good tool for the public and the Policy Committee because results can't be measured; provides a values or qualitative analyses. PTM app provides the ability to measure results but the karst issues need to be worked out. Maps are one way to present information to the public; Crow Wing County has good examples that worked well with the County Board.

The Work Group meeting convened.

### **4. Discuss meeting w/MPCA, models, tools & available resources – MPCA staff, Jennifer, Steve, Shelia**

Ben Rausch and Shaina Keseley from MPCA provided a summary of the discussion from about a month ago about modeling in the Root River watershed.

- HSPF was used at the major watershed scale and has problems adjusting to the subwatershed scale.
- Calibration of the HSPF model went well despite karst being a major factor. A second set of subsurface streams was used in the model to represent karst, which increases the potential for uncertainty, according to John Butcher.
- Several scenarios were run (e.g. cover crops, increased N, increased buffers, spring N application). The cover crop results were good, but the results from changes in N applications were not so good.
- SWAT modeling informed the HSPF modeling. The SWAT model is best at dealing with farming practices and was run in Money Creek, the South Fork and North Fork to represent non-modeled areas of the watershed.

- The WRAPS will also be an important tool for prioritization.
- Melissa Lewis said she would check with other areas with karst landscape features to see how they have dealt with it

#### **5. Update on the RFP process – Jennifer/Donna**

- The RFP went out to a group of nine consultants on November 7 (seven on the original list put together by Bev Nordby and BWSR plus two who requested the RFP).
- There have been questions from the consultants regarding the PTM app process.
- They will need to coordinate with Houston Engineering as the developer of the app for the IWI and Red River Watershed Board.
- The tool will eventually be available to the public but it is still a pilot; can utilize local data to help in its development.

#### **6. Update on MOA status from each county - All**

- Four SWCDs have approved it so far (Mower, Olmsted, Fillmore, Winona)
- Counties: Winona County approved. Olmsted County and Mower County had it on their Board agendas on the 19<sup>th</sup> and there were questions about the first page where it cites the statute for joint powers agreements which was confusing after discussions about not wanting a new joint powers board formed. Bree reported that MCIT required this reference to be included, but it does not require the development of a JPB. Skip emphasized that there are no financial resources being requested, just agreement to work together for the planning process and to share liability.
- Policy Committee appointees should be sent to Jennifer or Donna.

#### **7. Review of studies and data compilation already available - All**

- List of studies and plans was handed out with additions from DNR and MDH.
- The Work Group should continue to add to this list for the consultant to utilize.

#### **8. Next Meeting, facilitator, agenda items**

- Jennifer reviewed upcoming important dates:
  - December 11<sup>th</sup>: Work Group meets at 9 am at Conservation Building in Preston to rank the RFP proposals
  - December 17<sup>th</sup>: Work Group meets after BALMM at MPCA for presentations from top three consultants; suggested to get questions from MPCA staff prior to the presentations
- Justin Hanson will facilitate the Dec. 11<sup>th</sup> meeting for ranking the consultants.
- Skip has examples of ranking sheets; he will send to Jennifer and Donna.
- An agenda will be developed for the first Policy Committee meeting on January 21, 2015.