Indiana's GLWQA DAP Advisory Committee Meeting December Minutes

Meeting logistics: Friday, December 20, 2019

10:00 am – 2:00 pm

Manchester University, Ft. Wayne Campus

1. Welcome
    a. Committed to meeting quarterly on consequential subjects (3rd meeting of 2019)
2. Participants:
    a. DAP members: Janel Meyer (Steuben SWCD), Sara Peel (Arion Consultants), Greg Lake (Allen SWCD), Celia Elder (Manchester University/Sierra Club), Rod Renkenberger (Maumee River Basin Commission), Sam Ennett (IDEM), Lou Renshaw (IDEM), Allen Haynes (Dekalb SWCD), Barry Schere (Allen County Regional Sewer District), Abigail King (Save Maumee), Sharon Partridge (TWSA, Allen SWCD), Anne Marie Smrchek (Ft. Wayne City Utilities), Lou Renshaw (IDEM)
    b. Guests: Sherm Liechty (NRCS), Angie Brown (IDEM), Greg Clark (Manchester University), Marissa Renz (Plant Happiness), Bob Barr (CB Engineering), Siavash Beik (CB Engineering)
3. Action Items:
    a. Update the action/milestone table
        i. We ask that all groups provide updates to the milestone table from January 25th 2019 to the current status.
        ii. Updates should be sent to sennett@idem.IN.gov
    b. Future meetings will be held on the third Friday of the month in each quarter
        i. The next meeting has been tentatively set for March 20th 2020.
        ii. We are looking for a host for this meeting
        iii. Are there agenda items people would like to submit for discussion?
        iv. Is there a project or topic to have a presentation on at the meeting?
    c. Update the website
        i. The official website is hosted by ISDA, and IDEM will work with them to get materials posted
        ii. Much of the material currently on the webpage is out of date, IDEM will work on updating the site
    d. GLRI State Forum to be hosted at EPA Region 5 office in Chicago (2/11-2/12/2020)
        i. GLRI State Forum topics due by January 6th
        ii. Topics of interest should be sent to sennett@idem.IN.gov
4. Review of March Minutes
    a. Greg Lake: mentioned that Allen Co will sample for TSS at Willshire? (Verify location)
    b. Working meeting questions and decisions (action milestone table): Should only those things that are effecting P be on the action and milestone table? There are system

approaches to the problem that are outside of direct treatment of P that do effect the loads (social indicators, etc.) Resolved to continue monitoring.

c. Website has not been updated since late 2018. Original DAP would be the legacy document and the updated version would be web based to create a living document. Seeking input from committee and IDEM will prioritize updating the website to stay current. ISDA hosts the website and Lou will follow up with them for website details.
d. Annual Reporting
    i. Water quality results from USGS are now expected by February 2020. These data quantify Ohio/Indiana inputs and major contributors to pollution loads. Hypothesize that septic systems and livestock operations in Pleasant Mills areas are significant contributors. Verify the data for total loads that IN is sending into Ohio.
    ii. Focus is to prioritize "biggest bang for the buck" operations
        1. Lead to using Antwerp, OH as the IN discharge sampling station
    iii. IN DAP has adaptive management in original plan
    iv. Tillage and transect data will be in by late April
    v. ISDA runs models for WLEB available in late March
    vi. IDEM's 2019 WLEB WWTP report is forthcoming as is the data from the auto-sampler in Pleasant Mills
    vii. Due to different schedules for our various methods of reporting progress the annual report will be web based so that data can be uploaded as it becomes available.
        1. Need to update the milestone table
        2. Want to create current tables
            a. Send material to Sam (sennett@idem.in.gov) current to "now"
        3. Look into linking milestone table online to VFC report files and partner websites
        4. IN website will encapsulate more methods of reporting progress than ErieStat because of the lag time involved in water quality benefits in the Maumee
e. Annex 4 Binational Webinar – Link to recording
    i. Update from federal level and CA with a presentation from Michigan representing the states
    ii. Shifting models that lead to the FWMC
    iii. Some research shows that very fine sediment that stays in suspension with adsorbed TP may have a significant effect on algal growth.
f. Adaptive management template for the states (may not effect IN)

5. "Around the Table" Updates:
    a. Save Maumee: GLRI grant, April and October 1700 linear ft. of tree planting and invasives removal on the worst ditches in Allen County. County Surveyor removes more trees than recommended. 2 miles of streams have been remediated. Paid for 53 acres of land on the Maumee with some acreage of land fill that will be worked on for the next 5 years. Allen County Surveyor wants to participate. Allen Co Comprehensive plan update.

b. TNC: Nothing to report on the ground projects-wise. TNC received a 1 million dollar grant to facilitate farmer led outreach. Educate farmers on soil health, pay them to participate, and pay them to do outreach on their own. (GLRI source) Will TNC reach out to non-traditional farmers? (Amish, etc.) TNC just received grant so they do not have very concrete ideas on implementation yet.
c. Allen Heynes, Dekalb Co SWCD: CWI grant is completed after wacky spring weather. Shifted a lot of the funds to do cover crops. Got a stream restoration project completed and on the ground. Cover crop discussion group (20 producers and 10 staff attended with 50% under 50 years old.) Repacking agronomy series for 2020 with at least two meetings at producer's homes. Have submitted a LARE grant working with Auburn city to do stream bank stabilizations. Septic issues report got completed (ErieStat contacted). Outreach to failed septics continues. Fall septic system workshop/training.
d. City of Ft. Wayne Utilities: working on mitigation in Ft. Wayne with rain gardens, Camp Scott Wetland Area. Mary Jane Slaton retired.
e. IDEM: understaffed for most of this year in the NPS section. Analysis of fixed station network by IDEM will be sent out (TSS and P) to groups by Lou. Data is relative to flow data and can be used to compare hot-spots.
f. Upper Maumee River Commission: installed water level monitors on Allen Co sample site. Poor cell reception for remote data uploads. 6 pending FEMA grants to buy back ~60 homes along the flood plain in Decatur and Ft. Wayne. Will submit applications for additional grants for more home purchases. Also St. Joe river study (Sister to St. Marys study from presentation) will be funded with 319 match.
g. Sierra Club: Support education and outreach in the WLEB. Can possibly apply for funding for local group to work on projects in the near future. Updates for action milestone table will be forthcoming. Take Dick off the email list.
h. Sherman (NRCS District Conservationist): 1 million dollars on emergency EQIP cover crop funding. Funded Allen Co agreement for a small producer nutrient manager. Next round of funding will go to urban/ag employee or tile camera. Roots are clogging up the tile lines and they want to research whether the roots are from cover crops or wheat roots.
i. Anne Marie Smrchek (Ft. Wayne): two-stage ditch project ongoing in Laurence Drain. Got a LARE grant for tributary to Trier Ditch: bought undeveloped parcel with 90 degree bends and looking to enhance wetlands, install bioswale, and two-stage ditch opportunity. Wrapping up restoration on daylighting project on Shopman Drain in spring. LTCP tunnel project continues. Adopted new stormwater rules and regulations on Nov. 1st 2019. Will update design standards and will update master specification list after ordinance change. Meeting with watershed groups for 2020 sampling discussions. Maybe revamp the rain garden program to try and partner with the St. Joe watershed project on rain gardens. Annual stormwater conference had a really good turnout. St. Joe 319 project/Tri State partnership for walking tours. Reached out to Randy Braun (IDEM) for training for MS4 reviewers in the NE region.
j. Janel Meyer, Steuben Co SWCD: Cover crops and GLRI grant in Pigeon Creek. Urban projects going strong with 2 projects in the St. Joe watershed. Some projects on Clear Lake. Engle MS4 with proper erosion control and management on projects that are not covered by Rule 5 or enforced by the county. Reporting issues to IDEM for support.

Partner with health department to do a septic workshop. Garden series planning with emphasis on rain barrels and rai gardens. New website will be up in February (Down since May).

6. GLNPO meeting details to be sent out with the meeting notes (Deadline Jan. 6th)
7. Revisit AC members and affiliations
    a. Ask that members update if they are still willing to participate.
    b. Good diversity on the committee, respectful healthy debate
    c. One organization - one vote
8. Next Meeting:
    a. Invite Allen Co Surveyor
    b. Keep Fridays? Keep quarterly meetings with updates to action plan. Third Friday in March? 3/20/2020? Looking for host to volunteer.
    c. Are there additional agenda items that people would like?
    d. Presentation, event, or project to be showcased as part of the next meeting?

Presentation on the St. Mary's River Channel Stability and Flood Risk Assessment

1. Presented by: Bob Barr, Siavash Beik
2. Partnered with Maumee River Basin Commission
    a. Hydrologic systems are based on geology and climate
        i. Climate is changing therefore the systems are unstable
        ii. "watershed pyramid"
            1. Hydrology: transport of water from the watershed to the channel
            2. Hydraulics: transport of the water in the channel, on the floodplain, and through sediments
            3. Geomorphology: transport of wood and sediment to create diverse bed forms and create dynamic equilibrium
            4. Physiochemical: temperature and oxygen regulation, processing organic matter and nutrients
            5. Biology: biodiversity and the life histories of aquatic and riparian life
    b. Drainage Basin and Geology
        i. Headwaters of St. Marys and St. Joseph are outside of Indiana
        ii. Glacial geology heavily effects St. Marys
            1. Soils in the region formed from Bluffton Till – old lake bed sediments (30-60% clay)
            2. Pollutants flock to clay particles
    c. Site Assessment
        i. Step 1: Scout the river
            1. Very little visible sediment outcrops in the stream
            2. No native riffles in St. Marys (1883 notes)
            3. Clay rich systems do not have sediments to build bed features on (Schumm). The St. Marys is a clay rich system (Bluffton till parent material)
        ii. St. Marys at Decatur: very wide and shallow, slow moving
        iii. Native white color comes from CaCO3 in the Bluffton Till
        iv. Stream is smaller than predictions from Indiana regional models

1. Models based on gravel bed meandering streams
2. Clay rich stream bed and banks form “half-pipe” channel
3. Fairly healthy riparian forest cover

v. Channel width 80-120 feet, flood plain width 1800-2000 feet (much wider than expectations)
   1. Flood plain definitions differ between specialties
      a. Geology: floodplain defined by alluvial soils
      b. Engineering: floodplain defined by rain event intensity

vi. Normal sediment indicators do not exist in the glacial till system of the St. Marys and Maumee systems

vii. How long and how much of the washload is stored in the river system?
   1. Washload is used in this context to refer to the high proportion of dissolved and long-term suspended load which dominates the transport system in the St. Marys

viii. Myer, Metzger and Davis (2000) USGS publication on St. Marys

ix. Fort Wayne effects on the St. Marys
   1. Boat chop, bank stabilization projects, forested riparian community, construction in the geologic floodplain

d. Analysis
   i. Climate
      1. Annual rainfall increasing by 1” per 10 years on average
      2. # of days with extreme precip from 1 day per year to 3 days per year (average)
      3. Peak annual flow rates are increasing from 5800 cfs to 7800 cfs over last 50 years (34%) (USGS Gauge at Decatur)
         a. Increase in flow -> increase in loads
      4. Bankfull discharges increasing from 2 days per year to 6 days per year
         a. Increasing number of days that sediment is moving
      5. Average daily flow increasing from 930 acre feet to 1350 acre feet over last 70 years
         a. Potential causes: ag drainage, urban development, rainfall depths increasing
         b. When controlled for rainfall, a 33% increase is seen in flow volumes (attributed to development and ag drainage)
         c. Ag drainage is the larger contributor
   ii. Flow * Concentration = Load
      1. If flow increases by 33% then concentration needs to be reduced by at least 33% or no results will be seen
      2. Increasing loading from increased flow may be negating effects of conservation practices.
   iii. Flood Plains are hugely important to the river system
      1. Temporarily sequester water
      2. Reduce velocity
      3. Floodplains are getting larger because the flows are getting larger

4. Fluvial Erosion hazard Corridor
    a. Zone defined by hazard of river movement or from slope erosion processes
    b. May be outside of the flood plain due to elevation but still at risk of erosion

e. Recommendations of the report
    i. Bluffton Road Streambank Erosion
        1. Erosion is threatening city road
        2. Protect city infrastructure
        3. "No adverse impact"
        4. Use natural practices to mitigate the threats to prevent future
        5. Use toe-wood protection and benching to provide erosion relief
    ii. Large Wood Management Plan
        1. Some wood is necessary to be in the stream
        2. Threat assessment, leave minor blockages in place and remove imminent threats
    iii. Erosion monitoring through visual inspection
    iv. Update stormwater ordinance and technical standards
        1. Volume control
        2. Green infrastructure/low impact development
    v. Promote soil health practices and collection of sediment data
        1. Development standards for drainage boards/tile ditch improvements
        2. Soil health conservation practices
        3. Less overland flow means less pollutant loading
    vi. Consider flood storage and wetland mitigation banks
    vii. Adopt flood resilience strategies
        1. High risk areas
        2. Safer areas
        3. "legacy problems"
    viii. Passive management recommendations
        1. Ordinances
        2. Soil health management
        3. Drainage impact reduction
        4. Incorporate resilience strategies in local planning

f. Sampling Questions
    i. Benefits of continuous and automatic sampling for nutrients and sediment
        1. Continuous sampling provided the necessary resolution to properly diagnose issues in the St. Marys
    ii. Access to data in a timely fashion
        1. USGS finishing rating curves
        2. Access should be better and more available going in to the future
        3. USGS protocols slow data publishing due to personnel shortage