

Black and Paw Paw River Pathogen Monitoring Project Meeting Recap

Thursday, November 3, 10:00 am – 12:00 pm
South Haven City Hall, 539 Phoenix Street, South Haven, MI

Attendance – Marcy Colclough (SWMPC), Wendy Ogilvie (Fishbeck Thompson Carr & Huber), Dave Foerster (TRC), Grant Poole (Pokagon Band of Potawatomi), Sam Ewbank (TRC), Ken Priest (Berrien County Health Department), Steve Oosting (City of South Haven), Andrew Priest, Kris Martin (SWMPC)

1. Marcy reviewed the **project purpose, overview and timeline** (with milestones). Marcy will update the timeline in the original grant proposal.

2. **Role of Committee** – Marcy discussed the role of the committee which is to provide guidance and feedback throughout the project. The first task will be helping with sampling site selection and selecting parameters to monitor. If we end up using volunteers for sampling, we will ask the committee to volunteer and/or help find volunteers. The committee will review all results from the sampling and help to identify pollution sources based on the results and local knowledge. The committee members can serve as ambassadors for the project by updating other organizations about the work being done. The committee will help to develop an implementation plan to reduce E. coli pollution. The committee's role is very important for the success of this project. Lastly, the committee's time spent on this project will be used as local match to leverage the grant funding for this work.

3. **Committee Representation** - Marcy asked for recommendations on whom else to include on the committee. She had invited the following to this meeting (Nov 3): City of South Haven (present); TRC (present), Pokagon Band (present), Berrien Health Department (present), City of Hartford, Berrien & Van Buren Conservation Districts, Van Buren & Berrien Drain Commissioners and MDEQ. The group suggested also inviting representatives from additional municipalities/townships (specifically Waste Water Treatment/ Public Works staff from Hartford and Watervliet), Allegan Conservation District, Van Buren and Allegan County Health Departments, Red Arrow Dairy and other local farmers, Farm Bureau, BSHWTA (Bangor to South Haven Heritage Water Trail Association). Marcy will contact and invite representatives to the next meeting.

4. **Background** - Black River – The Black River Watershed is within Van Buren and Allegan Counties. Wendy and Steve provided some background on South Haven's beach closings (South Haven's beaches were closed twice in 2010) and the monitoring done to date. The City and Van Buren County Drain Commissioner have been proactive in finding sources of E. coli and have been working with consultants on monitoring E. coli. Fishbeck, Thompson, Carr & Huber had just completed a report on the most recent monitoring efforts. After the City reviews the report, it will be sent to committee members for review.

Pine/Mill Creeks - These creeks are in the Paw Paw River Watershed and have land in both Van Buren and Berrien Counties. Both Pine and Mill Creeks do not meet water quality standards for

E. coli. Documents showing past sampling locations and results are available on the SWMPC website at www.swmpc.org/pine_mill.asp

5. Development of a Quality Assurance Program Plan (QAPP) - One of the first required tasks of the grant is to develop and submit a QAPP to MDEQ for approval. The QAPP will layout the purpose of the monitoring/sampling, the sampling locations, the parameters, the sampling frequency and protocol and the types of analyses (DNA source tracking, laser, etc), lab(s) we intend to utilize, and methods of analysis. Dave asked if he could see an example of a QAPP. Wendy agreed to send him one from a similar monitoring project. There was discussion on the questions we want to ask or the purpose of the Black River and Pine/Mill Creek monitoring. In both watersheds, there is a desire to know where (geographically) the E. coli is coming from and what the sources are (human, bovine (cow/deer), etc.) to be able to develop an informed implementation plan to reduce E. coli in these watersheds.

There was discussion about the parameters to be monitored. There may be some limitations with the analyses available for E. coli. Even with E. coli DNA analysis we might not be able tell the difference between cow and deer. There was discussion about sampling for other parameters such as caffeine which would indicate human wastes (and potentially be much cheaper than E. coli DNA analysis). Wendy is actively researching lab capabilities. It was mentioned that Great Lakes Scientific in Stevensville might be of some assistance. SWMPC will contact them. Wendy was going to follow up on E. coli analysis at Purdue (see presentation from Purdue here (<https://www.miottawa.org/CoGov/BOC/initiatives/WaterQuality/pdf/2011/ChenTseng.pdf>) and other labs. For any E. coli sampling, there was a strong desire to do collect 3 samples at every site to calculate a geometric mean at each location. It was also suggested that we get a better handle on the costs of the analyses, so we can understand how many sites we can sample and have analyzed.

Wendy provided maps of the watersheds with suggested sampling sites. Marcy had received some input from MDEQ staff on sampling sites prior to the meeting by email. It follows....

From Bruce Washburn - I briefly looked at the proposal and specifically the sampling sites for the project. For the Black River the sampling site BR-SB is downstream of a swine CAFO and manure spreading area so that will be a good start if there is an issue in the South Branch. As for the Paw Paw I think the sites look pretty good to capture any possible issues related to the CAFO. On Pine Creek sample sites 2 & 3 seem pretty close together. Possibly moving one of those to Mill Creek would be good. On Mill Creek there is a big gap between sites 7 & 8 that could have the potential for a large area not having adequate tracking data. Sample site 6 seems to be hanging out there and based on aerials, there is not much in that area, but maybe there is a specific reason for its location. Moving site 6, 2, or 3, to a location between 7 & 8 may be an idea. Just my quick observations and I am not very familiar with the watersheds yet so I could be way off. Thanks!

From Molly Rippke - My suggestion is to avoid spending money on bacterial source ID on samples from LARGE waterbodies. This is because the results are not likely to help pin point or eliminate sources. Looking at their map, I see a site right at the outflow of the black river to the lake, this site seems like it will have less value in terms of source tracking. Since that site captures the entire watershed, they will get positive hits on all kinds of source animals... and have no idea where they came from. Plus, in the event of a seiche or wind event, the water from lake Michigan will likely flow INTO the black river and dilute that sample. Similar deal with the BR-CF site... if they are sampling the north branch (BR-NB) and south branch (BR-SB), I don't think they'll be getting a lot of value from the CF site which is just really a combo of the NB and SB sites... unless there is a large source known to be in between. I would direct them to

sampling individual smaller tribs, where they are more likely to pinpoint an actual source. For the Pine and Mill Creeks sampling, I would take a similar route for example, sites 1, 2 3, 4 and 5 are all on the mainstem of Pine Creek and very close together. I'd recommend moving some of those sites to feeder tribs, using aerial photos and landuse patterns as a guide.

The group should feel free to mess around with the locations of the sites and run it past us, its better to do that early in the process than have to re-send a qapp multiple times.

Let me know if you need anything!

Many questions came up during the site selection discussion. In the Black River Watershed, there is limited knowledge of the underground drainage systems located in the City of South Haven. The City is starting to map its storm and sanitary systems, but the infrastructure is really old and it is difficult to tell where the pipes go. This is an issue most cities are dealing with. The results of the most recent sampling did indicate high levels of E. coli in the upstream portions of Phoenix Drain. The report prepared for the City recommends an investigation of the contributing area to identify potential sources.

With the Pine and Mill Creeks, questions arose about where manure was being spread in the watersheds and what fields are tiled. MDEQ staff members have also done previous sampling and have walked parts of the creeks. It is also believed that MDEQ has access to the Red Arrow Dairy's nutrient management plan which details which fields manure is being spread on. It will be important to have further discussions with MDEQ staff to get their input on site selection. Ken Priest offered to do a windshield survey of Pine and Mill Creek watersheds. Marcy suggested inviting the Van Buren Health Department to join him.

6. Next Steps – Action Items

- Update timeline – Marcy
- Invite additional representatives – Marcy
- Obtain input from MDEQ staff on sampling locations, parameters to sample & labs –Marcy/Wendy
- Continue research on parameters, techniques, costs, Purdue's scatter technology, etc. -Wendy
- Contact Great Lakes Scientific Lab in Stevensville - SWMPC
- Send sample QAPP to Dave F for review – Wendy
- Conduct windshield survey of Pine/Mill Creeks – Ken, Marcy (Van Buren Health Dept)
- Investigate aerial photos/farming operations in Black River Watershed – Marcy, Wendy, Sam

7. Next Meeting – Tentatively set for the week of Nov 28 – Dec 2. Marcy will confirm as it gets closer. (Update as of Nov 30, 2011 – the meeting is being postponed as Wendy and Marcy are meeting with MDEQ staff on Dec 1, 2011)