Meeting Notes
Roundtable on Wisconsin Agricultural Watershed Projects
June 22, 2011 - DATCP

Visions for WI and watershed projects – Group exercise

- Value of coordinated partnership, data, understanding, measureable outcomes
- Keep the end goal in mind
- Collect land management data with project goals in mind and what you want to learn
- Get landowner buy in and community participation
- Reliable data and the right data
- Focus on the 20% of farms that need work
- Set realistic goals, have a cooperative approach, understand watershed specifics
- Get stakeholder buy-in to problems and solutions, ID BMPs, make Water Quality the end goal
- Focus on goals and measure progress toward them, need cooperation, implement BMPs that work, focus on education
- Set baselines, target management for water resource improvement
- ID the many items that make up a watershed, understand the benefits of actions
- Link the watershed to economics of the region
- Educate on non-point source pollution, help develop “ecological eyes”
- Targeting is crucial
- ID road blocks including government programs, attitudes
- Need new model for watershed management with base level performance for all and higher performance in critical areas.

Watershed Project summaries – Managers provided project highlights

- Pecatonica (Pleasant Valley) watershed and Smith Conley a control watershed – run PI on cropland and heavy use areas. Focused on 10 highest PI farms to get to PI of 6, then farms with 3-6 PI next year. The goal is to eventually see a change at the monitoring station. Smith Conley watershed will not see BMP installation and will be used to compare to Pleasant Valley to track water quality response to BMPs.

- Lake Mendota – run PI and soil test everything. Contact every farmer. Use the voluntary approach. Focus on NM and meeting PI of 6. Use the inventory information to prioritize where we go first.

- Jersey Valley Lake Watershed – Discovery Watershed. An impoundment in driftless area, 80% ag, 4500 acres, monitoring urban area of Cashton, and 4 stations for ag land. Primarily dairy and beef operations with some wooded areas. 6 edge of field and 2 stream sites. Connecting field to stream.

- Willow River – In St. Croix watershed. Discovery Watershed. 4 stream, 2 edge of field monitoring stations. Primarily cash grain and dairy. Adding CRP. 80% ag.
West Branch of Milwaukee River – 37,000 ac drains to Lake Michigan. Collecting farm data with Snap Plus. 3 stream monitoring sites. Will get edge of field sites. Just starting the 2nd year. Upstream to the largest urban area in WI. Goal is to determine ag contribution.

Mead Lake – TMDL for P. Writing an implementation plan. Stakeholders are mostly the lake residents. Farmers also attend the meetings. 48% of the farms are Amish. Education for NM is a main activity. Non ag land is being converted to ag. Inventory of issues on each farm and mapping on GIS. Not using Snap yet.

Montello Lake – a watershed education project. Stream and lake sampling. Inventoried most farms with Snap Plus.

Mill Creek – impaired stream, Marshfield sewage treatment plant in watershed, using SWAT. SNAP Plus run on some of the farms. Goal is how is the land impacting the stream. Very flat watershed with PI less than 6 everywhere.

Lower Fox – Goes to Green Bay. USGS monitoring. Targeted reductions. 55% of lower fox. Measured 5 events looking at PI and soil test P. Farmers not interviewed, used the available NM data from over 50% of farms.

Plum Creek – Highest yield watershed in the Lower Fox. Link monitored data to the PI. WQ data exceeds targets. Pls reviewed show less than 6 for the majority. 20 square miles.

Big Eau Pleine – Heavy dairy, 18,000 cows, many drained fields to reservoir, many fish kills from ag. Have NM plans on 50% of acres and plans are enforced. Task force trying to understand BMP performance. As TMDL starts, getting 2 years of data. Developing a small sub-watershed project. Goals include improving NM understanding and incentives of PI and performance. Want to ensure that good $ get good results. Involving farmers, media, DATCP, DNR, NRCS, and multiple private stakeholders.

Silver Spring Creek – 4400 ac watershed. Soil sampling and producer interviews. Goal to run PI on all the ag land, collect data and get $ for implementation. Dairy, beef, swine, and manure from CAFO – dairy in watershed. Setting up farmer appointments after meeting to explain project goals. Have a baseline from stream transect survey. 303d listed as impaired for sediment.


Duck Pensaukee(sp?) Watershed- Primarily wetland preservation work.

Red Cedar River Watershed – TMDL implementation plan being developed. Summer public hearing. Mainly agriculture, but all sources can do something and be responsible for what is coming off the land. Trying different BMPs of tillage, mechanical algae removal. Including volunteer monitoring. Taking grazer network model to Dunn Co.
• Lake Wissotta – An impoundment, 30 square mile watershed, ag in dairy transitioning to cash grain. USGS monitoring stations. TMDL approved. The implementation plan is not formal yet, but working to install buffers, soil sampling with Snap Plus on some farms. Using CREP program extensively for buffer installations that are permanent easements. Private funds used including Lienenkugel’s Brewing. Putting together a 5 year project to restore basin hydrology and promote water conservation rather than conservation practices.

• Delevan Lake – 70% ag, mostly cash grain, Fed. Funds for conservation practices. Reducing point source pollution from the sanitary district. Stream protection grant for ag practices. Lake owners in contention with the sanitary districts over use of tax funds.

**Brief update on status of TMDL’s, NR 151, and associated phosphorus rules - Kevin Kirsh**

NR 102 adopted P stds in January 2011. Legislature proposed a 2 year delay in implementation but it would not have an effect because EPA adopted the standards by federal law.

NR 151 was adopted in Jan. 2011 as well but the 40% TSS reduction for urban storm-water had deadlines removed due to costs. DNR can not require compliance at any specific time but the performance standard still applies. The municipalities need to maintain what they have already installed. A TMDL goal could change this reduction level.

TMDLs: EPA ties 319 funds to these watersheds and may pull DNR funding if a certain number of TMDLs are not adopted. EPA is now requiring that the various sources of non-point pollution be identified in watershed assessments. DNR will be linking load allocations to a PI, sediment loss, or other comparable model. Milwaukee, Menomonie, Kinicinic, and WI River are large scale TMDLs just starting. Point sources may be able to help fund studies and practices to reduce non-point load to achieve watershed limits. The PRESTO model may be used to help with water quality trading. DNR has a grid tool for soil testing and estimating soil erosion for 30-100 meter cells to help target and track implementation.

**Expected watershed outcomes – Small group exercise, with report from each group**

Each group to report on answers to the following questions.

- What outcomes are you aiming for?
- How did you select them?
- Strengths / gaps and watershed outcomes?

**Group 1:** Outcomes to reduce NPS pollution, target the highest areas of loss. Top 20% targeted. Willow - SWAT modeling, WBI spinoff for Pleasant Valley. Strong partnerships. Funding uncertainty is a problem for farmers. Willow needed a bigger partnership. DATCP not linked in a useful way to support projects, but can help with NM. Pleasant Valley implementation limited due to short length of contract period dictated by funding source - 6 week sign-up period threatens farmers. This gap is an implementation and priority setting problem. Lack of staffing.

**Group 2:** Similar to Group 1. Minimize fish kills to prevent a big event. Determine the watershed carrying capacity. Outcome set from TMDLs, collaborative process. Gaps – keep ground truthing points, know predictable performance of BMPs and what works. Need PI to be tailored to water resource.
Group 3. Outcomes need to be based on WQ standards and translated to NR 151. Need to focus on problem solving. Funds lacking but will focus on the most needy areas. Sometimes standards are not achievable. Social and political gap are identified but we all want WQ.

Group 4. Outcome should be based on WQ goals. Link to successes of the past. Focus on problem sites, which is not necessarily a collaborative issue. Gaps in regulation to handle the 20%. Lack of enforcement and problem image for DNR, time gap between inventory and land use changes.


Group 6. Mead Lake project. TMDL goal not really used, hard to assess practices. Practical goal is to increase NM and manure storage. All projects work to educate on appropriate land uses and water quality. Farmer’s main goal is to adopt NM planning. Goal is to change attitudes and habits. Shift thinking to deal with problems. Provide many tools for improving WQ. Goals are based on pollutant and the realistic implementation of practices. Track the lessons learned from past watershed projects before starting others.

Group 7. Outcome is to have fish and cheese. Long term ag sustainability. Collect long term data, BMP timing. No finger pointing. Stakeholders set implementation plan and policy to county board. Strengths, we have more information, producers more progressive, farmers know they are contributing and that BMPs work. Watersheds are unique and predictability is variable. Less funds for manure storage. Work on timing of manure applications. We need high quality staff to meet with the farmers and not popular to fund now.

Group 8. Outcomes: Progress measured by PI, profitability, number of producers engaged. Advisory committees should include professionals and producers. Strengths: replicable practices, rules, partnerships, message all can help. Gaps: time lag to observe change is great, funding may be tied to certain requirements, time to get agreements with producers may be lengthy, need to stay in contact and long term. What are the contributions of field tiles in watersheds.

**Beginning a watershed project, engaging stakeholders – Small group discussion**

- How/when do you determine who to engage?
- What methods are you currently using to engage stakeholders in the beginning of a project?
- What’s worked? What hasn’t worked?

  1st approach…meet with stakeholders up front. 2nd develop 1 on 1 as you get to each landowner in the watershed. 2nd builds trust and allows landowners to share stories. Sending non-threatening representative to meet with landowners works! Suggest including agronomists to meet landowners/producers.
- Try to get the farmers and urban people on board early in the watershed. Talked with a local cooperative to help market and get producer involvement. Branding, minimum standards, and outside groups can help move the project allowed. May have reluctant producers, 1 on 1 interaction works best.
- Approach varies per watershed but try to engage as many people as you can…point sources, government, sportsmen, phone calls to farmers. ID who wants to participate, inform them prior to meeting in groups. Earn trust and make farmers feel comfortable. Work towards what is important to them and the watershed. Don’t use top down approaches, forcing regulations.
- Get small group of influential folks together. Not too prescriptive, too regulatory, or confrontational. Engage as early as possible to get buy in.
- Prepare project needs and economic impact report to determine who and what has influence. Who do stakeholders trust? Target communications.
- Create trust with the farm community and key individuals. Educate the key people. Not sure how to get participation from key people if they don’t want to participate.
- $1 of every $5 of federal farm bill funds is spent on conservation. Farmers are business competitors and we need to operate in their world. The incentive is $ per acre of profitability. Is the land being mined or nurtured? Drive for profits mean more corn than ever.
- Need to keep stakeholders informed about what every one is doing and what data is collected for. Important to have a local producer contact for a watershed. Need to tell the farmers what needs to be done to move things along.
- Town and county government needs to be engaged. Paying for the soil tests is a great start. Traditional programs have not always worked. FFA engagement works as does Water Action Volunteers.
- People trusted independent agronomists more than fertilizer suppliers.
- Engage the people that own the land. Use CREP, it is the landowner’s permanent contribution to land stewardship.

**Measurement, modeling, monitoring - Small group discussion to answer the following questions:**

1. What watershed/water quality questions need answers?
2. What methods/tools provide accurate, cost effective data?
3. What audiences are to be served?

- Inventory/baseline (tables at front)
  - Need to determine the WQ issue to be monitored, need to know specific watershed hydrology, land management practices, tools used to inventory. Difficult to know baseline status when NM plans are being constantly updated, funds for monitoring are difficult to get for lengthy periods, and producers are making changes on the landscape. SWAT, Snap Plus, are useful tools, but must collect representative data. Use LIDAR for more accurate assessments of landscape, USGS monitoring needed for baseline assessment of WQ, focus other monitoring to show impact. Show changes.
- How dynamic are the pollutant influences. Reduce variability with selected tools. Can other BMPs be added to reduce pollutants? Determine which tools are appropriate to answer specific questions.

- Implementation phase (middle front)
  - Need a decision support tool that monitoring can feed into. Demo projects to get other farmers involved. Use $ on practices instead of $ on monitoring. Have local models for local buy in.
  - Need constant reassessing of conditions and most effective BMPs. Monitor implementation and acceptance of BMPs. Though labor intensive, these data sets earn trust.
  - Monitor effectiveness of different BMPs on different lands. Digesters are a new practice that may be causing more problems than solving. Implementation is under funded. We need a play book for rural WI to show efficiency of BMPs. Remote sensing could be useful. Monitor manure hauling.

- End of project documentation of results and success (middle back)
  - We do not think about the end of project. Do not let others make their conclusions. Share the lessons learned to keep the project sustainable. What does a successful project look like? Make sure the goals can be measured and evaluated. Need strong results.
  - Who do we want to influence, methods to reach folks, is timing right, what are the risks, who are the right organizations to bring influence.
  - Do not wait until the end of a project to put information together and you will not lose data.
  - Producers want the information shared with them. Don’t wait.

- Wild card (back tables)
  - How do the phases of projects change, keep focus of project, and keep WQ and biological monitoring consistent. Continue monitoring after project. Monitor the control basin as you would the planned basin.
  - Different incentives or lack of incentives to get the last 10% in (take $ away, legal incentives, force actions) to make the project work.
  - No farmers were at this meeting. Projects seem to be from the top down. Need to bring in the landowners. Bridge the gap with realistic targets and beneficial BMPs for farms and water. Producers may wait for cost share instead of being more proactive.
  - Monitoring for end results are unrealistic. It may take 50-100 years to see goals and be able to measure results.
  - Much pressure to show results in a short time frame. This is very difficult.
**Information handling - Open discussion**

How is project information stored and analyzed?
- Are there common data sets and analyses that would benefit from some database standardization?
- Could pooling of common data sets allow development of more streamlined inventories?
- Working with stakeholders to implement watershed management practices
- Who decides what practices to recommend/implement? How?
- Who determines where practices will be implemented? How?
- How do you work with stakeholders throughout this process?

It is very challenging to collect and compare data when practices and landuses are continually changing, e.g. CRP land is converted to cropland and PI going up just due to landuse change. May be able to use federal program database through a farmer release, but may not work every where. How do we use results/experiences from each project to help other projects? These meetings should help. Conservation Innovation Grant being pursued to develop a screening tool for assessing watersheds, and the relationships of Snap Plus and monitoring with GIS to predict the PI (grant pending). To maintain confidentiality of data it is possible to maintain field level data and hide it under a grid.

We have performance standards that need to be systematically met and producers informed in every watershed. After Pleasant Valley they will be issuing letters of compliance and non-compliance. For the FPP claimants they will be getting letters of compliance and non-compliance, also manure storage ordinances require meeting the performance standards and monitoring. Some concerns that the performance standards may not meet the water quality goals. It should be baseline compliance level. In Marathon Co. this is a baseline requirement. The farms need to at least have compliance determined. Chippewa Co. will not go on farms that will not at least be cooperative with this minimum level of compliance (performance standards). Standards can be used in an educational capacity. You need to acknowledge the performance standards as you move forward. It can’t be the number one thing you pitch. Inventory was done first in Pleasant Valley. Now is the time to come back and talk about the performance standards and where each farm sits.

County conservationists seem to be in agreement with the approach of incorporating the performance standards as a main strategy for implementation.

Not necessarily a correlation with the performance standards and water quality. Why? Performance standards may get us closer to water quality but not to the goal in the Big Eau Pleine.

State standard is the PI of 6, but we do not know what PI you need in any given watershed. The UW recommendations are being used in an environmental standard, and may a positive effect on water quality, but the recs were never designed for specifically for water quality purposes. This compares to T (tolerable soil loss) which is not a water quality standard.

It is affordable and easy to get to PI of 6. The TMDL should do an analysis to get the site specific PI and go through rule-making to establish it. We know what the land needs to deliver, but we do not know what the PI should be. Will it be helpful to get PI on as many fields as we can? Rank fields/farms and then do Snap field analysis. ID each watershed source and track it to the allocation required.
In Pleasant Valley the county ran Snap Plus to establish a baseline assessment of P delivery before planning any changes to meet the NM standard. If we allow the agronomists to prepare NM plans, they will plan to meet the standard, rather than document a baseline condition. To show changes from a baseline condition for phosphorus runoff, we need to compare 2 databases for a single farm: one will show the “before” or baseline condition; and the second will show the “after” or planned BMP condition. Simplified inventory processes are sorely needed to save time, effort, and funding.

**Reflections on Watershed Management: Gordon Stevenson (DNR – retired)**

The following trends, often conflicting, will impact watershed management in big ways: The impacts from climate change; going from food surplus to food scarcity in a short timeframe; gulf hypoxia demands a response; more countries demanding more food; our national cheap food policy goes hand in hand with providing cost share to producers for conservation.

Observations:

We do not know where we are going unless we know where we have been.

- The priority watershed program focused on watersheds. They had predetermined water quality goals. Personal producer contacts modeled after Coon Valley. It preached to the choir and took cost share, did not get to those that needed change.
- Meet the goals you set. We inventoried and implemented and then everything changed (we changed goals in mid-stream).
- Be flexible enough to respond to change. A few enforcement actions delivered on critical sites started to make progress. This was stopped by the animal waste advisory committee. We should have focused on specific animal waste problems but were diverted by incorporating multiple performance standards through NR 151.
- Need to stay with general concepts and follow through.

Many new BMPs and approaches to watershed management are being tried out:

- P based Nutrient Management planning
- NGOs are a new and welcome force in promoting watershed management
- Targeting using the “Nowakian Mean” is being implanted in a number of watershed pilot projects
- Approved TMDLs are now focused on NPS from agriculture
- Prescribed grazing is an advancing land use and BMP
- The prevalence of liquid of manure systems poses many new water quality challenges from storage to land application.

Collaboration, partnership, buy-in is fine for the 80%. If we want NPS abatement we need to be able to compel compliance for the resistant 20%.

- We need producers to value BMPs.
- We need to monitor BMPs.
- The sociology is harder than the technology.
The relationship between rural and urban sources of pollutants has emerged from discussions of pollution trading. Time is ripe for innovation and an optimistic approach. The TMDL/trading devil is in the details, and thus trading never really happened in the Rock River watershed. We are putting the requirement on the point sources but not on the non-point side. We need law change to put both sources on an comparable footing.

**Topics for future discussion/investigation**

**Opportunities for future discussion/investigation**

We need more conversation on trading. The trades need to be approved by EPA. MMSD estimates $95 Million to improve treatment infrastructure, which means a lot of money is potentially available for pollutant trading.

How can we maintain reductions over the long haul and meet water goals?

Most of the people that use the waters of WI are not those that influence it.

What can the relationships be between sewage districts and farmers? What are the incentives?

We need information handling discussion, data volumes are very large.

We need to talk with the farm groups to get them more information and support.

The status quo of ag is not good enough, but we should focus on what is working whenever we can.

Should meet at least annually and perhaps the next discussions should focus on:

- What should the appropriate PI be?
- What BMPs work on farms and what are the agro/environmental economics?
- What are the costs of implementing a watershed project? How can we compare projects?

The information sharing and the implementation strategy needs to be discussed more.

Thanks to Sand County Foundation and The Nature Conservancy for hosting this meeting.