MARATHON COUNTY
ENVIRONMENTAL RESOURCES COMMITTEE
AGENDA

Date & Time of Meeting: **Thursday, April 8, 2021 at 3:00 p.m.**

Meeting Location: **210 River Drive, CPZ Large Conference Room, Wausau 54403**

Committee Members: Jacob Langenhahn - Chair ; Sara Guild, -Vice-chair; Rick Seefeldt, Allen Drabek, Bill Conway, Randy Fifrick, Arnold Schlei, Dave Oberbeck, Eric Vogel - FSA Member, Marilyn Bhend – WI Towns & Villages Association (non-voting member)

Marathon County Mission Statement: *Marathon County Government serves people by leading, coordinating, and providing county, regional, and statewide initiatives. It directly or in cooperation with other public and private partners provides services and creates opportunities that make Marathon County and the surrounding area a preferred place to live, work, visit, and do business. (Last updated 12-20-05).*

Environmental Resources Committee Mission Statement: *Provide leadership for the implementation of the County Strategic Plan, monitoring outcomes, reviewing and recommending to the County Board policies related to environmental resource initiatives of Marathon County. (Revised: 04/17/12)*

Strategic Plan Goals 2018 - 2022: Objective 5.2 - Promote sound land use decisions that conserve and preserve natural resources in decisions with economic development and growth.

Objective 6.3 - Protect and enhance the quantity and quality of potable groundwater and potable surface water supplies.

The meeting site identified above will be open to the public. However, due to the COVID-19 pandemic and associated public health directives, Marathon County encourages (Committee/Board/Commission) members and the public to attend this meeting remotely. To this end, instead of attendance in person, (Committee/Board/Commission) members and the public may attend this meeting by telephone conference. If (Committee/Board/Commission) members or members of the public cannot attend remotely, Marathon County requests that appropriate safety measures, including adequate social distancing, be utilized by all in-person attendees.

Persons wishing to attend the meeting by phone may call into the **telephone conference ten (10) minutes prior to the start time indicated above using the following number:**

Phone Number: **1-408-418-9388**

Access Code/Meeting Number: **146 270 5670**

Please Note: If you are prompted to provide an "Attendee Identification Number" enter the # sign. No other number is required to participate in the telephone conference.

When you enter the telephone conference, PLEASE PUT YOUR PHONE ON MUTE!

1. **Call meeting to order**
2. **Discussion and Possible Action by Committee to Forward to the County Committees / County Board for its consideration**
   A. Requesting funding for the Fenwood Creek project
3. **Next meeting May 4, 2021 3:00 pm Room 5 and future agenda items:**
   A. Committee members are asked to bring ideas for future discussion
   B. Announcements/Requests/Correspondence
4. **Adjournment**

Any person planning to attend this meeting who needs some type of special accommodation in order to participate should call the County Clerk's Office at 715-261-1500 at least one business day before the meeting.

SIGNED _____
Presiding Officer or Designee

EMAILED AND/OR FAXED TO:
News Dept. at Daily Herald (715-848-9361), City Pages (715-848-5887), Midwest Radio Group (715-848-3158), Marshfield News (877-943-0443), TPP Printing (715 223-3505)
Date: April 5, 2021
Time: 1:45 p.m.
By: cek
Date/Time/By: _____

NOTICE POSTED AT COURTHOUSE:
Date: _____
Time: _____ a.m. / p.m.
By: County Clerk

An opportunity for a new approach to Sediment and Phosphorus Management: The Fenwood Pilot Project by Paul Daigle

Note: This draft proposal is developed upon request of the Environmental Resource Committee for the Executive Committee to address a new strategy and funding for a "Pilot Watershed Project".

Purpose:

The time is now for a new approach in Fenwood Creek Watershed that will lower phosphorus and sediment levels by over 60%, one that is not prescriptive to farmers but easy to understand, and can achieve the desired outcomes. It entails a base level of conservation that all farmers must meet, requiring full implementation of the State agricultural performance standards and manure management prohibitions. If implemented, these requirements will raise the bar for all farmers and bring them to a base level of conservation. It would also provide incentives for superior farming systems that achieve, farm scale, high performance levels by lowering sediment and phosphorus levels by 60% lower than the State maximum levels. These farmers would be rewarded for changing management and based on their actual performance; the lower the levels of phosphorus and sediment leaving the land, the greater the reward. This approach would reward the best and challenge the rest, regardless of farm size or land management system.

Current Situation:

The Fenwood Watershed, as a sub-watershed of the Big Eau Pleine watershed, has been part of the past priority watershed projects. It has been targeted for nutrient management efforts, State performance standards and prohibitions, and animal waste management, yet the waters remain impaired. In fact, recent soil erosion survey results indicate erosion rates have increased slightly again since the last survey. The Fenwood Creek watershed drains approximately 39 square miles (24,958 acres) of land into the Big Eau Pleine (BEP) reservoir. The Big Eau Pleine reservoir has experienced chronic and historic water quality problems which have resulted in minor and major fish kills. The last major fish kill was in 2009, which initiated a task force to identify the problems and suggest solutions for remediation of the problems. One of which was to establish a "Pilot Project" in the Fenwood to try different strategies to increase the adoption of conservation practices proven to reduce non-point runoff. The Fenwood Creek Pilot project was established to provide education, planning, and technical assistance within the watershed to provide a blueprint for the Greater Big Eau Pleine watershed. The pilot project recognizes that a new approach and effort is needed.

Background and Historical Information: The Fenwood Creek is similar to many small and large scale impaired watersheds in the State of Wisconsin. Phosphorus and sediment loads are impairing the water quality of downstream water bodies from runoff pollution, primarily from agriculture. Traditional conservation approaches have had varying levels of success, but none have improved water quality to the point where the water body is removed from the DNR impaired waters listing. Past efforts have relied upon voluntary cooperation of farmers and the use of cost sharing to ease the financial burden of practice installation. This method had little community wide engagement or support. It relied upon the experts in various government agencies to develop conservation plans for individual farmers with recommended best management practices to achieve the desired goals. The results were disappointing with 20-30% farmer participation. The current producer-led watershed groups are having similar levels of participation as well.

An opportunity for a new approach:

Require basic conservation for all land, provide incentives for superior levels of management and performance, and engage the community stakeholders in the effort:

The time has come for all landowners to meet the State performance standards and manure management prohibitions. According to State law, all agricultural lands must meet agricultural performance standards and manure management prohibitions. There is currently a requirement that cost sharing must be provided to meet these conditions. The State agricultural performance standards and manure management prohibitions were enacted in 2002 based upon the recommendations of eight years of work by the DNR task force called the Animal Waste Advisory Committee *(see footnote). Their recommendations are based upon a basic common sense set of criteria for conservation, established by the committee that should be met by all landowners. These provisions have actually been State law for 18 years, but they require an offer of cost share to enforce the rules. A requirement to enter into this pilot program to receive financial incentives is that all applicants meet these basic performance standards and prohibitions to qualify.

The common sense basic conservation criteria that all landowners would need to meet are as follows:

Agricultural performance standards

- Sheet, rill and wind erosion: All cropped fields shall meet the tolerable (T) soil erosion rate established for that soil.
- Tillage setback: No tillage operations may be conducted within 5-20 feet of the top of the channel of surface waters.
- Phosphorus index: Croplands, pastures, and winter grazing areas shall average a phosphorus index of 6 or less over the accounting period and may not exceed a phosphorus index of 12 in any individual year within the accounting period.
- Manure storage facilities: All new, substantially altered, or abandoned manure storage facilities shall be constructed, maintained or abandoned in accordance with accepted standards. Failing and leaking existing facilities posing an imminent threat to public health or fish and aquatic life or violate groundwater standards shall be upgraded or replaced.
- Process wastewater handling: There may be no significant discharge of process wastewater to waters of the state.
- Clean water diversions: Runoff from agricultural buildings and fields shall be diverted away from contacting feedlots, manure storage areas and barnyards located within water quality management areas (300 feet from a stream or 1,000 feet from a lake or areas susceptible to groundwater contamination).
- Nutrient management: Agricultural operations applying nutrients to agricultural fields shall do so according to a nutrient management plan.

Manure management prohibitions

- No overflow of manure storage facilities.

- No unconfined manure piles in a water quality management area.
- No direct runoff from feedlots or stored manure into state waters.
- No unlimited livestock access to waters of the state in locations where high concentrations of animals prevent the maintenance of adequate or self–sustaining vegetative cover.

Reward superior levels of management and performance to include the following:

- Lands must meet or exceed all of the conditions above plus:
    - Phosphorus runoff of less than 3 lbs. per acre. (Phosphorus Index <3)
- Provide a new Incentive based performance system: Provides an increased incentive on each field with greatly reduced runoff. Does not favor one type of farm size or farming system over another. It rewards superior land management practices and facilities.

Performance based incentive program for all agricultural lands:			
Total Phosphorus:	**Incentive installation phase first 3 years of implementation**	**Incentive base phase for 3 year maintenance of effort**	**Examples of general cropland practices required to meet incentive in the Fenwood Creek Watershed**
< 3	$20/acre/year	$10/acre/year	Reduced tillage with cover crops/longer hay rotations with spring tillage
<2	$30/acre/year	$15/acre/year	Reduced tillage with cover crops, adding contouring and longer hay rotations, no winter spreading of manure
<1	$40/acre/year	$20/acre/year	No-till with cover crops/Managed grazing/Conservation Reserve/Tree planting/Perennial Forage, no winter spreading of manure

An example of how a farmer or landowner could earn and use this payment could be as follows: The farmer chooses to implement reduced tillage with cover crops on their 100 acre farm. This would qualify them for $20 per acre or $2000 per year for the first three years and $10 per acre for the last three year or $3000, for a grand total of $5,000 earned incentive payment. This money could then be used for annual expenses related to implementing new practices as well as reducing risk during startup phase of a new management practice.

Annual and Total Pilot project costs, if implemented in the Fenwood Creek Watershed:

No additional cost sharing for State performance standards and prohibitions-Farmers could access traditional sources to meet these criteria, but would need to meet them to be eligible to receive incentives.

One full time Conservation Specialist for 6 years: $80,000/year with benefits, total cost of $480,000.

Incentive payments: Goal of reducing phosphorus by an additional 26,390 lbs. Current estimated cost under this effort is $20 per pound. Annual cost of $527,000/year, total cost of $3,162,000.

Total annual cost: staffing and incentive payments $610,000 (rounded) per year for six years.

Engaging the Fenwood Community in water quality improvements:
Past conservation efforts have not engaged the community in what it takes to have healthy soil and the resulting improved water quality. Marathon County along with several stakeholders worked with a broad group of partners over the last year to change the approach. The outcome was a broad base group of partners who have formed "The Eau Pleine Partnership for Integrated Conservation" (EPPIC). EPPIC is an up and coming community partnership based in Western Marathon County, the Fenwood Creek Watershed resides within the Big Eau Pleine watershed. EPPIC formed in late 2017 to search for solutions to soil and water quality issues within the Eau Pleine Watershed. In an effort to increase participation in land conservation, and improve soil health and water quality, the partnership was formed as a way to engage a much broader group of community stakeholders in improving the environment.
The group consists of stakeholders who represent a spectrum of interests including: farmers, farm groups, lake stewards, natural resource oriented organizations/agencies, agronomists, equipment dealers, and others. EPPIC's values can best be described by their mission statement, "Integrating resilience into the natural resources, community, and economy of the Eau Pleine Watershed." Through this mission, the group intends to develop long term strategies to improve soil health and water quality by engaging the community as a whole. Soil and water quality affect everybody in some capacity. While the issue has increasingly become more divisive over time, the goal of EPPIC is to unify people around the health and resiliency of the soil and water resources for which the economy is dependent upon to be prosperous. EPPIC will be relied upon to engage landowners and farmers at a much broader approach as all of the stakeholders work within their own respective groups to grow participation in land and water conservation.

Request of the Marathon County Executive Committee: The Environmental Resources Committee respectfully agreed by consensus to request the Executive Committee to seek "Pilot Project" funding to meet the highest priority project identified in the Land and Water Resource Management plan. The ERC requests the Executive Committee to seek $610,000 per year for six years in State funding to meet the goals of the Fenwood Creek Watershed plan. If successful this effort will become a blue print for addressing the water quality impairments of many parts of Marathon County.

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*The DNR animal waste advisory committee was established in 1994 to establish a statewide set of criteria to address the agricultural runoff. It was in response to the growing list of impaired waters in Wisconsin and most notably to the 1993 water borne cryptosporidium outbreak and infection of residents in Milwaukee. This outbreak resulted in the illness of over 400,000 residents, multiple deaths and an estimated cost of 93 million dollars at the time. The outbreak was blamed on livestock manure carrying the virus running into surface waters. The committee consisted of a wide group of stakeholders. The outcome of their work was the agricultural performance standards and manure management prohibitions, which become state law in 2002.

Pay for Performance: An innovative approach on the use of MDV funds and meet Fenwood Creek Goals

by Patrick Bula and Paul Daigle

Innovative use of MDV funds

MARATHON COUNTY
Conservation, Planning, & Zoning Department

- Overview of a new approach to move farmers from good to great managers of the land
- Moves beyond Ag performance standards and prohibitions
- Provide ecosystem services incentive for implementation of superior management systems
- This presentation assumes you have a basic understanding of the MDV program

The Fenwood Creek Watershed

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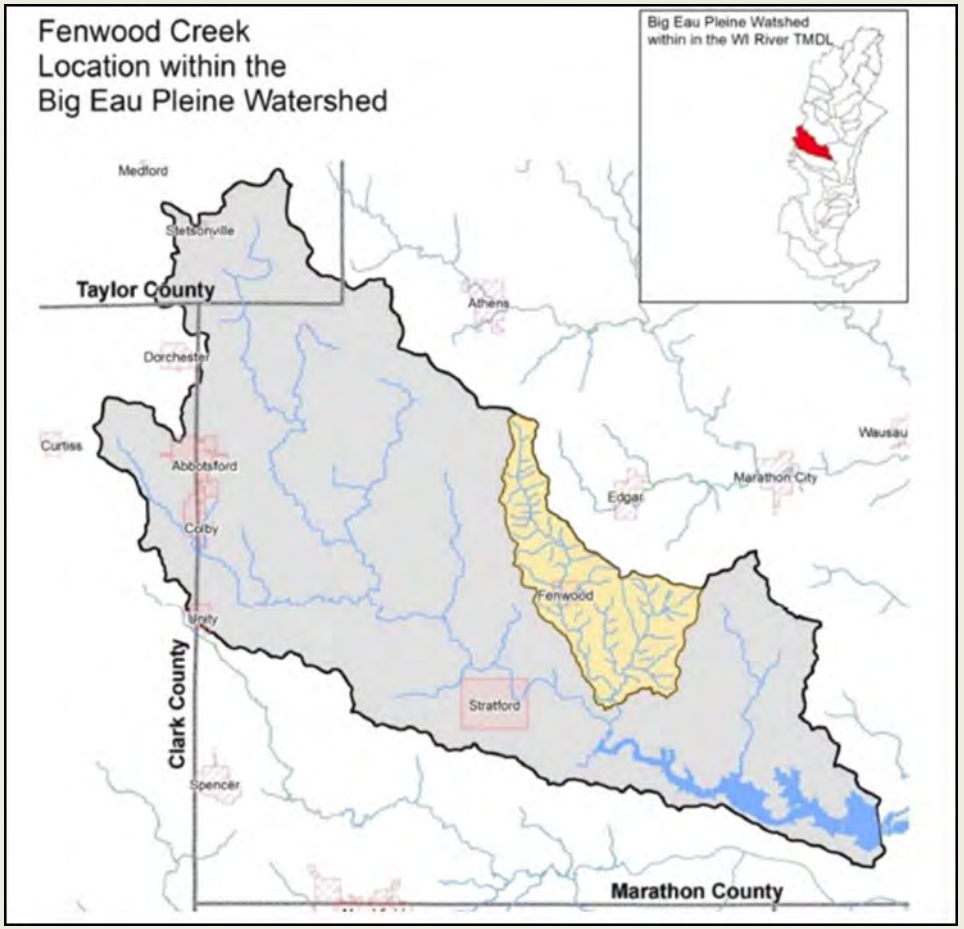
- 39 square miles (24,958 acres) flows into the Big Eau Pleine (BEP) reservoir
- 65% of the watershed area is utilized as agricultural cropland
- The Challenge:
  Support farming while mitigating environmental impacts of soil sedimentation and nutrient runoff
- Can we have Fish and Cheese?



Land Management

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Water Quality

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- Low dissolved oxygen levels, high algae concentrations, and fish kills have occurred since the reservoir construction in 1937.

- EPA designated the Big Eau Pleine River watershed as a 303D impaired water body due to the impacts from excessive phosphorus runoff.

Goals for the Fenwood Watershed

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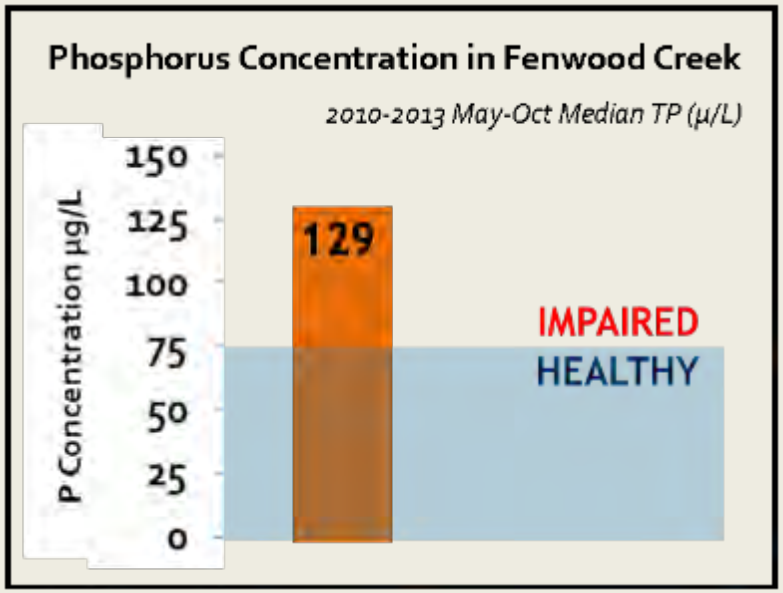
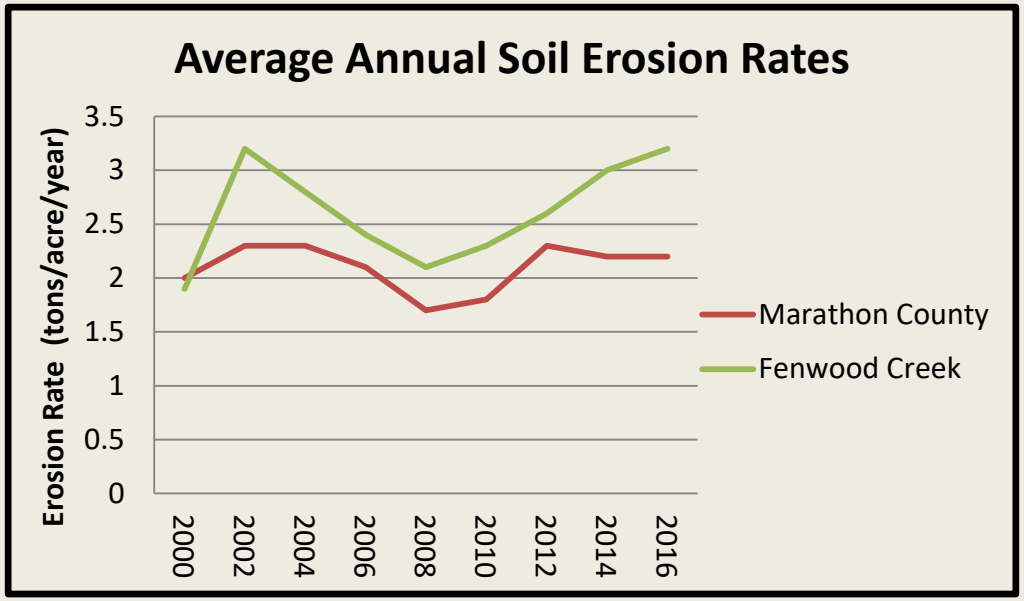
- Lower the average Phosphorus Index from 4.8 to 2.6 (lbs./acre/year)
- Reduce the average soil loss rate from 3.1 to 1.7 (tons/acre/year)
- Bring down the average instream Phosphorus concentrations from 129µg/L to 75µg/L (45% reduction)





Goals for the Fenwood Watershed

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Baseline Phosphorus and Soil Sediment Delivery Estimates for 14,600 acres cropland in Fenwood Creek		
Pollutant	Phosphorus	Soil Sediment
Current Weighted Watershed Average	4.8 Phosphorus Index	3.1 tons/acre/year
Proposed Weighted Watershed Average	2.6 Phosphorus Index	1.7 tons/acre/year
Current Total Estimated Loading	70,080 pounds/year	45,260 tons/year
Proposed load reduction per Plan	31,536 pounds/year	20,367 tons/year

How Do We Get There?
Phase 1 – Structural Practices

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Past Approach

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- DNR- Targeted Runoff Management (TRM) Grant Program
- Cost-sharing 70% hard practices (e.g. manure pit construction/abandonment, barnyard runoff control, waterways)
- Various flat rates per acre for cropland practices (e.g. cover crops, reduced/no-tillage, contour farming)
- Only able to cost-share farmers to meet the WI Agricultural Performance Standards and Prohibitions (APSP)-does not meet WQ objectives

Agricultural Performance Standards and Prohibitions (APSP)

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- AGRICULTURAL PERFORMANCE STANDARDS:
  - Sheet, rill erosion
  - Tillage setback
  - Phosphorus index
  - Manure storage facilities
  - Process wastewater handling
  - Clean water diversions
  - Nutrient management
- MANURE MANAGEMENT PROHIBITIONS:
  - No overflow of manure storage facilities.
  - No unconfined manure piles in a water quality management area.
  - No direct runoff from feedlots or stored manure into state waters.
  - No unlimited livestock access to waters of the state in locations where high concentrations of animals prevent the maintenance of adequate or self-sustaining vegetative cover.

***Even if all farms met APSP we still couldn't meet the goals of the Fenwood Creek Watershed Management Plan OR the Wisconsin River TMDL Plan.**

Past Results:
Phase 1 Phosphorus Reductions

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Phase 1 Reductions 2016-2020			
Practice	Acres Implemented	Phosphorus Reduction (pounds/year)	Soil Sediment (tons/year)
Non-Structural (cropland)	1,880 ac.	1,561	1688
Structural	N/A	1,876	207
Total		3,437	1,895

Cost per pound of phosphorus reduction: $57 per pound of P

How Do We Get There?
Phase 2 – Cropland Practices

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- Adoption of these management practices can cut phosphorus levels in half or more






MDV:
Going from good to great

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- Multi-Discharger Variance (MDV) Program
- Working towards Watershed Management Plan and TMDL goals
- How we think we can get there:
  - Reward farmers that exceed APSP
  - Develop outcome-based incentives
  - Encourage a farm-wide approach
  - Encourage farmer ingenuity

MDV:
Going from good to great

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- Farmers meet APSP as an eligibility requirement
- CPZ staff will determine a farm-wide baseline Phosphorus Index (PI) level based on the past rotation.
- Future PI level based on the planned rotation.
- Reduce or maintain farm-wide PI $\leq$ 3
- Initial 3-year contract period

Cost-Share Tier	PI Level	Reduction Rate ($/acre/year)	Maintenance Rate ($/acre/year)	Example Practices to Help Achieve that PI Level
3	< 3	$20.00	$10.00	Reduced-tillage + cover crops
2	< 2	$30.00	$15.00	reduced-tillage + cover crops + longer rotations
1	< 1	$40.00	$20.00	no-till planting + cover crops; managed grazing

2020 Snapshot

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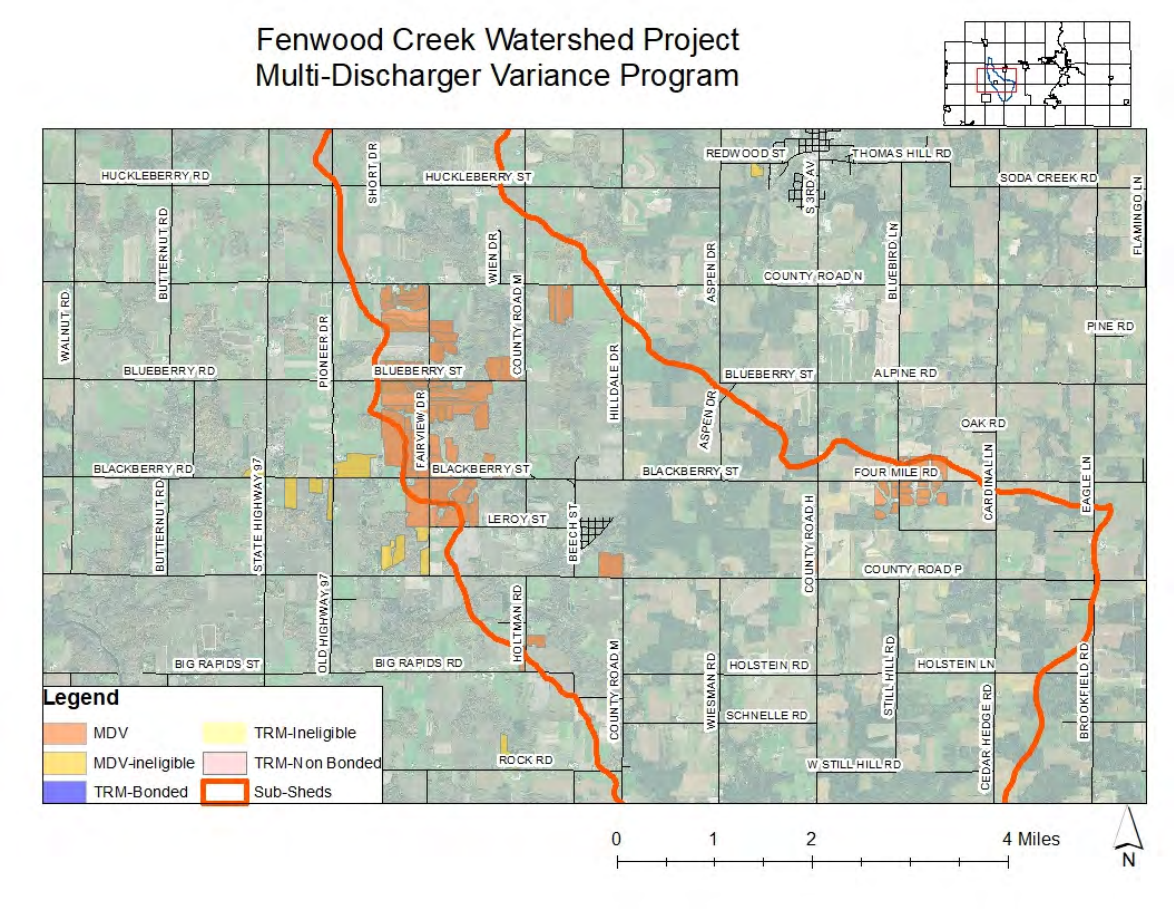
- Total of 1,214 acres within the Fenwood Creek Watershed cost-shared by MDV funds



Cost Efficiency

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Farm	Baseline PI	Planned PI	Acres	Avg. farm-wide P reduction (lbs./yr.)	Total cost ($/year)	Cost/Pound ($/lb./yr.)
1	3.5	2.9	410	246	$8,200.00	$33.33
2	3.1	0.8	180	414	$7,200.00	$17.39
3	4.4	2.7	201	342	$4,020.00	$11.75
4	3.3	1.1	264	581	$7,920.00	$13.63
5	3.7	2.9	159	127	$3,180.00	$25.03
			1,214 ac.	1,710 lbs/yr.	$30,520.00/yr	

*The MDV program spends an average of $17.85/lb./yr. on Phosphorus runoff reduction.

Year One Example: Triple K-C Dairy

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- In 2020 Keith Bauman of Triple K-C Dairy signed a three year agreement with Marathon County to reduce farm-wide average Phosphorus runoff down to less than one pound/acre.
- Keith worked with CPZ staff to plan a combination of practices that would accomplish this goal.
- In the past Keith had experimented with no-till and cereal rye cover crops, but he decided to take the next step this year.

Year One Example: Triple K-C Dairy

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- In the end he agreed to no-till 100% of his corn and soybeans, inter-seed cover crops in corn, and fall seed cereal rye following soybeans.
- Today Keith is impressed by his results and is considering no-tilling alfalfa and integrating cereal rye grain as part of his rotation.
- Leading up to the growing season Keith attended field days and connected with more experienced farmers to make certain he was successful.

How Do We Get There?
Community Engagement

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- The Eau Pleine Partnership for Integrated Conservation (EPPIC) first met during December of 2017. The group consisted of an array of stakeholders including farmers, shoreline owners, ag retailers, equipment dealers, and conservation oriented government and non-governmental stakeholders.
- Networking and coordination between stakeholders through EPPIC has accelerated management practice changes.

Challenges and Opportunities

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Challenges

- Split farm acres – not all farm acres are within the eligible watershed
- Nutrient Management Plan (NMP) updates – not every year goes as planned
- Funding to cover the whole watershed $300,000 per year

Opportunities

- Farmer NM classes for MDV participants

2022 Strategic Plan Goal:

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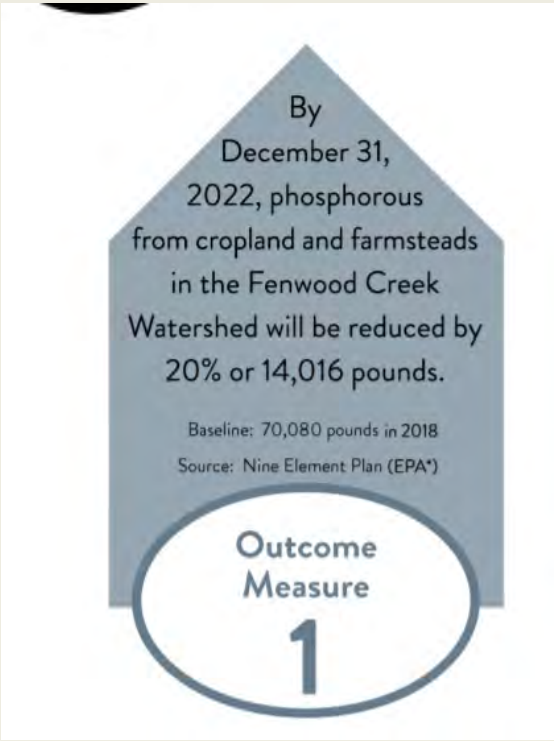

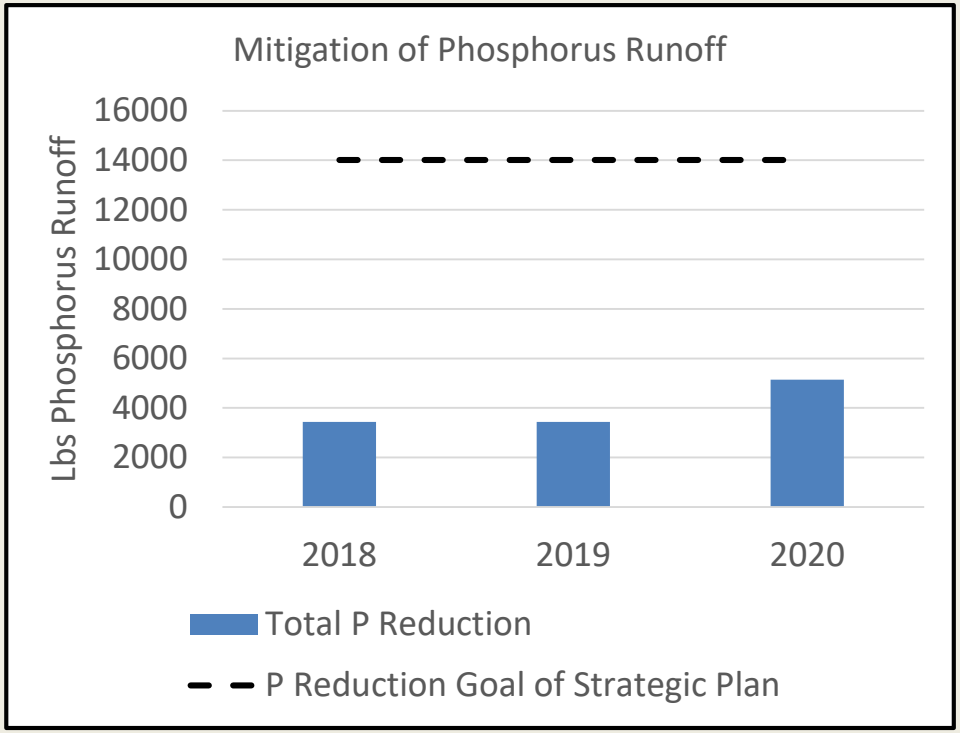

MDV approach has demonstrated a blueprint for success

2022 Funds needed

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- Additional Phosphorus reduction needed to meet 2022 goal
  - 14,016 goal – 5146 lbs to date = 8870 lbs remain
- 8870 lbs @ $20 per lb = $177,400 per year to landowners plus $50,000 to staff and administer Total $227,400 per year round to $230,000

- Options for Funding in 2022
  - Special request to State of WI for Fenwood Pilot project
    - $230,000 per year for the next two years
  - New budget request to Marathon County for 2022 and 2023
    - $230,000 per year for the next two years

- Note: a plan is being put into place to achieve 35 ft. buffers in the Fenwood using grant funds.

Funds to meet full plan goals

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- Fenwood Creek plan goals 31,536 lbs of phosphorus for both farmstead and cropland phosphorus reduction. 60% of Phosphorus reduction goal

- Additional Phosphorus reduction needed to meet
  - 31,536 - 5146 lbs to date = 26,390 lbs remain
  - 26,390 lbs @ $20 per lb = $527,800 per year to landowners plus $80,000 to staff and administer Total $607,800 per year round to $610,000 per year for six years

- Options for full Funding
  - Special request to State of WI for Fenwood Pilot project
    - $610,000 per year for the next six years
  - New budget request to Marathon County for 2022-2027
    - $610,000 per year for the next six years

Outcome

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- ERC will put in place a successful model to reduce phosphorus in all impaired waters by the end of 2022

- Set the stage for a policy discussion on how the Land and Water Resource Management Plan policy discussion on how to reach established TMDL goals of a cropland phosphorus goal of 2.5 lbs per acre or less and 35 ft buffers along agricultural lands will be achieved.

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Questions, Discussion?

Next Steps…