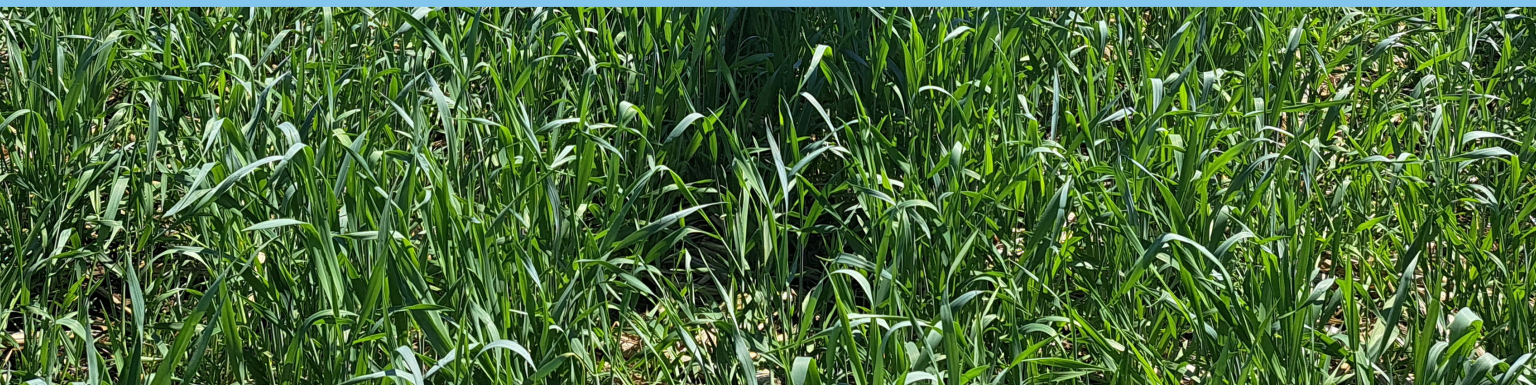




Yahara WINS 2022 Annual Report



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Photo: Prescribed grazing (Dane County LWRD)

ABOUT YAHARA WINS

The Yahara Watershed Improvement Network, known as Yahara WINS, is a long-term initiative to achieve clean water goals for the Yahara watershed. In this effort, community partners, led by Madison Metropolitan Sewerage District, are collaborating on a strategy called watershed adaptive management in which all sources of phosphorus in the watershed work together to reduce nutrient runoff over 20 years. The work began in 2012 and following a four-year pilot effort, it has transitioned to the full-scale implementation throughout the whole watershed. 2022 marks the sixth full year of the initiative.

Intergovernmental Agreement (IGA) Signatories

Towns

Blooming Grove
Burke
Cottage Grove
Dunn
Middleton
Westport

Villages

Cottage Grove
DeForest
Maple Bluff
McFarland
Shorewood Hills
Waunakee
Windsor

Cities

Fitchburg
Madison
Middleton
Monona
Stoughton
Sun Prairie

Others

Madison Metropolitan Sewerage District
Village of Oregon Wastewater Treatment Plant
Stoughton Utilities
UW-Madison
Wisconsin Department of Natural Resources

Interested Parties

Clean Lakes Alliance
Yahara Pride Farms
River Alliance of Wisconsin
U.S. Geological Survey
U.S. EPA
Madison Gas & Electric
Yahara Lakes Association
Dane County
Friends of Pheasant Branch
Wisconsin Department of Agriculture, Trade and Consumer Protection
Friends of Badfish Creek
Rock County
Columbia County
Rock River Coalition

Bold = Partner that has a funding agreement with Yahara WINS.

IGA Executive Committee Members

Voting Members

President: Martin Griffin, Madison Metropolitan Sewerage District
Vice President: Tom Wilson, Town of Westport
Secretary: Greg Fries, City of Madison
Treasurer: Jeff Rau, Village of Oregon
At-large member: Judd Blau, Village of DeForest

Non-voting Advisory Members

Laura Hicklin, Dane County
Bob Uphoff, Yahara Pride Farms
James Tye, Clean Lakes Alliance

President's Message

CONSISTENT INPUTS; CONSISTENT OUTPUTS



*Martye Griffin,
Yahara WINS
president*

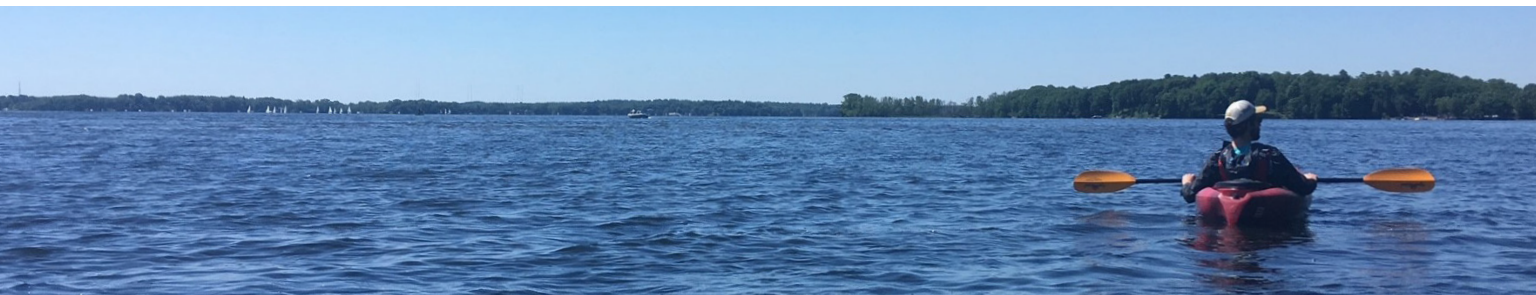
For the last seven years, Yahara WINS partners have committed time and resources to implementing projects to keep phosphorus on the land and out of waterways. This commitment has yielded great results and continues to move us to our long-term goal. But as one of the first and largest adaptive management projects in the state, we also recognize our duty to continually assess our approach, identify opportunities for greater effectiveness and innovate as needed to support the health of the waterways.

In past years of the project, partners who reported phosphorus reductions for Yahara WINS used different calculation methods to determine annual phosphorus reductions. No method was incorrect, but this created inconsistency in phosphorus accounting. Following discussions with other adaptive management leaders and the Wisconsin Department of Natural Resources (WDNR) in 2022, we identified a phosphorus accounting method that we've asked all implementing partners to start using. As the partners adopt this method, we'll have more confidence that reported phosphorus reductions are consistent and comparable, allowing for a better-informed project strategy.

The new calculation method is more conservative than one of the previous methods, so the total reported pounds of phosphorus this year is lower than last year. However, that does not mean that the project has lost momentum. Rather, it shows adaptation in action – managers and regulators refining the project based on what we're learning in the process – the very definition of adaptive management. Crucially, despite the change in accounting methods, the project still exceeded its target phosphorus reduction for 2022. We are still on track to meet our 20-year goal.

A watershed is an immensely complex system that calculation models can approximate but not replicate. Refining phosphorus accounting methods make these approximations consistent, reducing variability in a complicated project.

Photo: Kayaker on Lake Monona



2022 PHOSPHORUS REDUCTIONS

The adaptive management plan reduction goal for 2022 is 43,076 pounds. Implementing partners reported 50,563 pounds of phosphorus reduced in the past year. As described in the next section, this total is lower than the reductions reported in recent years due to changed phosphorus reduction calculation methods. Despite the phosphorus accounting change, the annual reduction exceeded the reduction goal for the year, and Yahara WINS is still on track to its 20-year project goals.

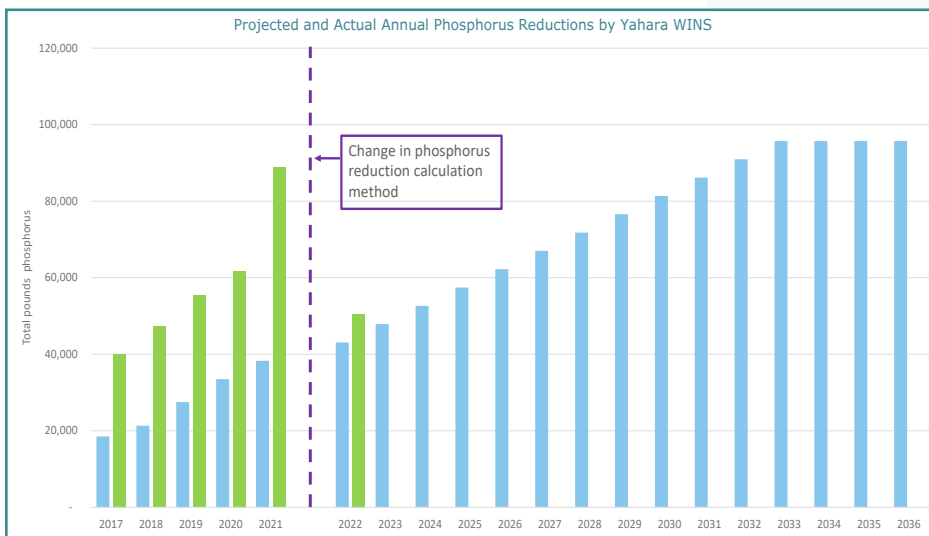
The chart below shows the phosphorus loss reductions reported each year by project partners compared to the annual reduction goals set in the project cost model.

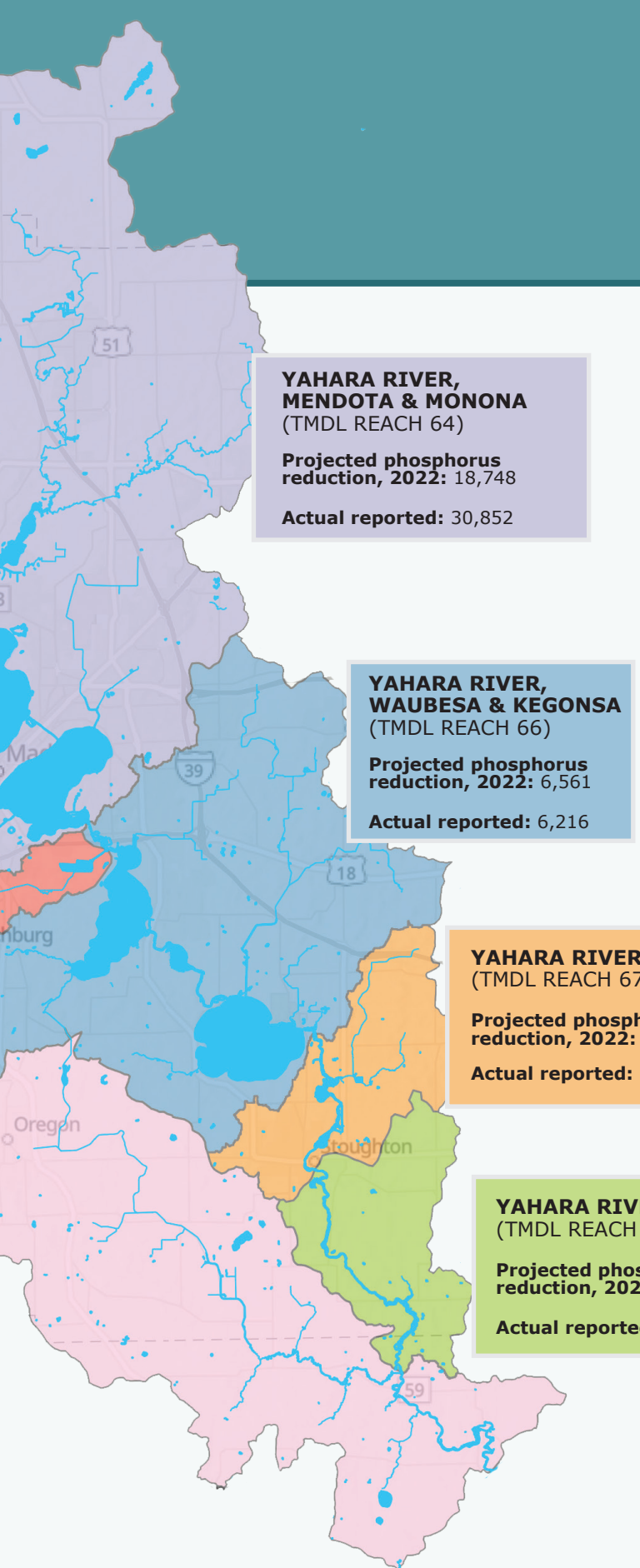
DORN CREEK
(TMDL REACH 63)
Projected phosphorus reduction, 2022: 923
Actual reported: 4,235

PHEASANT BRANCH CREEK
(TMDL REACH 62)
Projected phosphorus reduction, 2022: 4,118
Actual reported: 2,700

NINE SPRINGS CREEK
(TMDL REACH 65)
Projected phosphorus reduction, 2022: 1,584
Actual reported: 172

**BADFISH CREEK,
YAHARA RIVER**
(TMDL REACH 69)
Projected phosphorus reduction, 2022: 10,296
Actual reported: 4,155





PHOSPHORUS REDUCTIONS ACROSS THE WATERSHED

The Yahara Watershed is divided into eight areas called reaches. These reaches contain water bodies that receive that area’s runoff and smaller tributary streams and are defined by the phosphorus and sediment budget for the area called a Total Maximum Daily Load (TMDL). This map shows the phosphorus reductions in pounds per reach in 2022, as well as projected reductions from the project’s cost model. Yahara WINS has flexibility to direct funds across the watershed for practices each year based on priority and opportunity.

Over half of the 2022 reductions occurred in TMDL reach 64, which drains to Lake Mendota and is the largest reach in the watershed. Much of the watershed’s dairy farming is in this reach, so implementing partners have focused efforts in this area to manage manure in a way that prevents phosphorus loss.

Photo: Demonstration at Yahara Pride Farms Field Conservation Day, August 2022 (YPF)



IMPLEMENTING PARTNER HIGHLIGHTS

Photo: Planting crops into living cover crops, or "planting green" (Dane County LWRD)

PHOSPHORUS MODELING CHANGES

Phosphorus reductions associated with farming practices are estimated using SnapPlus, the standard nutrient modeling software tool used in Wisconsin. In the WDNR’s adaptive management guidance document and the District’s adaptive management plan, SnapPlus is an approved tool for calculating phosphorus reductions. However, at the time implementation began in the full watershed, there was no specific guidance for how the tool should be used. Initially, Yahara WINS implementing partners independently chose the method for calculating phosphorus reductions using SnapPlus. The counties used the Rotational Phosphorus Index, and Yahara Pride Farms used the Annual Phosphorus Index. Both methods are correct, but they were different and created inconsistencies in phosphorus accounting.

In 2022, Yahara WINS managers talked with other wastewater utilities implementing the adaptive management option to learn how those projects were using SnapPlus to estimate pounds of phosphorus reduced. Yahara WINS managers also met with WDNR staff, who specified that phosphorus

reductions in agricultural settings under an adaptive management project must be calculated using the Wisconsin P Trade report in SnapPlus.

These different ways of using the SnapPlus model can produce inconsistent estimates of phosphorus reductions, as demonstrated in the table below comparing different outcomes from various SnapPlus reports for the same cropping scenarios. Please note that this table is for illustrative purposes only and does not represent any actual site location for phosphorus reduction. The rotations in the table represent annual crop rotations on a field.

As shown in the table, the Wisconsin P Trade Report generates more conservative reduction numbers than the Annual Phosphorus Index, and the Rotational Phosphorus Index generates more conservative numbers than the Wisconsin P Trade Report. Accordingly, depending on which SnapPlus calculation was used, phosphorus reduction numbers will decrease between reporting years, while others may increase. This will even out as all partners transition to using the same calculations in SnapPlus.

	Annual Phosphorus Index	Rotational Phosphorus Index	Wisconsin P Trade Report
<i>Calculated pounds of phosphorus reduced per acre, per year</i>			
Rotation 1	6.4	1.0	2.9
Rotation 2	0.3	0.1	0.2
Rotation 3	3.6	0.7	2.0

The practices that reduce phosphorus throughout the watershed in agricultural settings are made possible by farmers and the Yahara WINS partners who work with them to design, plan and fund the practices. These partner organizations have deep expertise in agriculture and land conservation practices that

they apply to fields and barnyards to keep soil and manure on the land, preventing phosphorus from reaching waterways. Find full partner reports at www.yaharawins.org.

DANE COUNTY LAND & WATER RESOURCES DEPARTMENT

Most of the Yahara River Watershed is located in Dane County, and the county LWRD supports practices in all TMDL reaches to reduce phosphorus. Yahara WINS and Dane County LWRD currently have a service agreement through the end of 2024 that directly funds a portion of the department's work devoted to practices in the watershed that count toward Yahara WINS phosphorus reductions. Achievements in 2022 include:

- 136 conservation practices completed.
- 22,089 pounds of phosphorus reduced. This includes 7,858 new pounds from practices implemented in 2022, and 14,231 pounds that carry over from practices implemented in previous years.
- Over \$1 million in cost-share agreements allocated for the second time in the department's history. Yahara WINS provided \$115,488 in matching funds; the rest came from federal, county and other funds.
- 52,465 acres tracked across the watershed in nutrient management plans.

YAHARA PRIDE FARMS

A farmer-led group working to improve soil and water quality in the watershed, YPF provides education and offers a cost-share program to farmers to promote and facilitate conservation practices. YPF enters into annual service agreements with Yahara WINS to help fund this program and currently offers 10 conservation practices eligible for cost-share, such as cover crops, low-disturbance manure injection (LDMI), and manure composting. In 2022, YPF achieved the following outcomes:

- 28,463 pounds of phosphorus reduced from practices implemented in 2022.
- \$365,474 allocated toward conservation practices in the watershed. The farmers who received cost-share also invested an additional \$462,032 of their own funds to implement more acres of practices.
- 68 farmers received cost-share, a net increase from 63 in 2021. Eight of these farmers were new to YPF programs.
- 7,000 acres covered by LDMI, the largest number of acres covered by this practice since it was first tracked starting in 2013.

ROCK COUNTY LAND CONSERVATION DEPARTMENT

The southernmost portion of the Yahara Watershed, where the Yahara River flows into the Rock River, is in Rock County. Yahara WINS and Rock County LCD currently have a service agreement through the end of 2025. Rock County LCD completed the following to support Yahara WINS in 2022:

- Planted 2.8 acres of cropland in perennial forage (grasses and legumes), resulting in an estimated 11 pounds of phosphorus reduction that will be realized annually as carryover pounds.
- Completed planning for a barnyard runoff control system and perennial vegetation planting to be completed in 2023.



NOTABLE 2022 ACTIVITIES

Photo: Redeveloped shoreline at Executive Residence

RENEW THE BLUE RELEASED

Yahara WINS is one of 19 community groups to be a part of the Yahara CLEAN Compact, a community agreement centered around actions to improve lake health. The actions recommended by the Compact to address runoff reflect updates in response to new research and ongoing assessment of the watershed. Building upon previous efforts, Renew the Blue was released in 2022 and recommends four priority areas to most effectively address phosphorus runoff to the Madison Lakes:

- Reduce phosphorus runoff in the critical loading period of January-March;
- Reduce phosphorus runoff from urban streets, specifically from leaves in the fall;
- Lessen net phosphorus availability in the watershed by using local sources (e.g., manure) rather than imported phosphorus fertilizers; and
- Target runoff-reducing actions on areas that drain to the lakes rather than internally drained areas.

Many of these goals overlap with Yahara WINS, adding support and resources toward cleaner lakes. As most Yahara WINS runoff control practices are implemented in agricultural areas, Renew the Blue can help direct resources toward additional phosphorus sources, such as urban leaves.

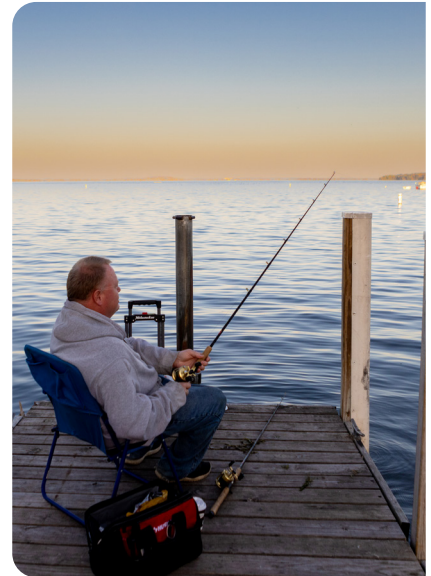
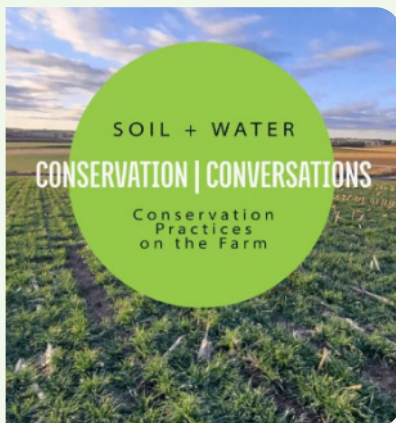


Photo: Fishing off a pier on Lake Mendota, Marshall Park



NEW CONSERVATION PODCAST LAUNCHED

Yahara WINS launched Soil+Water: Conservation Conversations, a podcast sharing information about agricultural conservation and water quality. Seven episodes were released in 2022, featuring interviews with farmers and other agricultural experts. This podcast is available on several major podcast platforms and is also accessible at yaharawins.org/podcast.

Yahara WINS is powered by dedicated, creative partners who devote their expertise and energy to phosphorus reduction. Individually and collaboratively, project partners have implemented nutrient-reducing

practices, raised awareness of nutrient issues, and honed strategies for water quality improvement. Here are some partner activities related to Yahara WINS in 2022.



EXECUTIVE RESIDENCE NATURAL SHORELINE

Native vegetation planted along shorelines can absorb phosphorus-laden runoff before it reaches waterways more effectively than turf lawns. Natural shorelines have the additional benefits of reducing erosion that causes nutrient-rich sediment runoff and providing wildlife habitat.

To lead by example for other lakefront property owners, the Wisconsin Executive Residence (Governor's Mansion) shoreline was converted from turfgrass to native flowers, grasses, shrubs and trees. Volunteers from the Rock River Coalition (RRC), a Yahara WINS partner, assisted with the planting. The implementation of this project came after over a decade of advocacy by several local environmental groups and agencies and was funded by private donations, including funding from Yahara WINS.

Photo: Newly planted shoreline in October 2022

DISTRICT RECOGNIZED FOR PHOSPHORUS MANAGEMENT

The District received Platinum Partner status in the Nutrient Smart (NSmart) program, a collaboration between the Water Environment Federation (WEF) and the U.S. Environmental Protection Agency (EPA) to recognize utilities for their achievements in nutrient reduction. The District qualified as a Platinum Partner, the highest tier of recognition, for accomplishing over 90 percent phosphorus removal in its operations.

In addition to a high level of treatment, the program prioritizes utilities that conduct community outreach and implement innovative practices in pursuit of nutrient reductions, underscoring that watershed-wide programs like Yahara WINS are viewed as the gold standard for nutrient reduction.



Photo: Kim Meyer, Martye Griffin, and Alan Grooms of the District with NSmart certificate

WATER QUALITY MONITORING

*Photo: Volunteer stream monitoring training
(Rock River Coalition)*



USGS MONITORING

USGS maintains six monitoring stations throughout the watershed. USGS chronologically organizes annual data by Water Year (Oct. 1-Sept. 30; abbreviated as WY) to include the entire previous winter in its determination of yearly precipitation.

USGS summarizes the Water Year and phosphorus monitoring data each year as part of the adaptive management project. Key points for WY 2022 include:

- Phosphorus concentrations increased in all monitored sites except the Yahara River at Fulton in 2022. Concentrations can be affected by stream flow and weather conditions, so year-to-year fluctuations are expected. The goal of Yahara WINS is to see a downward trend in concentration over several years.
- There was 20% less runoff (volume of water running off land into waterways) in WY 2022 than WY 2021 but about 10% more phosphorus loading. While there was less water coming off the landscape, the amount of phosphorus in that water increased. However, the total phosphorus loading to Lake Mendota in WY 2022 was under 40,000 pounds, well below the long-term average loading of 65,000 pounds.
- Increased rainfall and runoff due to climate change can counteract gains made through Yahara WINS, which is why the Renew the Blue initiative prioritizes efforts to address nutrient runoff in the crucial January to March period, during which most phosphorus is delivered to the lakes.

ROCK RIVER COALITION

RRC has an annual agreement with Yahara WINS to receive funding to support its water monitoring program in the Yahara River watershed, which yields additional water quality data to help measure project progress. In 2022, RRC volunteers monitored 49 sites throughout the watershed. In addition to assessing baseline water quality indicators like dissolved oxygen, clarity and temperature at all sites, volunteers collected nutrient samples at 44 of these sites. Stream samples are brought to the District lab for analysis and entry into the Surface Water Integrated Monitoring System (SWIMS) database, the WDNR repository for surface water data.

RRC also conducts outreach about Yahara WINS and related initiatives. It shared two StoryMaps in 2022 in e-newsletters to members featuring the Dane County Suck the Muck project and the Executive Residence shoreline improvements. Yahara WINS spoke about the project at the Fall 2022 annual conference. Read the full RRC annual report at rockrivercoalition.org/archives.

The ultimate measure of Yahara WINS’s success is how water bodies in the watershed respond to phosphorus control practices on the land by lowering in-stream phosphorus levels. Accordingly, water quality monitoring is vital to tracking project progress. The Yahara WINS data set consists of data collected by U.S. Geological Survey (USGS) sampling gauges and

Rock River Coalition (RRC) volunteer stream monitors throughout the watershed. This monitoring includes additional locations than what is required under the adaptive management plan approved by WDNR and can provide a better idea of what’s happening in the watershed over time and aid decision making.

IN-STREAM PHOSPHORUS CONCENTRATIONS

USGS samples for the project area were collected on the 15th of every month during the growing season (May-October). The median of these values is reported for each location. Most of these samples reflect baseflow conditions when the stream is not experiencing higher flow due to storm runoff.

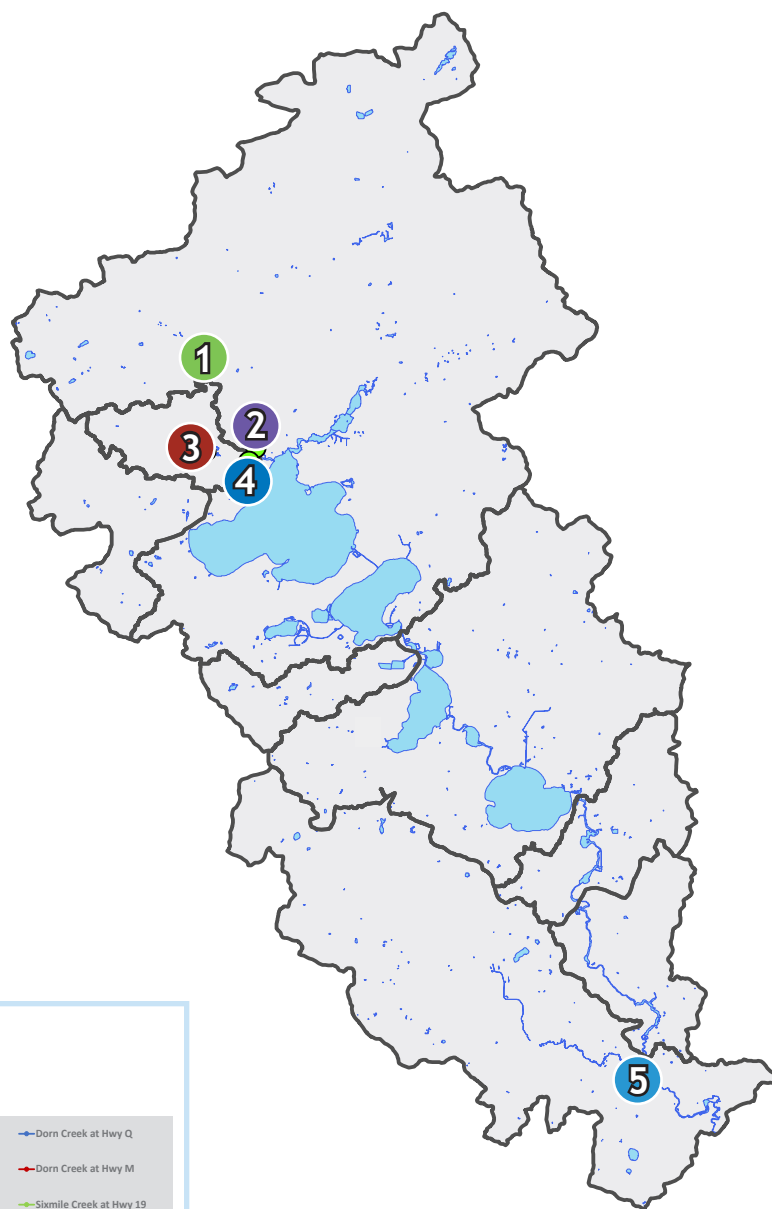
1) Sixmile Creek at Highway 19
2022 concentration: 0.25 mg/L

2) Sixmile Creek at Highway M
2022 concentration: 0.21 mg/L

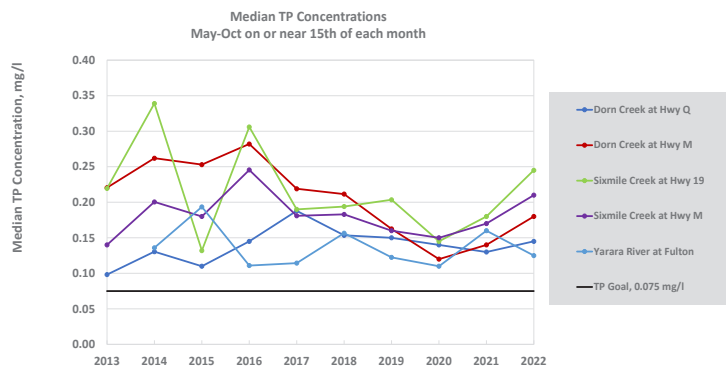
3) Dorn Creek at Highway M
2022 concentration: 0.18 mg/L

4) Dorn Creek at Highway Q
2022 concentration: 0.15 mg/L

5) Yahara River at Fulton
2022 concentration: 0.13 mg/L



Long-term target concentration for Yahara River at Fulton: 0.10 mg/L



FINANCIALS

2022 FINANCIAL SUMMARY

Yahara WINS is funded primarily by signatories to its Intergovernmental Agreement (IGA), which contribute to the project proportionate to the amount of phosphorus they need to reduce under the TMDL. This funding is then distributed to partners contracted for services with Yahara WINS, including implementing conservation practices and conducting watershed monitoring.

Revenue projections are adjusted as municipal IGA participants update their phosphorus reduction obligations under the TMDL based on updated stormwater modeling. In 2022, the City of Stoughton submitted updated stormwater modeling that reduced its cost obligation. Accordingly, the City of Stoughton will receive credits for overpayments through 2025, joining the City of Monona, Town of Cottage Grove and Village of Maple Bluff, which have also adjusted payments.

2022 ADOPTED BUDGET (rounded to the nearest \$100)

Unencumbered carryover from 2021	\$19,000
REVENUE	
IGA participants	\$1,514,209
Income from grants, other MOUs, etc.	\$0
MGE Foundation	\$5,000
Savings account interest	\$4,000
<i>Total Revenue</i>	<i>\$1,523,209</i>
<i>Total Revenue plus unencumbered carryover</i>	<i>\$1,542,209</i>
EXPENDITURES	
Phosphorus reduction	
Dane County phosphorus reduction services agreement	\$540,000
Columbia County phosphorus reduction services agreement	\$50,000
Rock County phosphorus reduction services agreement	\$150,000
Yahara Pride Farms phosphorus services agreement	\$170,000
General phosphorus reduction practice funding	\$150,000
Phosphorus reduction Innovative Grant Program	\$50,000
Subtotal	\$1,110,000
Water quality monitoring or modeling	
Water quality monitoring analytical services (MMSD)	\$55,000
USGS joint funding agreement	\$75,000
Rock River Coalition water quality monitoring	\$36,000
Subtotal	\$166,000
Supporting services	
MMSD service agreement	\$60,000
Financial audit	\$10,000
Communications	\$5,000
Miscellaneous	\$5,000
Legal services agreement	\$4,000
Subtotal	\$84,000
Transfer of funds to designated operating reserve	\$177,000
Total Expenditures	\$1,537,000
Revenue minus expenditures (potential unencumbered carryover)	\$5,209

2023 ADOPTED BUDGET (rounded to the nearest \$100)

Unencumbered carryover from 2022	\$0
REVENUE	
IGA participants	\$1,514,470
Income from grants, other MOUs, etc.	\$0
MGE Foundation	\$5,000
Savings account interest	\$4,000
<i>Total Revenue</i>	<i>\$1,523,470</i>
<i>Total Revenue plus unencumbered carryover</i>	<i>\$1,523,470</i>
EXPENDITURES	
Phosphorus reduction	
Dane County phosphorus reduction services agreement	\$540,000
Rock County phosphorus reduction services agreement	\$150,000
Yahara Pride Farms phosphorus services agreement	\$425,000
Subtotal	\$1,115,000
Water quality monitoring or modeling	
Water quality monitoring analytical services (MMSD)	\$65,000
USGS joint funding agreement	\$75,000
Rock River Coalition water quality monitoring	\$40,000
Subtotal	\$180,000
Supporting services	
MMSD service agreement	\$60,000
Financial audit	\$11,000
Communications	\$5,000
Legal services agreement	\$4,000
Subtotal	\$80,000
Transfer of funds to designated operating reserve	\$147,000
Total Expenditures	\$1,522,000
Revenue minus expenditures (potential unencumbered carryover)	\$1,470

The 2023 budget and associated budget narrative can be found on the Yahara WINS website, yaharawins.org.

LOOKING FORWARD

NEW WATERSHED PROGRAM COORDINATOR

In 2023, Watershed Programs Coordinator Kim Meyer left Madison Metropolitan Sewerage District for a new opportunity. We sincerely thank Kim for her hard work to advance Yahara WINS, including her efforts to highlight conservation success stories in the watershed.

The District is pleased to introduce Mike Gilbertson as the new Watershed Programs Coordinator, who will manage several aspects of the Yahara WINS project. Mike previously worked at the WDNR in large animal operations permitting and agricultural nonpoint runoff control, giving him expertise in policy and agricultural practices that he will bring to Yahara WINS.

COST MODEL UPDATES

During the formation of Yahara WINS, partners worked together to develop a cost model to guide the resources needed to implement the practices necessary to meet phosphorus reduction goals. Many assumptions around cost have changed since the cost model was first created, including the actual reduction a conservation practice has when modeled using SnapPlus. As such, changes to phosphorus reduction calculation will affect the cost per pound of phosphorus reductions for a given practice.

The signatories of the IGA agreed to a process using cost model information determine the cost per pound of phosphorus. This cost is then used as a factor in determining a Yahara WINS member's total financial contribution to achieve their individual phosphorus reduction obligation

under the TMDL. The initial cost model was based on phosphorus reductions calculated using the Phosphorus Index, a SnapPlus report that had been used by implementing partners but is being phased out at the direction of the WDNR in favor of the WI P Trade report. Because the new report will generate different estimates of phosphorus reductions due to implemented practices, the cost of implementing practices to reach phosphorus reduction goals will change. To ensure that Yahara WINS has the resources it needs to reach phosphorus reduction goals over the 20-year life of the project, an update to the cost model is planned to begin in 2023. Once an updated cost-model recalibrates the resources needed to meet success, the group will need to make decisions on how to gain additional resources if they are needed.

BADGER MILL CREEK PHOSPHORUS LIMITS AND UPDATED SOLUTIONS (PROJECT PLUS)

The District formed Yahara WINS to use adaptive management to meet its permit requirement to reduce phosphorus in the Yahara watershed, which includes Badfish Creek, the District's primary discharge location. However, the District has a second discharge location in Badger Mill Creek, which is outside the Yahara watershed and unaffected by the adaptive management permit requirement. However, this creek is also subject to phosphorus regulations, so the District must take action to comply with the phosphorus limit for Badger Mill Creek.

Similar to Badfish Creek, the District evaluated various phosphorus compliance options for Badger Mill Creek. Unlike Badfish Creek though, the Sugar River watershed, which includes Badger Mill Creek, is not well-suited to adaptive management or water quality trading as a compliance option. The District was left with a choice between adding phosphorus

GLOSSARY

removal technology to the Nine Springs Wastewater Treatment Plan specifically for Badger Mill Creek discharge or discontinuing the discharge to the creek altogether. In 2022, the District finalized the evaluation of its final compliance options and conducted public engagement around final options that continued into 2023. After thoughtful discussions with various stakeholders and the careful review of data and resources provided by scientific experts, in 2023, the District's Commission voted in favor of the recommendation to discontinue flow to Badger Mill Creek and discharge only into Badfish Creek.

The District currently returns most of its flow to Badfish Creek, and any flow over the 3.6 million gallons per day (MGD) discharged to Badger Mill Creek currently goes to Badfish Creek. When the District discontinues flow to Badger Mill Creek, directing all effluent discharge to Badfish Creek would not change the flow rate entering the creek because District pumps are configured to operate at constant rates. This consistency is further supported by storage infrastructure at the plant that allows the District to level out flow rates. Therefore, Badfish Creek would not experience any different flow conditions than it currently experiences.

With the Badger Mill Creek compliance solution that discontinues effluent to Badger Mill Creek, the additional phosphorus pounds would be sent to Badfish Creek. The Yahara WINS Adaptive Management Plan includes a process for including the additional pounds in the overall Yahara WINS project. In addition, the District would be responsible for paying for the additional pounds as determined by the Yahara WINS Intergovernmental Agreement (IGA) in section 9.a.1, which allows point source dischargers to adjust their payment to Yahara WINS if flow or loadings change. This is noted to occur on a five-year averaging period. Learn more at madsewer.org/bmc-plus.

Adaptive management option: A Wisconsin compliance strategy for phosphorus that focuses on meeting in-stream phosphorus concentration targets in water bodies by reducing phosphorus runoff from the surrounding watershed.

Phosphorus: A chemical element found in living and formerly living things. It's essential to animal and plant life, which makes it an effective fertilizer. On land, it provides vital nutrition to plants, but in water bodies, it can lead to overgrowth of undesired plants and bacteria, such as blue-green algae, which can degrade water quality.

SnapPlus: The standard tool agricultural planners in Wisconsin use to calculate nutrient losses from a given field depending on field characteristics. This tool calculates phosphorus reductions, but can generate different values depending on assumptions that go into calculations.

Total Maximum Daily Load (TMDL): A "budget" for pollution for a water body or group of water bodies that defines the highest amount of a given pollutant that a water body can receive per day without experiencing adverse impacts. The Yahara watershed is part of the Rock River TMDL, so Yahara WINS is working to meet the phosphorus budget target defined by the TMDL.

Water Year: The 12-month period from October 1 to September 30 of the following year used by water scientists to measure total precipitation including a full winter.

Watershed: An area of land where all surface water drains to the same water body. In the Yahara watershed, all runoff and streams lead to the Yahara River.



Photo: Yahara River between Lake Mendota and Lake Monona

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Madison, WI 53713

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