

Annual Dane County Yahara WINS Adaptive Management Report



Annual report on Dane County Land & Water Resources Department efforts assisting with the implementation of conservation practices that reduce phosphorus runoff for the Yahara WINS Adaptive Management project.

2024 Report Year



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Executive Summary

The Dane County Land & Water Resources Department (LWRD) continued its collaboration with the Yahara Watershed Improvement Network (WINS) to advance adaptive management within the Yahara watershed. Efforts included supporting rural landowners and producers in the voluntary implementation of conservation practices, as well as calculating and reporting the associated phosphorus reductions. This partnership celebrated its 13th year in 2024 and achieved continued success, which will be detailed further in this report.

Key 2024 Yahara Watershed Accomplishments

- Implemented 102 new conservation practices over the past year, resulting in a reduction of 6,116.0 pounds of phosphorus. When combined with previously implemented practices, the total phosphorus reduction in 2024 amounts to 22,271.2 pounds.
- Completed 48 practice verification checks to ensure that conservation practices were functioning properly.
- Entered into 29 cost-share agreements for conservation practices and systems.
- Allocated \$368,378 in cost-share assistance within the Yahara watershed.
- Tracked 59,144 acres of nutrient management plans within the Yahara watershed.
- Sustained investments in innovative conservation programs like the Continuous Cover Program (CCP).
- Continued efforts with Dane Demo Farms, a network of farmers that demonstrate and research leading edge conservation practices that improve water quality throughout Dane County.



Conservation Practices

The Land Conservation Division within the Land and Water Resources Department (LWRD) at Dane County works to protect and improve local land and water resources while providing benefits to both the environment and agricultural operations. The division manages a number of voluntary conservation-related projects and programs which includes the plan, design, and implementation of agricultural conservation practices to reduce soil erosion and protect water quality.

Planned Practices

At the beginning of 2024, 36 conservation practices were identified (Figure 1) where Dane County LWRD staff would provide planning assistance. Many of these planned practices were voluntarily implemented by landowners and, throughout the year, additional conservation practices were designed and implemented.

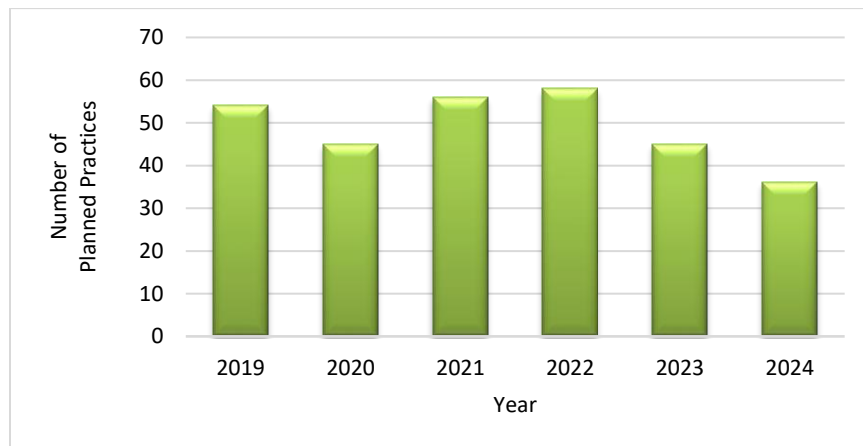


Figure 1. Number of planned conservation practices within the Yahara watershed identified in the Dane County annual work plan.

Implemented Practices

Over the last year, 102 conservation practices were implemented (Figure 2 and Figure 3) effectively reducing the amount of phosphorus that reaches nearby surface waters from runoff. The number of newly implemented practices reduced from previous years. However, this aligns with an overall reduction in funding (Figure 5 and Figure 6).

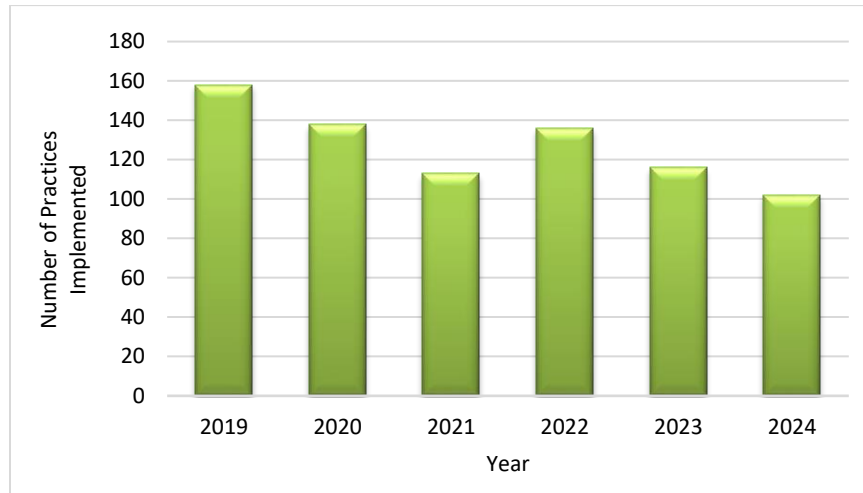


Figure 2. Number of conservation practices implemented within the Yahara watershed.

Cover crops again were the most common conservation practice implemented in 2024 with 2,291.6 acres. Fence and pipeline practices were also common in 2024 and are often associated with grazing systems. Other frequently implemented conservation practices include conservation cover, grassed waterways, and no-till management (Table 3 in the appendix).



The Dane County LWRD remains committed to advancing and applying innovative conservation initiatives, including the Continuous Cover Program (CCP). CCP provides funding to help convert traditional row-cropped fields to continuous

vegetative cover. Continuous vegetation can increase water infiltration, reduce soil erosion, improve water quality, build soil health, increase wildlife habitat, sequester carbon, and diversify production practices.

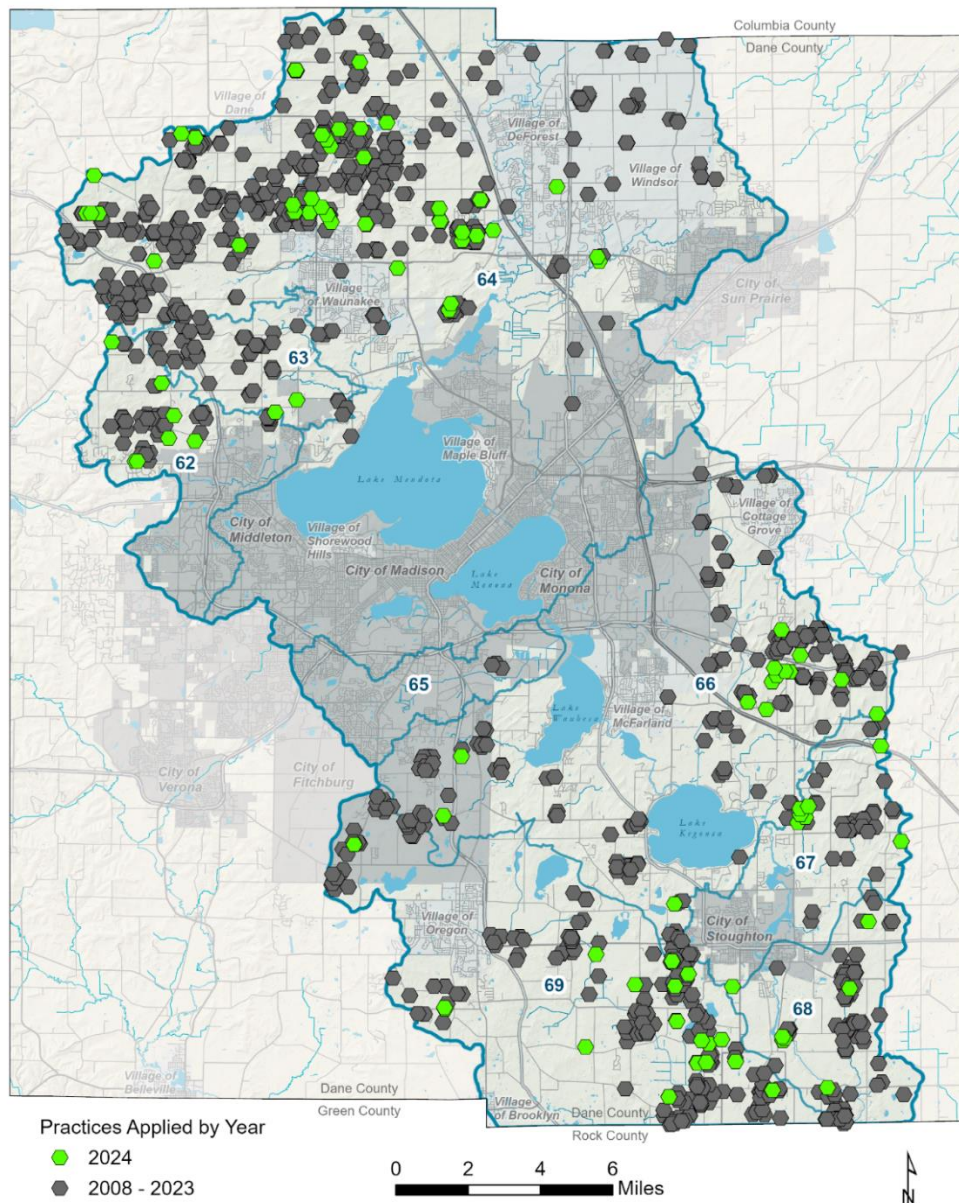


Figure 3. Conservation practices implemented in the Yahara Watershed.

Phosphorus Reductions

The implementation of new conservation practices in 2024 led to a reduction of 6,116.0 pounds of phosphorus. The pounds of phosphorus reduced from new conservation practices is considered new pounds. In contrast, previously

established practices that are still functioning contributed to a reduction of 16,155.2 pounds of phosphorus, recognized as carryover pounds. In total, conservation practices achieved a reduction of 22,271.2 pounds of phosphorus in 2024.

Table 1 and Figure 8-Figure 15 (in the appendix) illustrate these reductions of phosphorus over time in the Yahara watershed and the corresponding TMDL reaches.

Table 1. New and carryover pounds of phosphorus reduced by TMDL reach annually.

| | 2020 | | 2021 | | 2022 | | 2023 | | 2024 | |
|--------------|----------------|-----------------|----------------|-----------------|-----------------|-----------------|----------------|-----------------|----------------|-----------------|
| TMDL Reach | New | Carryover | New | Carryover | New | Carryover | New | Carryover | New | Carryover |
| 62 | 203.6 | 342.4 | 442.3 | 167.7 | 307.4 | 186.1 | 381.9 | 186.1 | 499.6 | 409.3 |
| 63 | 328.4 | 1,529.4 | 464.9 | 1,562.3 | 707.1 | 1,616.3 | 541.0 | 1,702.0 | 448.7 | 1,407.1 |
| 64 | 3,033.7 | 4,260.2 | 3,300.6 | 4,244.8 | 3,819.6 | 4,069.3 | 4,504.2 | 4,712 | 3,151.5 | 5,578.1 |
| 65 | 0.0 | 145.6 | 0.0 | 174.2 | 0.0 | 182.2 | 12.7 | 182.2 | 7.8 | 182.2 |
| 66 | 1,268.3 | 4,587.6 | 900.1 | 5,198.5 | 520.0 | 5,411.6 | 416.7 | 5,238.8 | 678.5 | 4,953.2 |
| 67 | 285.1 | 567.0 | 408.3 | 523.2 | 263.6 | 523.2 | 314.9 | 853.3 | 212.7 | 821.9 |
| 68 | 904.7 | 710.0 | 985.8 | 779.9 | 657.8 | 788.6 | 490.0 | 849.7 | 484.9 | 846.1 |
| 69 | 737.3 | 1,247.4 | 1,352.0 | 1,333.5 | 1,582.8 | 1,453.5 | 1,114.3 | 1,717.4 | 632.3 | 1,957.3 |
| Total | 6,761.1 | 13,389.6 | 7,853.9 | 13,984.1 | 11,594.4 | 16,870.7 | 7,775.8 | 15,541.5 | 6,116.0 | 16,155.2 |

Verification Checks

Dane County LWRD staff inspected all of the 48 conservation practices that were identified for verification this past year. All of the inspected practices were located in TMDL reaches 63 and 64. From the inspections, 45 (94%) practices were found to be functioning and maintained, while 3 (6%) practices were not functioning (Figure 4). Reasons for these practices no longer functioning and being maintained include the conversion of land from agriculture to residential use or conservation practices requiring repairs and maintenance.

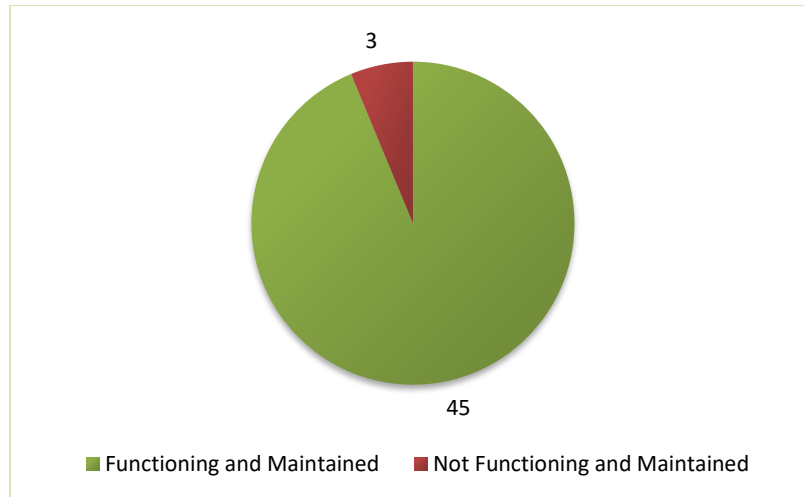


Figure 4. Field verification and review of conservation practices.

Funding Sources and Amounts

Dane County LWRD assisted with 29 new cost-share agreements with landowners, utilizing federal, county, and other funding sources (Figure 5) within the Yahara watershed. The total cost-share funding for these agreements was over \$368,378 (Figure 6). Since 2013, Dane County has assisted with over \$8 million in cost-share agreements for conservation practices aimed at reducing phosphorus in the watershed. Dane County strives to utilize and leverage all funding sources available including federal, county, and other sources (i.e. Yahara WINS, Clean Lakes Alliance grants, etc.) to support landowners and producers with conservation practices. The available funds and conditions vary annually by funding source and the number of agreements are dependent on the interest from landowners and producers for implementing conservation practices.

Under the current Service Agreement, Yahara WINS provides Dane County with \$540,000 for assisting with implementing conservation practices and the WINS Adaptive Management project. In 2024, \$157,770 was used in providing cost share assistance, directly to landowners and individuals, to aid in implementing phosphorus reducing conservation practices. The remaining, approximately, \$382,000 was used to partially fund staff and equipment required to plan, design, implement, document, verify, and map the conservation practices and nutrient management plans that were reported to Yahara WINS.

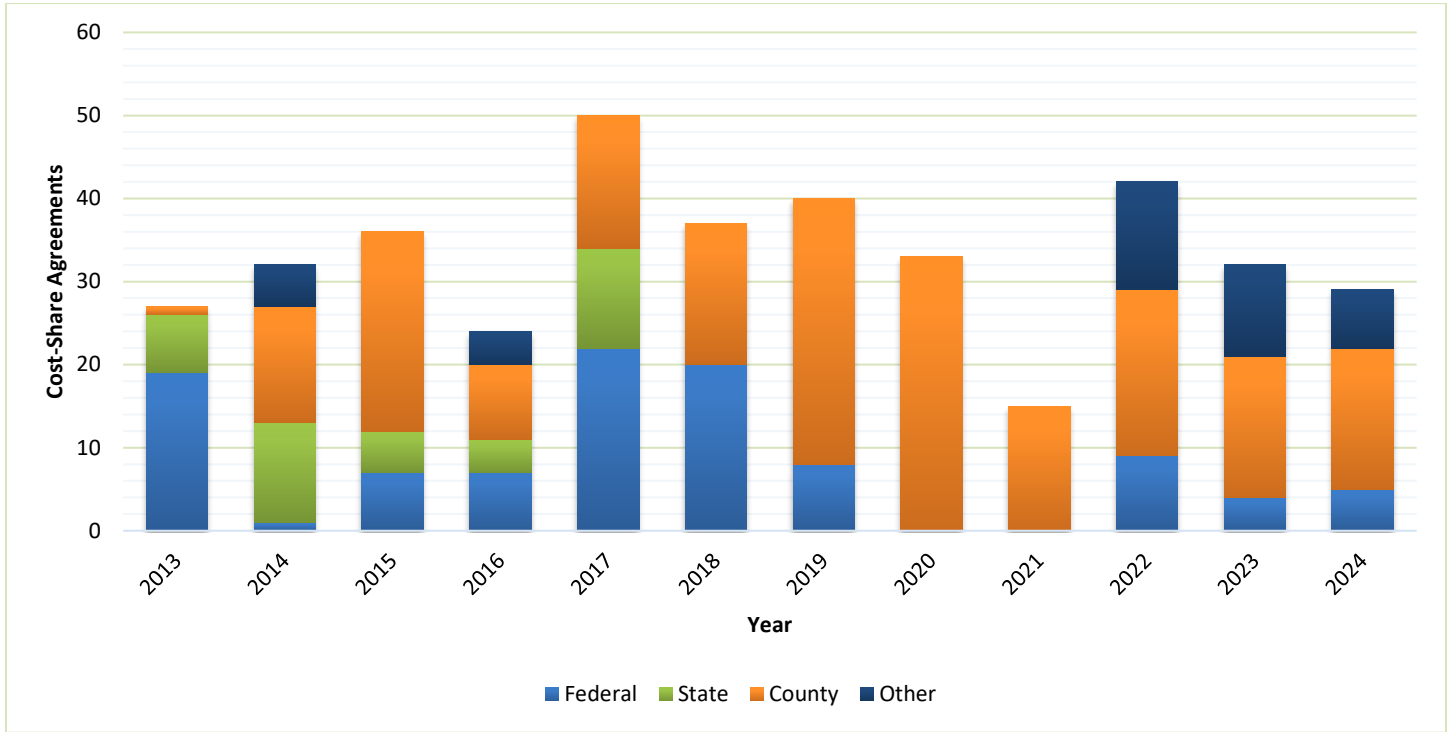


Figure 5. Number of cost-share agreements by funding source.

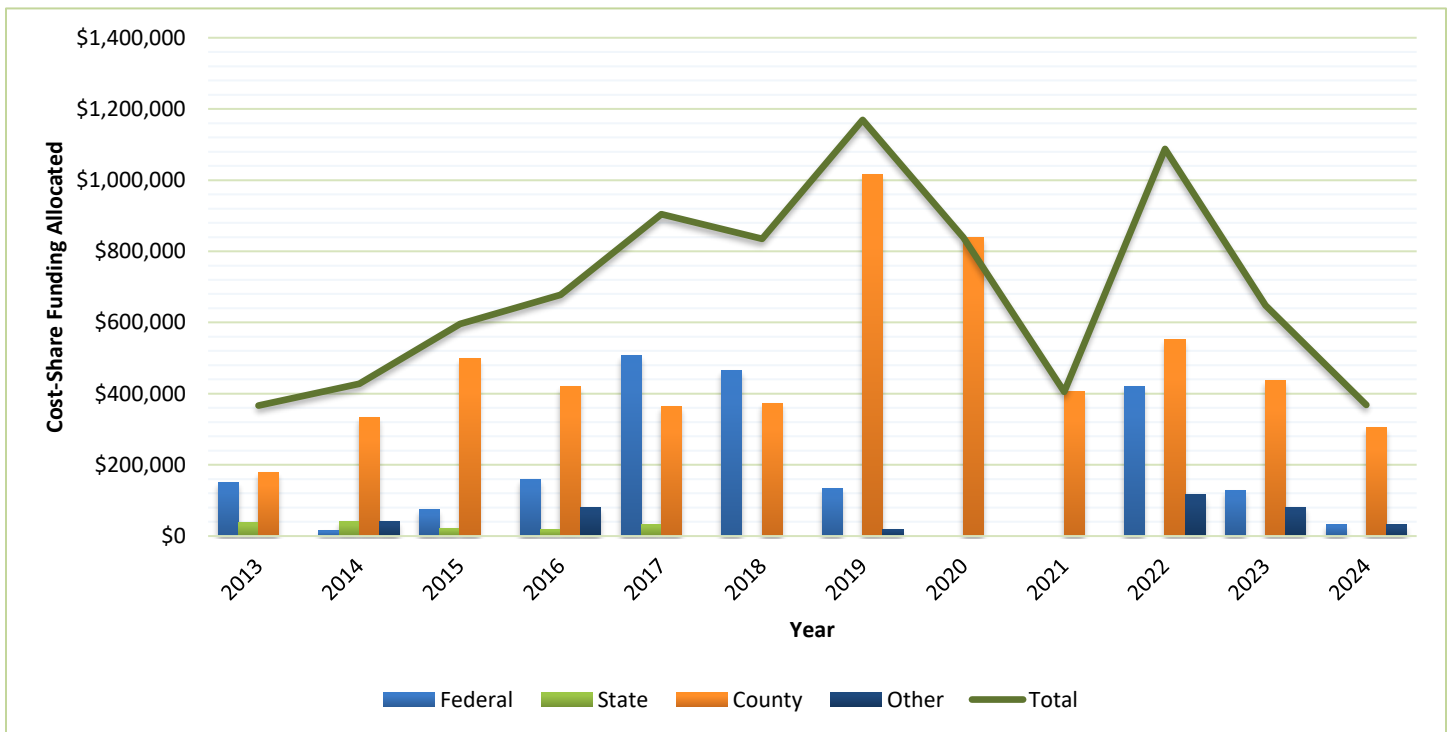


Figure 6. Total cost-share dollars allocated by funding source annually within the Yahara watershed.

Nutrient Management

Nutrient management involves planning for the use of manure and other fertilizers to meet crop nutrient needs in an economical way while reducing the potential for nutrient runoff from fields into lakes, streams, and groundwater. Nutrient management plans (NMP) continue to be received, reviewed, and mapped by Dane County staff. In 2024, 59,144 total acres were mapped within the Yahara watershed. The location of NMPs is documented in Figure 7 and the total number of acres for each TMDL reach are displayed in Table 2.

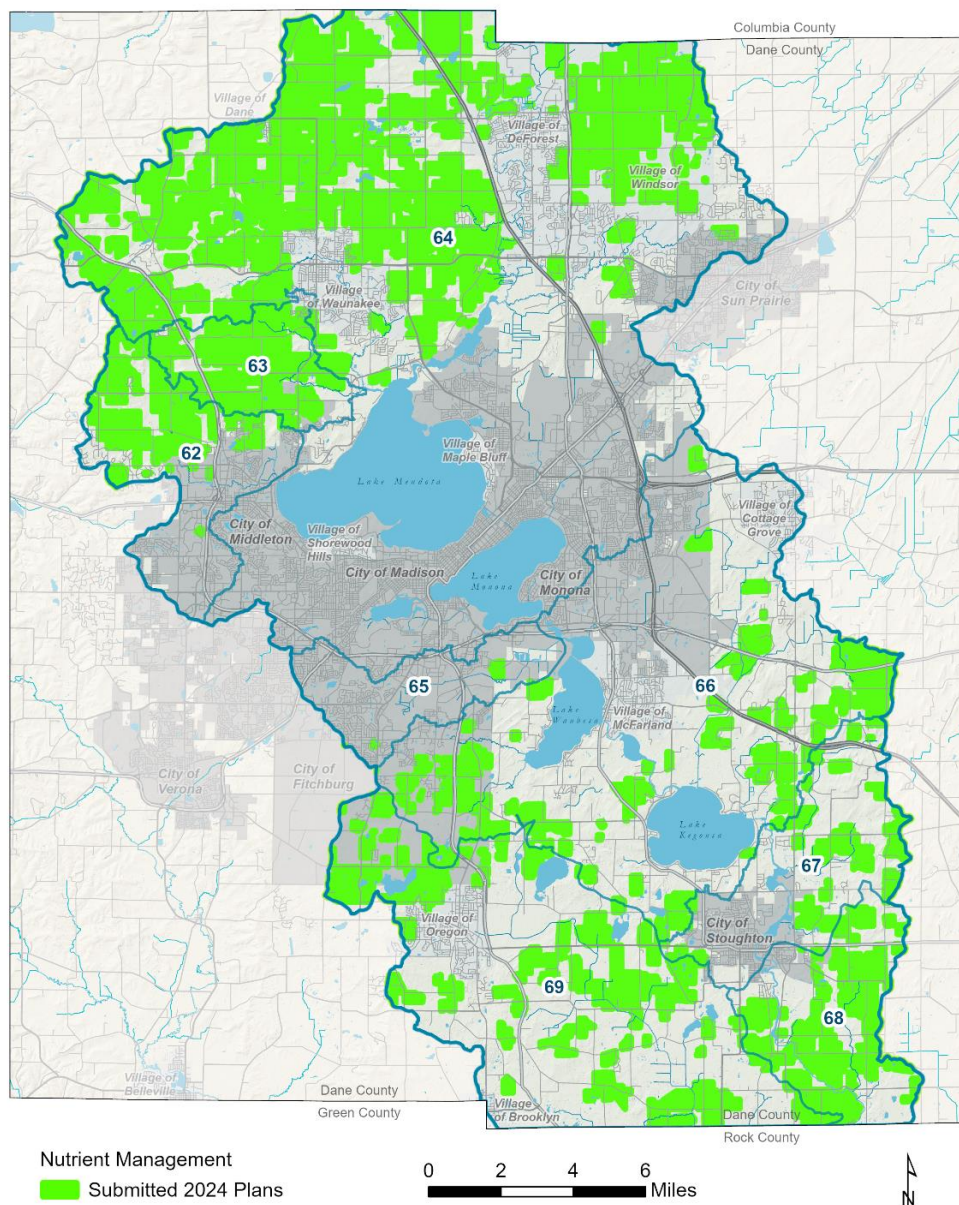


Figure 7. Map of submitted 2024 nutrient management plans in the Yahara watershed.

Table 2. Acres of nutrient management plans mapped within the Yahara watershed.

| TMDL Reach | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 62 | 1,736 | 2,061 | 3,530 | 3,152 | 3,819 | 3,503 |
| 63 | 3,299 | 2,955 | 4,109 | 4,339 | 5,024 | 4,489 |
| 64 | 25,951 | 26,967 | 32,815 | 26,983 | 31,834 | 31,291 |
| 65 | 0 | 0 | 92 | 0 | 127 | 78 |
| 66 | 1,683 | 3,480 | 4,691 | 4,122 | 3,887 | 6,053 |
| 67 | 809 | 988 | 1,823 | 1,772 | 2,169 | 1,807 |
| 68 | 3,461 | 4,277 | 4,471 | 4,637 | 4,746 | 4,501 |
| 69 | 2,619 | 4,263 | 6,303 | 7,458 | 9,311 | 7,423 |
| TOTAL | 41,587 | 44,992 | 57,835 | 52,465 | 60,919 | 59,144 |

Highlights & Accomplishments

Aquatic Plant Management (APM)

Dane County's Aquatic Plant Management (APM) program helps balance recreational lake use with ecosystem health by managing aquatic vegetation and lake levels. Dane County prioritizes cutting and removing invasive species like Eurasian watermilfoil while preserving native plants that support aquatic life, compete with nuisance algae, and help keep the water clear. In 2024, crews removed 8,229 tons of aquatic plants from the Madison Lakes and Yahara River. This amount of plants accounts for a removal of 4,699.0 pounds of phosphorus—a key contributor to nuisance algae blooms—from the lakes. This phosphorus contribution is not accounted for in the executive summary above.



Dane Demo Farms



The Dane Demo Farms is a network of five Dane County farms demonstrating innovative conservation practices to improve water quality and soil health. The partnership, the first of its kind in the Mississippi River basin, is working to advance conservation efforts and engage the agricultural community in sustainable practices.

These farms represent a mix of dairy, grain, and beef operations, showcasing a variety of conservation practices across different soil types and landscapes. All five farms have established research plots, setting the stage for continued data collection and innovation in the 2025 growing season. Two of these Dane Demo Farms are located in the Yahara Watershed and serve as a resource for other farms interested in adopting conservation practices.

More information is available on-line at <https://demofarms.danecounty.gov/>.



Mastermind Dinner for Farm Women

Conservation staff hosted a Mastermind Dinner for 32 farm women at Schumacher Farm Park in Waunakee, supported by the Natural Resources Foundation and American Farmland Trust. The event highlighted the vital yet often overlooked role of farm partners in conservation decisions. Keynote speaker Annaliese Wagner (The Modern Farm Chick) inspired participants to amplify their voices, while a Rainfall Simulator demonstrated the impact of soil health, using soil from a

local participant's farm. The evening featured locally sourced food and drinks, fostering connections and underscoring the attainability of sustainable land-use practices in our communities.



Summary

The continued partnership between Dane County and Yahara WINS resulted in another successful year of conservation implementation to improve water quality in the Yahara watershed. In 2024, 102 new practices were implemented and 48 practices were verified to confirm that they were functioning. Yahara WINS continued to provide funding to aid Dane County in conservation practice implementation. Newly implemented conservation practices reduced the amount of phosphorus entering nearby surface waters by 6,116.0 pounds. Adding this to the 16,155.2 pounds of phosphorus reduced from previously implemented practices, the total phosphorus reduction in this past year was 22,271.2 pounds. In addition to implemented conservation practices, NMPs covered 59,144 acres in the Yahara watershed. Dane County LWRD is dedicated to protecting and improving the natural resources of the county and looks forward to its continued partnership with Yahara WINS to advance environmental and conservation initiatives.

Appendix

Table 3. Amount of conservation practices implemented in the Yahara watershed by TMDL reach and year.

| TMDL Reach | Practice | Units | 2020 | 2021 | 2022 | 2023 | 2024 | Total Amount Since 2008 |
|------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------------------------|
| 62 | Cover Crop | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 165.4 | 795.0 |
| | Critical Area Planting | Ac | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 |
| | Diversion | Ft | 264.0 | 0.0 | 0.0 | 0.0 | 0.0 | 264.0 |
| | Grade Stabilization Structure | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Grassed Waterway | Ac | 0.0 | 2.6 | 0.0 | 0.0 | 0.6 | 6.9 |
| | Lined Waterway | Ft | 0.0 | 291.5 | 0.0 | 0.0 | 0.0 | 291.5 |
| | Pasture and Hay Planting | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.5 |
| | Prairie Restoration | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 40.7 | 40.7 |
| | Roof Runoff Structure | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Stream Crossing | No | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 |
| | Waste Storage Facility | No | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 63 | Closure of Waste Impound | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |
| | Cover Crop | Ac | 0.0 | 0.0 | 136.6 | 135.5 | 0.0 | 545.4 |
| | Dane County Perpetual Easement | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 |
| | Filter Strip | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.6 |
| | Grassed Waterway | Ac | 0.3 | 3.1 | 0.0 | 0.1 | 0.0 | 8.3 |
| | Heavy Use Area Protection | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.2 |

| TMDL Reach | Practice | Units | 2020 | 2021 | 2022 | 2023 | 2024 | Total Amount Since 2008 |
|------------|--------------------------------------|-------|---------|---------|---------|---------|-------|-------------------------|
| 63 | Mulching | Ac | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 |
| | No Till Drill | Ac | 0.0 | 0.0 | 136.6 | 0.0 | 0.0 | 136.6 |
| | No Till Drill (Equipment) | No | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 |
| | Prairie Restoration | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Roof Runoff Structure | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |
| | Waste Facility Closure | No | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 |
| | Waste Storage Facility | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Water and Sediment Control Structure | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 64 | Access Control | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 |
| | Animal Trails and Walkways | Ft | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 478.0 |
| | Conservation Cover | Ac | 12.7 | 1.4 | 0.0 | 0.0 | 0.0 | 16.1 |
| | Cover Crop | Ac | 534.0 | 217.3 | 1,216.2 | 1,938.5 | 900.6 | 10,575.5 |
| | Critical Area Planting | Ac | 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 9.6 |
| | Diversion | Ft | 0.0 | 3,232.0 | 0.0 | 0.0 | 0.0 | 6022.0 |
| | Fence | Ft | 6,400.0 | 720.0 | 0.0 | 9,285.0 | 0.0 | 16,825.0 |
| | Filter Strip | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 18.5 |
| | Grade Stabilization Structure | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 |
| | Grassed Waterway | Ac | 4.6 | 4.0 | 3.1 | 1.3 | 3.0 | 38.4 |
| | Heavy Use Area Protection | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 |

| TMDL Reach | Practice | Units | 2020 | 2021 | 2022 | 2023 | 2024 | Total Amount Since 2008 |
|-----------------------|--|--------------|-------------|-------------|-------------|-------------|-------------|------------------------------------|
| 64 | Lined Waterway or Outlet | Ft | 589.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1,195.0 |
| | Lot Relocation or Abandonment | No | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Manure Transfer | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 |
| | Mulching | Ac | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 | 2.8 |
| | No Till Drill | Ac | 0.0 | 0.0 | 90.3 | 0.0 | 0.0 | 90.3 |
| | No Till Drill (Equipment) | No | 0.0 | 0.0 | 0.0 | 1.0 | 4.0 | 5.0 |
| | Obstruction Removal | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| | Pasture and Hay Planting | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 67.9 |
| | Prairie Restoration | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 5.7 | 5.7 |
| | Prescribed Grazing | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 66.2 |
| | Roof Runoff Structure | No | 0.0 | 0.0 | 5.0 | 0.0 | 9.0 | 20.0 |
| | Stream Crossing | No | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 3.0 |
| | Streambank and Shoreline Stabilization | Ft | 0.0 | 700.0 | 0.0 | 0.0 | 0.0 | 2,225.0 |
| | Subsurface Drain | Ft | 1,380.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1,380.0 |
| | Underground Outlet | Ft | 0.0 | 0.0 | 452.0 | 0.0 | 0.0 | 452.0 |
| | Waste Facility Closure | No | 1.0 | 1.0 | 1.0 | 4.0 | 0.0 | 7.0 |
| | Waste Storage Facility | No | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 | 10.0 |
| | Waste Transfer | No | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 |
| | Wastewater Treatment Strip | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 |

| TMDL Reach | Practice | Units | 2020 | 2021 | 2022 | 2023 | 2024 | Total Amount Since 2008 |
|------------|--------------------------------------|-------|----------|---------|---------|---------|---------|-------------------------|
| 64 | Water and Sediment Control Structure | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |
| | Well Decommissioning | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Wetland Restoration | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 78.0 |
| 65 | Grassed Waterway | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 |
| | | | | | | | | |
| 66 | Access Road | Ft | 3,826.0 | 0.0 | 392.0 | 0.0 | 0.0 | 5,003.0 |
| | Conservation Cover | Ac | 99.7 | 35.4 | 29.2 | 0.0 | 1.7 | 184.5 |
| | Cover Crop | Ac | 76.7 | 219.0 | 23.1 | 140.0 | 371.4 | 890.0 |
| | Critical Area Planting | Ac | 0.0 | 6.5 | 0.0 | 0.0 | 0.0 | 6.5 |
| | Diversion | Ft | 700.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4,300.0 |
| | Fence | Ft | 17,530.0 | 4,800.0 | 2,793.0 | 2,430.0 | 2,095.0 | 29,648.0 |
| | Filter Strip | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 65.4 |
| | Forage and Biomass Planting | Ac | 70.7 | 24.8 | 0.0 | 0.0 | 0.0 | 95.5 |
| | Forage Harvest Management | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 45.1 |
| | Grade Stabilization Structure | No | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |
| | Grassed Waterway | Ac | 3.3 | 0.4 | 0.0 | 0.0 | 0.0 | 36.9 |
| | Heavy Use Area Protection | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| | Lined Waterway or Outlet | Ft | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 249.0 |

| TMDL Reach | Practice | Units | 2020 | 2021 | 2022 | 2023 | 2024 | Total Amount Since 2008 |
|------------|--------------------------------------|-------|-------|-------|------|---------|------|-------------------------|
| 66 | Livestock Pipeline | Ft | 980.0 | 0.0 | 0.0 | 120.0 | 0.0 | 6,450.0 |
| | No Till Drill (Equipment) | No | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 |
| | Pasture and Hay Planting | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 33.8 |
| | Prescribed Grazing | Ac | 24.6 | 36.1 | 11.3 | 0.0 | 0.0 | 72.0 |
| | Roof Runoff Structure | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Sediment Basin | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Shallow Water Development | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.9 |
| | Stream Crossing | No | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 |
| | Terrace | Ft | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 558.0 |
| | Tree/Shrub Establishment | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 18.8 |
| | Underground Outlet | Ft | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 250.0 |
| | Wastewater Treatment Strip | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| | Water and Sediment Control Structure | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Watering Facility | No | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 2.0 |
| | Wetland Restoration | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.2 |
| 67 | Conservation Cover | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 17.5 | 17.5 |
| | Cover Crop | Ac | 196.7 | 356.1 | 53.3 | 0.0 | 0.0 | 802.9 |
| | Fence | Ft | 0.0 | 0.0 | 0.0 | 8,775.0 | 0.0 | 13,036.0 |
| | Filter Strip | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 34.3 |

| TMDL Reach | Practice | Units | 2020 | 2021 | 2022 | 2023 | 2024 | Total Amount Since 2008 |
|------------|-------------------------------|-------|----------|---------|-------|------|---------|-------------------------|
| 67 | Forage and Biomass Planting | Ac | 0.0 | 0.0 | 31.2 | 23.9 | 0.0 | 55.1 |
| | Grassed Waterway | Ac | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 2.9 |
| | Livestock Pipeline | Ft | 0.0 | 0.0 | 700.0 | 0.0 | 0.0 | 3,770.0 |
| | Mulching | Ac | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.5 |
| | No Till Drill | Ac | 0.0 | 211.0 | 0.0 | 0.0 | 0.0 | 211.0 |
| | Pasture and Hay Planting | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.2 |
| | Prescribed Grazing | Ac | 39.7 | 0.0 | 31.2 | 23.9 | 0.0 | 112.3 |
| | Tree/Shrub Establishment | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.7 |
| 68 | Conservation Cover | Ac | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 5.0 |
| | Cover Crop | Ac | 352.3 | 473.9 | 144.9 | 77.2 | 179.2 | 1,788.5 |
| | Fence | Ft | 13,700.0 | 5,680.0 | 0.0 | 0.0 | 8,925.0 | 41,949.0 |
| | Filter Strip | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.7 |
| | Forage and Biomass Planting | Ac | 0.0 | 7.2 | 13.0 | 0.0 | 0.0 | 20.2 |
| | Grade Stabilization Structure | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Grassed Waterway | Ac | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 5.3 |
| | Heavy Use Area Protection | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Livestock Pipeline | Ft | 4,900.0 | 325.0 | 990.0 | 0.0 | 1,920.0 | 9,085.0 |
| | No Till Drill | Ac | 0.0 | 294.9 | 0.0 | 0.0 | 0.0 | 294.9 |

| TMDL Reach | Practice | Units | 2020 | 2021 | 2022 | 2023 | 2024 | Total Amount Since 2008 |
|------------|-------------------------------|-------|---------|----------|----------|---------|----------|-------------------------|
| 68 | Prescribed Grazing | Ac | 39.2 | 31.4 | 0.0 | 0.0 | 0.0 | 70.6 |
| | Shallow Water Development | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 |
| | Tree/Shrub Establishment | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Watering Facility | No | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 2.0 |
| | Water Well | No | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 |
| | Wetland Restoration | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 |
| 69 | Conservation Cover | Ac | 38.9 | 22.0 | 0.0 | 5.7 | 3.3 | 155.2 |
| | Cover Crop | Ac | 430.3 | 1,239.5 | 1,152.0 | 348.7 | 676.0 | 5,330.7 |
| | Critical Area Planting | Ac | 25.6 | 0.0 | 0.0 | 0.0 | 0.0 | 25.6 |
| | Fence | Ft | 8,050.0 | 17,725.0 | 14,299.0 | 3,008.0 | 13,154.0 | 56,236.0 |
| | Filter Strip | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 56.5 |
| | Forage and Biomass Planting | Ac | 22.0 | 27.0 | 0.0 | 32.1 | 0.0 | 81.1 |
| | Grade Stabilization Structure | No | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 |
| | Grassed Waterway | Ac | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 10.1 |
| | Livestock Pipeline | Ft | 3,000.0 | 0.0 | 1,830.0 | 0.0 | 3,550.0 | 8,380.0 |
| | No Till Drill (Equipment) | No | 0.0 | 0.0 | 0.0 | 5.0 | 2.0 | 7.0 |
| | Prescribed Grazing | Ac | 0.0 | 39.0 | 0.0 | 5.7 | 0.0 | 44.7 |
| | Roof Runoff Structure | No | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |

| TMDL Reach | Practice | Units | 2020 | 2021 | 2022 | 2023 | 2024 | Total Amount Since 2008 |
|------------|--------------------------------------|-------|------|------|------|------|------|-------------------------|
| 69 | Shallow Water Development | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.5 |
| | Stream Crossing | No | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 |
| | Waste Facility Closure | No | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Water and Sediment Control Structure | No | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| | Watering Facility | No | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 |
| | Wetland Restoration | Ac | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |
| | Wetland Wildlife Habitat | Ac | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.6 |

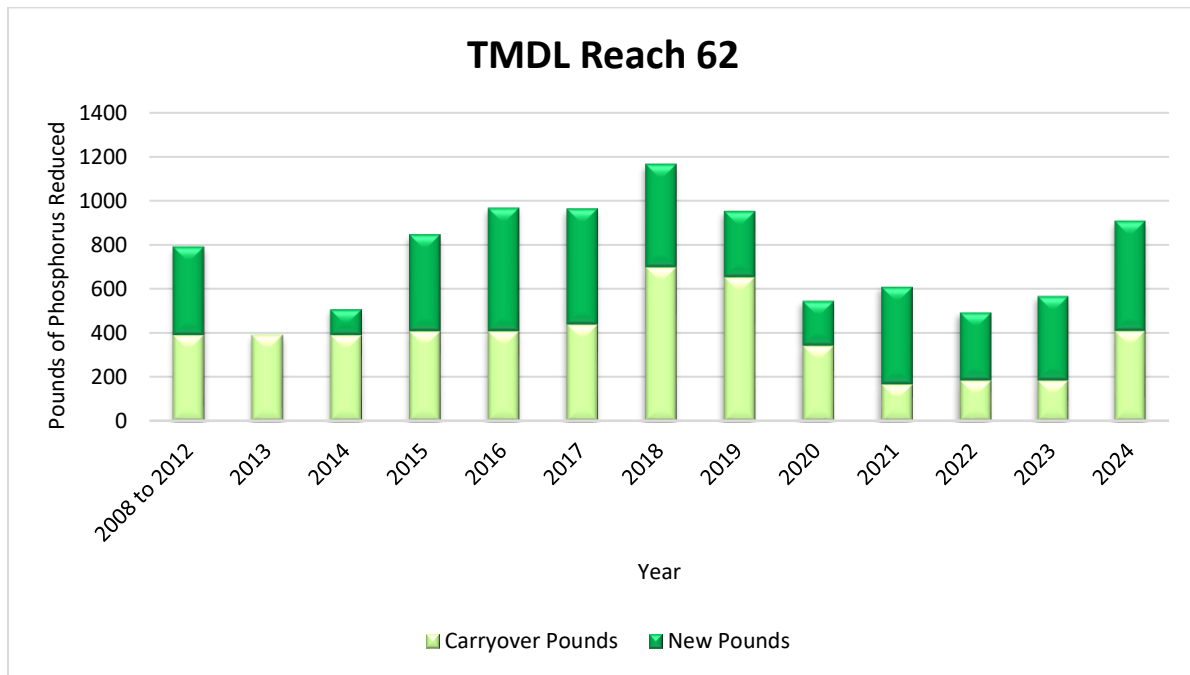


Figure 8. TMDL Reach 62 new and carryover pounds of phosphorus reductions by year.

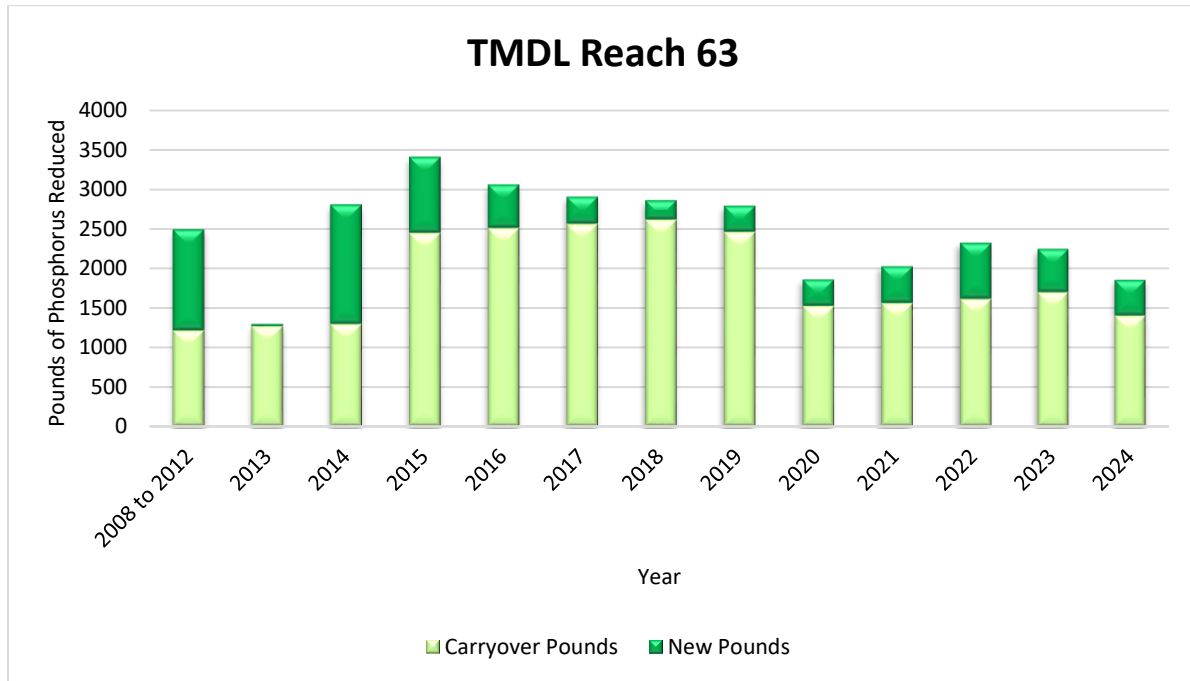


Figure 9. TMDL Reach 63 new and carryover pounds of phosphorus reductions by year.

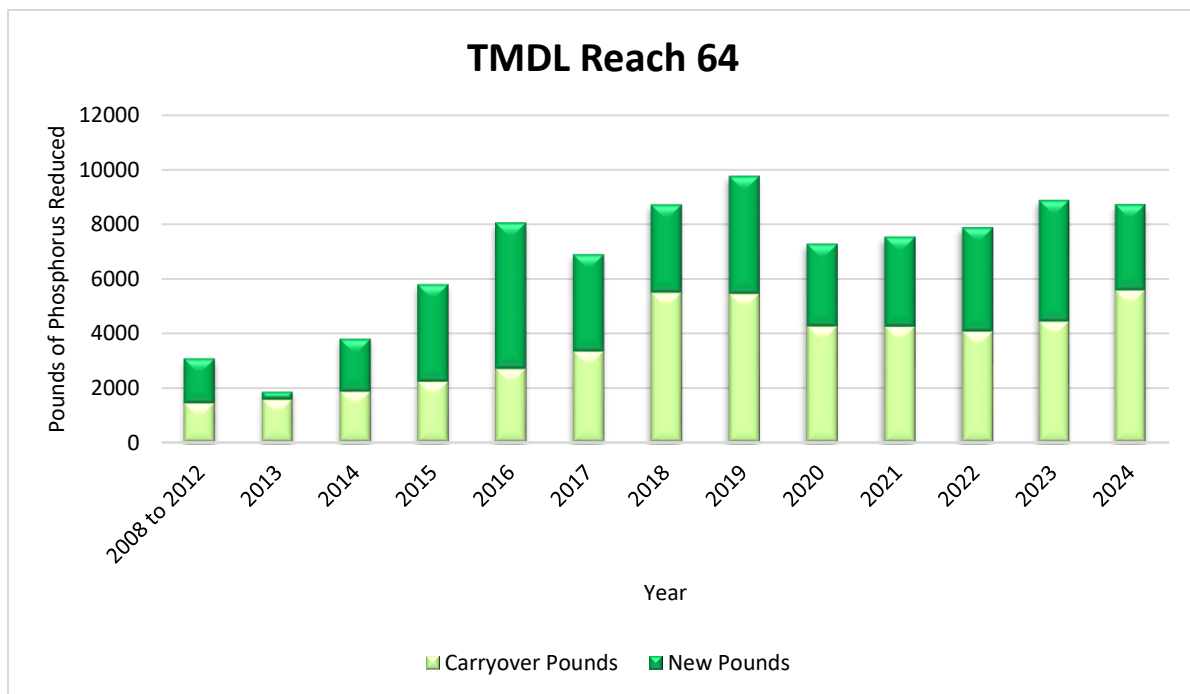


Figure 10. TMDL Reach 64 new and carryover pounds of phosphorus reductions by year.

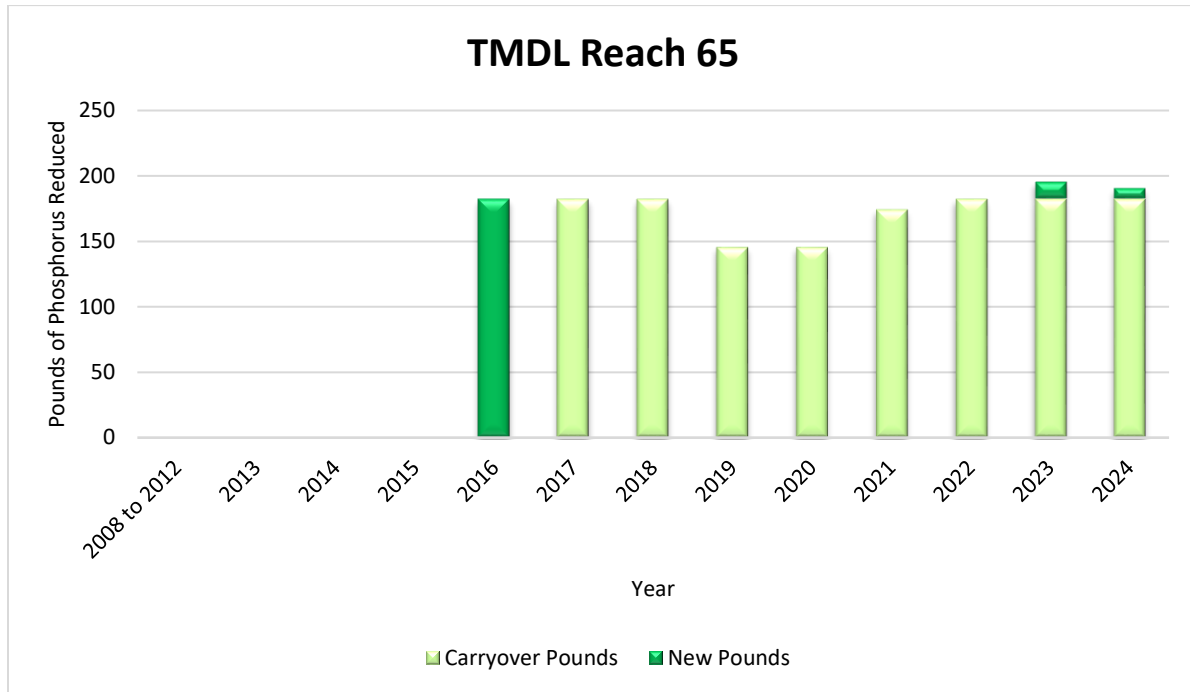


Figure 11. TMDL Reach 65 new and carryover pounds of phosphorus reductions by year.

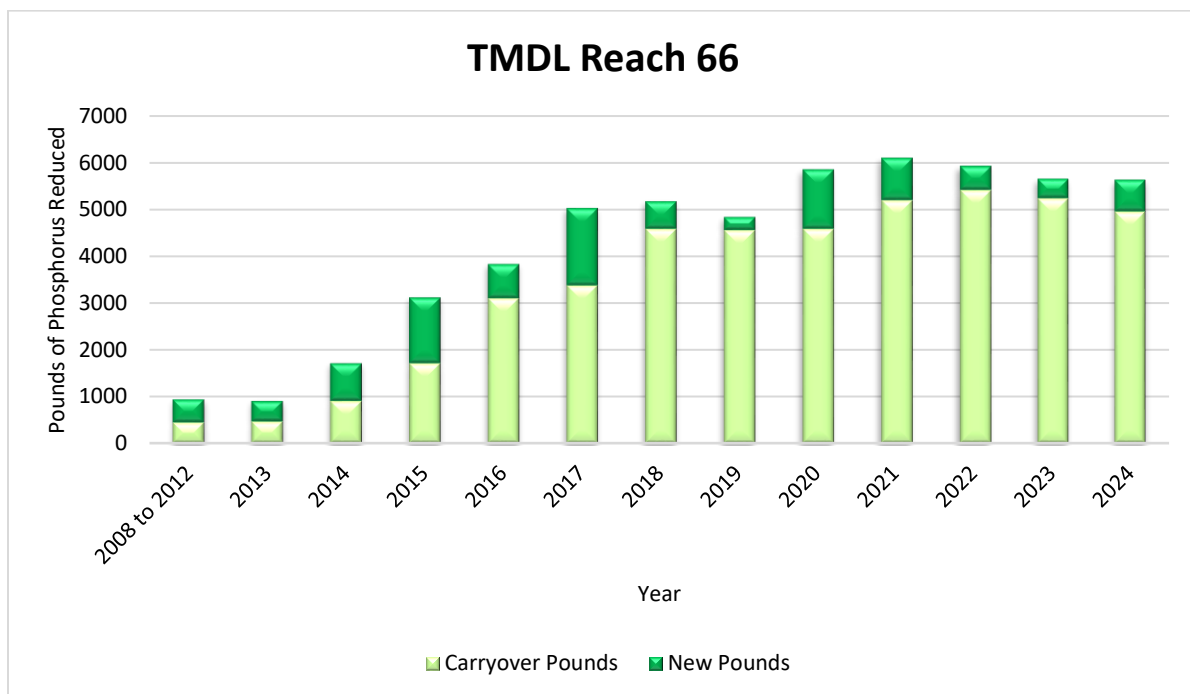


Figure 12. TMDL Reach 66 new and carryover pounds of phosphorus reductions by year.

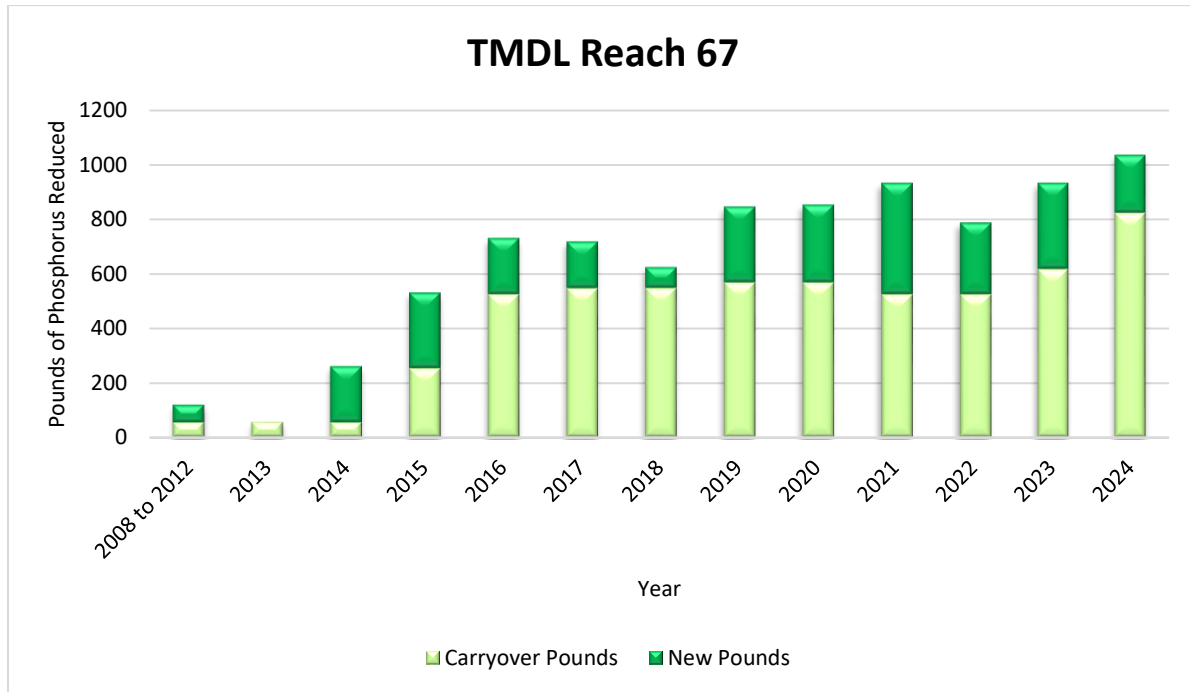


Figure 13. TMDL Reach 67 new and carryover pounds of phosphorus reductions by year.

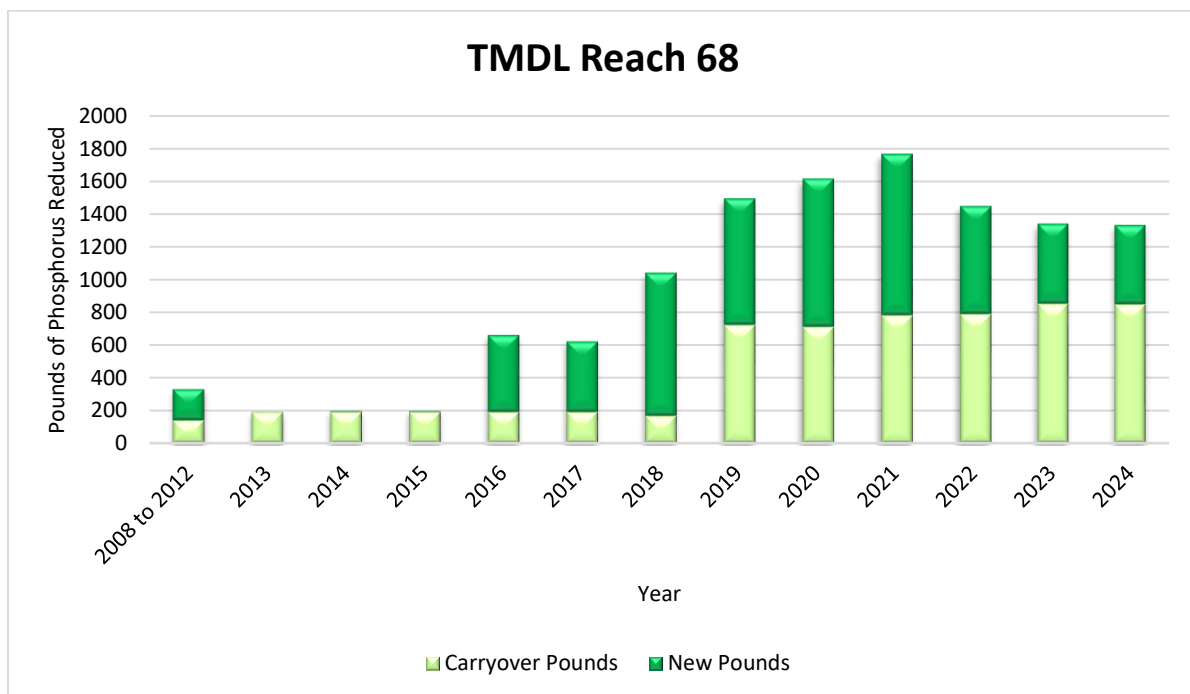


Figure 14. TMDL Reach 68 new and carryover pounds of phosphorus reductions by year.

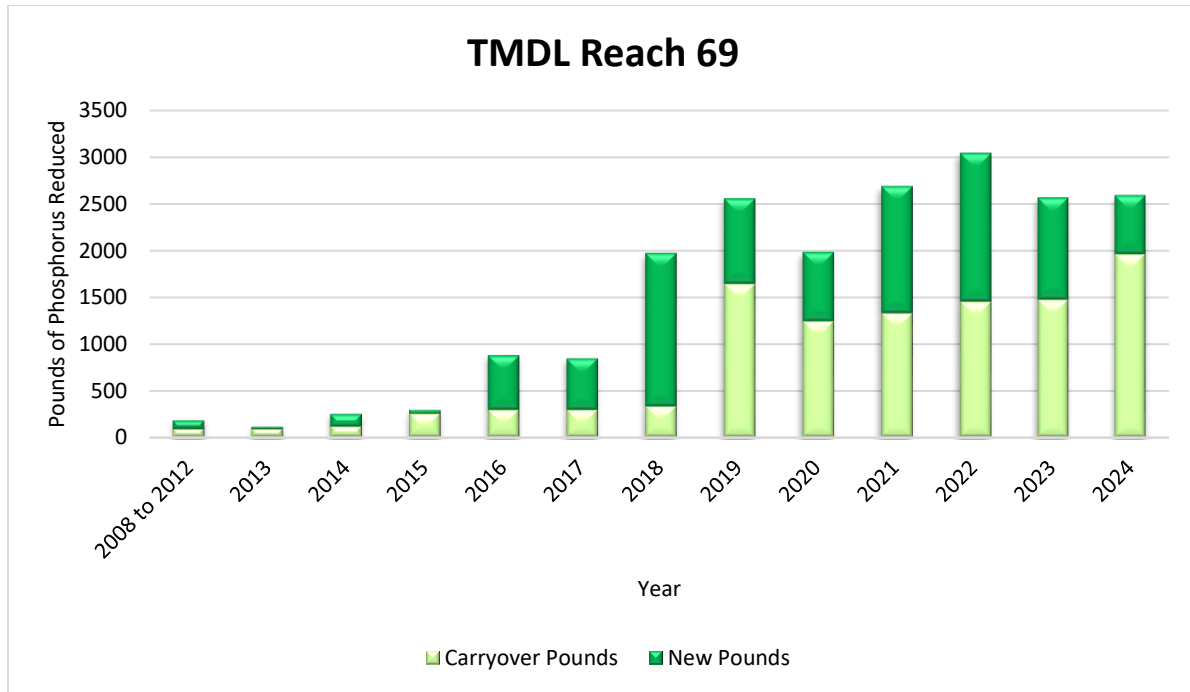


Figure 15. TMDL Reach 69 new and carryover pounds of phosphorus reductions by year.