



2021 Activity Report and Financial Statement



Figure 1. The frozen Vermillion Falls in Hastings. Photo by Brita Moore-Kutz, who prepared this report.

The mission of the Vermillion River Watershed Joint Powers Organization is to collaboratively provide education, science, and support to restore and protect the Vermillion River Watershed's natural resources for all who live, work, and play within its boundaries.

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Introduction

The Vermillion River and its tributaries wind through rural, suburban, and urban landscapes from the headwaters in Scott County to two confluences with the Mississippi River near the cities of Hastings and Red Wing. The Vermillion River Watershed covers 335 square miles of land over all or portions of 20 cities and townships. It is the largest watershed in the seven-county Twin Cities Metropolitan area.

Approximately 49 miles of the Vermillion River's main stem and tributaries are Minnesota Department of Natural Resources (MNDNR) designated trout streams. The Vermillion River Watershed's self-sustaining population of brown trout makes the river a rare natural resource in a growing metropolitan area.



Figure 2. An aerial view of the North Creek Vermillion River Greenway, courtesy of the Dakota County Transportation Department.

The river and watershed are managed according to a Joint Powers Agreement signed by Dakota and Scott counties in 2002. This agreement formed the Vermillion River Watershed Joint Powers Organization (VRWJPO), to manage the watershed as required by Minnesota law (Minn. Stat. Chapter 103B.201-253). Dakota and Scott counties established special tax districts within their portions of the watershed to provide the primary funding for watershed planning and activities.

The COVID-19 pandemic presented unique challenges; VRWJPO adapted to keep staff and partners safe while successfully delivering programs and practices as it has in past years. This report summarizes the VRWJPO's 2021 activities and its 2022 plans to protect and improve the Vermillion River Watershed.

Personnel

Joint Powers Board

The VRWJPO is governed by the Vermillion River Watershed Joint Powers Board (VRWJPB), which consists of two Dakota County Commissioners and one Scott County Commissioner. The VRWJPB directs watershed administration, policy, budget, and implementation of the Vermillion River Watershed Management Plan (Plan). The VRWJPB met nine times in 2021. Members included:

Commissioner Mike Slavik, Dakota County District 1 (Chair), Hastings
Commissioner Tom Wolf, Scott County District 2 (Vice Chair), Prior Lake
Commissioner Mary Hamann-Roland, Dakota County District 7 (Secretary-Treasurer), Apple Valley

Watershed Planning Commission

A nine-member Watershed Planning Commission (WPC) consists of citizens of the watershed. These members are appointed by the VRWJPB under authority of the Joint Powers Agreement to advise the Board on policy, programs, or other matters that may come before the Board. The WPC is responsible for guiding implementation of the Watershed Plan, annual work plan, and budget. In 2021, the WPC met ten times. The WPC members in 2021 included:

Mark Henry, Castle Rock Township, Chair
Ken Betzold, Castle Rock Township, Vice Chair
Carolyn Miller, Elko New Market
Josh Borton, Farmington
Chuck Clanton, Hampton Township
Tony Wotzka, Lakeville
Steve Hamrick, Lakeville
Andrew Riesgraf, Apple Valley
James Kotz, Rosemount

Technical Advisory Group

The VRWJPO consults with a Technical Advisory Group (TAG) that consists of local, regional, state, and federal government partners and non-profits with expertise and interest in watershed issues. The group meets to discuss emerging scientific, technical, and policy impacts on the Vermillion River Watershed. The TAG meets occasionally to discuss projects and policies from a scientific and technical perspective, though no meetings were held in 2021 due to the pandemic. Representatives include but are not limited to:

Cities and townships within the Vermillion River Watershed
Dakota and Scott Counties

Dakota and Scott County Soil and Water Conservation Districts
Metropolitan Council
Minnesota Pollution Control Agency
Minnesota Department of Agriculture
Minnesota Department of Health
Minnesota Department of Natural Resources
Minnesota Board of Water and Soil Resources
Prairie Island Indian Community
University of Minnesota Extension
Environmental consulting firms
Environmental organizations

VRWJPO Administrators and Staff

The VRWJPO is housed under Dakota County's Environmental Resources Department at the Dakota County Extension and Conservation Center. The VRWJPO is staffed with an administrator from Dakota County and a co-administrator from Scott County; other Dakota and Scott County employees provide support for specific projects. Staff in 2021 included:

Mark Zabel, VRWJPO Administrator, Dakota County
Melissa Bokman-Ermer, VRWJPO Co-administrator, Scott County
Travis Thiel, Senior Watershed Specialist, Dakota County
Mark Ryan, Water Resources Engineer, Dakota County
Brita Moore-Kutz, Public Outreach and Communications Specialist, Dakota County
Paula Liepold, Water Resources Specialist – Education and Outreach, Dakota County

The counties' respective Soil and Water Conservation Districts (SWCDs) provide monitoring and technical assistance services for the VRWJPO. District Managers for the SWCDs in 2021 were:

Brian Watson, Manager, Dakota County SWCD
Troy Kuphal, Manager, Scott SWCD

Legal Counsel

The Joint Powers Agreement for the VRWJPO provides for consultation from the Dakota County Attorney's Office on legal and contractual matters. In 2021, the attorney assigned to the VRWJPO was Helen Brosnahan, Assistant Dakota County Attorney.

Consultants

The VRWJPO enters contracts with consultants to provide engineering and environmental professional services for water resources management projects. The approved consultant list for 2021-22 follows:

Company	Address	City	State
Alliant Engineering, Inc.	233 Park Avenue S, Ste 300	Minneapolis	MN
Applied Ecological Services, Inc.	21938 Mushtown Rd	Prior Lake	MN
Barr Engineering Company	4300 MarketPointe Drive, Suite 200	Minneapolis	MN
Cardno	7157 Commerce Circle South	Fridley	MN
Emmons & Olivier Resources, Inc.	7030 6th St. North	Oakdale	MN
Houston Engineering	7550 Meridian Circle North, Suite 120	Maple Grove	MN
Inter-Fluve	2121 Randolph Ave, Second Floor	St. Paul	MN
KLJ	370 Wabasha St., Suite 300	St. Paul	MN
Landbridge Ecological	670 Vandalia Street	St. Paul	MN
Limno-Tech, Inc.	7300 Hudson Blvd., Suite 295	Oakdale	MN
Minnesota Native Landscapes, Inc.	8740 77th Street Northeast	Otsego	MN
Native Resource Preservation	260 Wentworth Ave. E.	West St. Paul	MN
SRF Consulting Group, Inc.	One Carlson Parkway North, Suite 150	Minneapolis	MN

Company	Address	City	State
TKDA	444 Cedar Street, Suite 1500	St. Paul	MN
Wenck Associates, Inc. (now a part of Stantec Associates)	1800 Pioneer Creek Center, PO Box 249	Maple Plain	MN
WSB	701 Xenia Avenue South, Suite 300	Minneapolis	MN

Awarded contracts

The VRWJPO also entered several contracts because the projects required solicitation in 2021 as noted below:

Sole Source—Irrigation Audit Services | Conserva Irrigation

Sole Source – Fish Monitoring Services | Stantec Associates (Wenck)

Sole Source – Nitrate Treatment Wetland OCS Repair Design | Stantec Associates (Wenck)

2021 Work Plan Activities

The VRWJPO had another successful year of implementation. In 2020, the VRWJPO assessed progress in completing tasks outlined in the Watershed Management Plan (Plan). The 10-year Plan was adopted in June 2016. The Plan includes 239 implementation initiatives in several categories: Administration and Operations; Regulation; Research and Planning; Monitoring and Assessment; Land and Water Treatment; Coordination and Collaboration; and Public Communications and Outreach. These categories are comparable to those used by the VRWJPO to budget, develop work plans, and classify current activities. Of the 239 initiatives, 199 (83%) were completed or ongoing.

Administration and Operations

Administrative responsibilities include staff training and supervision; coordinating and documenting VRWJPB meetings, decisions, and directions; coordinating and documenting WPC and TAG meetings, decisions, and recommendations; managing the budget; setting priorities and developing work plans; managing contracts; reporting; and seeking funding. See Appendix A for VRWJPB actions taken throughout the year.

Regulation

The VRWJPO works with the cities and townships in the Watershed to ensure adoption of the Plan and local implementation. Annual work to verify adoption of the Plan includes the Standards Evaluation program through which the VRWJPO documents community permitting activities and reviews some example projects. This program's current form was started in 2017 and continues to be adapted to fit community and VRWJPO needs.

All local water management plans from the 2018-19 cycle had been reviewed and commented on as of the end of 2020. The Board approved the last of these plans (City of Elko New Market) in July 2021 through a Board Action after delays and extensions for completion of that plan. Communities implementing the Standards through local ordinance are required to update their ordinances in response to the Standards amendment (and the Comprehensive Plan updates). These updates started to occur in 2021 after being delayed due to the COVID-19 pandemic as well as the delayed issuance of the State of Minnesota Municipal Separate Storm Sewer System (MS4) General Permit. MS4 communities had until November 2021 (one year from issuance of the updated MS4 General Permit) to revise ordinances, and the VRWJPO set goals for working with local communities to verify ordinances in 2022.

The Watershed includes all or part of 20 separate jurisdictions, 19 of which have land-use planning and zoning authority. These local government units implement the VRWJPO Standards through local ordinance and apply their own permit programs. In 2021, the VRWJPO continued permitting and enforcement in Eureka Township where the township retains land use planning and zoning authority but does not implement the VRWJPO Standards. The VRWJPO issued two permits for land disturbance activities in Eureka Township in 2021 under the updated 2019 VRWJPO Standards, and no variances were issued.

In addition to the VRWJPO permits noted above, the VRWJPO reviewed and provided comment on the following development projects permitted under local ordinances and environmental studies:

- Brookshire EAW in Lakeville – Planned Residential Development
- Ryan-Scannell Properties EAW in Lakeville – Industrial Development
- Rich Valley Golf Club Development AUAR in Rosemount – Business Park/Industrial AUAR
- SKB Waste Facility Expansion EAW in Rosemount – Landfill Expansion Project
- Eagle Point Residential Golf Course Redevelopment in Apple Valley – Wetland Conservation Act process comments on residential development proposals
- Water's Edge/River's Edge in Farmington – Informal comments on Residential Development
- Vita Attiva in Farmington – Informal comments on Residential Development
- Field Stone Industrial Park in New Market Township – Scott County Co-Administrator shared Scott County Review of industrial park development with Board
- Berres Ridge 8th Addition in Lakeville – Informal comments to city on buffer standards for continuation of residential development

Research and Planning

The VRWJPO develops strategic approaches for managing water resources through monitoring emerging issues, evaluating data, and engaging the public, stakeholders, and partners in planning and policy issues. In 2021, the VRWJPO researched or planned the following:

Dakota County Plans

VRWJPO staff assisted the Dakota County Groundwater Protection Unit with developing its Agricultural Chemical Reduction Effort (ACRE) and the Dakota County Groundwater-Source Water Collaborative. By participating in this effort, water quality, water quantity, and natural resources of the Vermillion River Watershed were represented and included in planning efforts.

VRWJPO Plan Amendment – Bemis Wetland

The VRWJPO Plan was amended to incorporate a potential wetland restoration project in New Market Township into the implementation plan. The project was identified by the Scott SWCD as a previously created constructed wetland restoration project that had reached the end of its useful life. Portions of the berm and pipe that were previously constructed to establish the wetland were beginning to fail, and without intervention, the wetland would be lost. If it's not addressed, the ability to store more water on the landscape would be lost, creating the potential for additional degradation to the Vermillion River. The VRWJPB held a public hearing on the Bemis Wetland amendment at its January 28, 2021 meeting and approved the amendment at its February 25, 2021 meeting.

Monitoring and Assessment

Water quality and quantity monitoring data are essential for effective management of the Vermillion River Watershed. Surface water and groundwater monitoring allow the VRWJPO to determine the current condition of the resource, any trends occurring over time, the highest priorities for protection and restoration, and effectiveness of water-quality improvement projects. The following activities reflect the VRWJPO's commitment to evidence-based watershed management.

Vermillion River Monitoring Network

The Vermillion River Monitoring Network (VRMN) was created to assess water quality and quantity in the Vermillion River Watershed. Monitoring staff with Dakota County Soil and Water Conservation District and Scott Soil and Water Conservation District visit eight locations on a biweekly basis from the time of snowmelt (mid-March) through Nov. 1 (Figure 2). The summer's historic drought meant that most samples were collected during baseflow or low water level conditions as rainfall events were few and far between (a few in the spring and fall).

Monitoring activities include sample collection, continuous temperature and water level monitoring, biological monitoring, and equipment maintenance. The data collected through this effort include a combination of chemical, physical, and biological parameters and assessments, enable local agencies

including the VRWJPO to better understand the health of the stream and implement appropriate management strategies throughout the watershed.

Analysis shows that many of the water monitoring parameters are meeting state water quality standards and indicate a generally healthy condition in the Vermillion River and its tributaries.

Chemistry

Nitrate (NO_3 ; a form of nitrogen) levels were quite low, except at the one station on the South Branch Vermillion River. The South Branch station (SB802) has a significant nitrate load compared to others in the network. High levels of nitrate in drinking water pose a human health risk and are likely related to the soils, artificial drainage, and agricultural land use that is predominant in the South Branch Vermillion River subwatershed. Monitoring locations downstream of the confluence with South Branch have elevated nitrate levels in comparison to sites higher in the watershed.

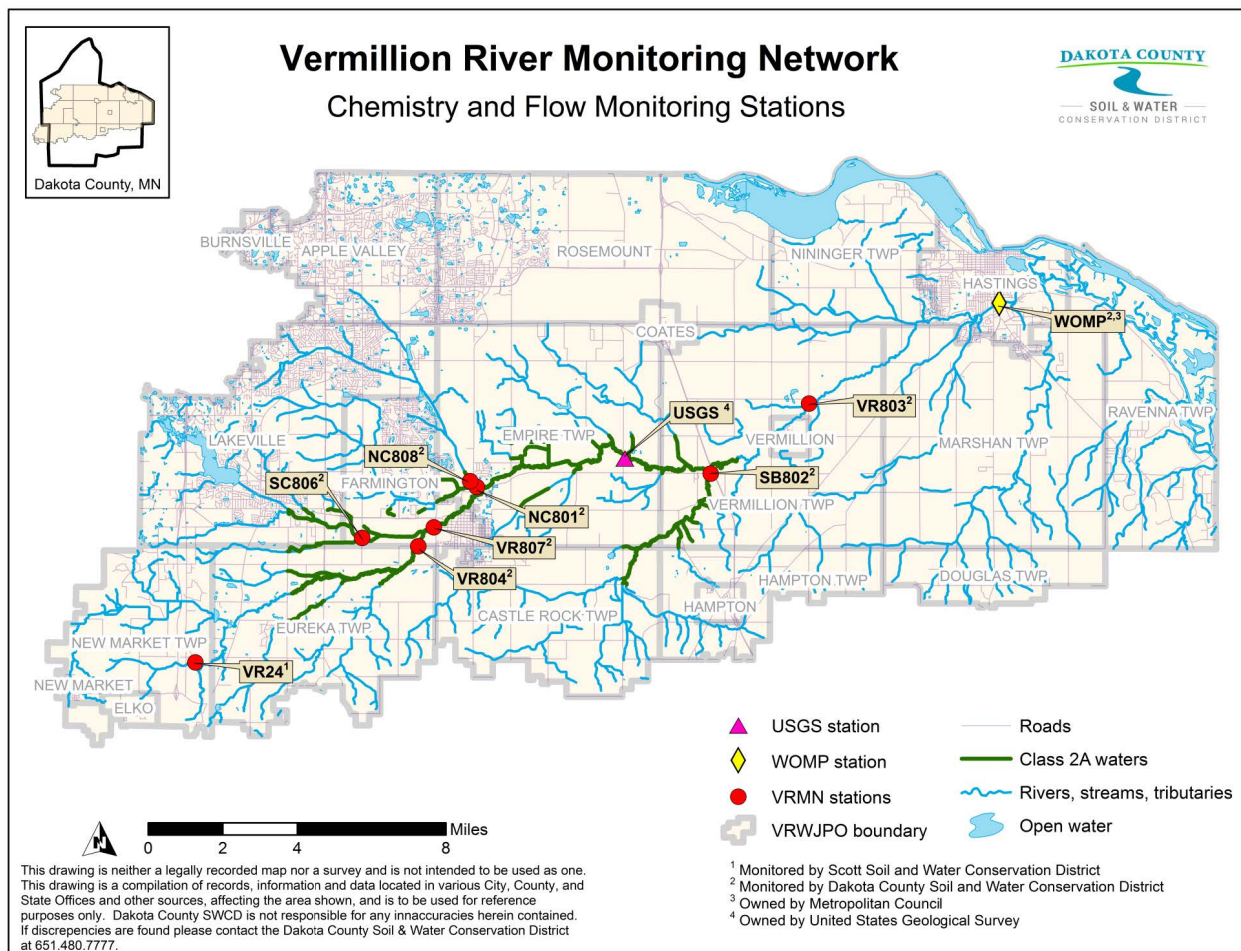


Figure 3. Vermillion River Monitoring Network (VRMN) chemistry and flow monitoring stations.

The other primary nutrient monitored in the watershed is phosphorus, an essential life element for plants. Excess phosphorus can lead to eutrophication and increased algae growth in the river. The median level for all sites is below the state standard during baseflow conditions. Elevated

concentrations were recorded during runoff and snowmelt events at all monitoring events throughout the season. Highest variability is seen at VR24 (most upstream site), and VR803 (most downstream site monitored by the VRWJPO), and VR0020 (most downstream site in watershed, monitored for the Met Council).

Low dissolved oxygen concentrations for single event runoff events were common at several sites, but median stayed above the standard (Figure 4). All median dissolved oxygen levels met the standard for both 2A and 2B stream sites during baseflow conditions, except SC806. NC801 and NC808 have historically had the lowest recorded levels during baseflow, but both SC806 and VR804 had lower levels in 2021. Dissolved oxygen levels during snowmelt conditions were high and SC806 had the highest variability of all monitoring sites.

High levels of total suspended solids (contributing to turbid, cloudy, water) following runoff events were also common at several sites (Figure 5). In conversation with Minnesota Pollution Control Agency (MPCA) staff, it was determined that the 2B warmwater sites in the Vermillion River watershed should be assessed using the Central River Nutrient Region total suspended solids standard (30 mg/L) instead of the South River Nutrient Region standard (65 mg/L) as was previously done. Sample medians were at or below (meeting) the state standard at all stations during baseflow conditions. Standard exceedances occurred during runoff conditions at all monitoring water sites, particularly at SC806, VR803, and VR0020. Both individual event and sample median exceedances were seen during snowmelt conditions.



Temperature

The Vermillion River watershed includes stream reaches with both cold-water and warm-water use designations meaning that temperature standards are applied to the middle watershed (cold-water) but are not applicable to reaches in the upper and lower parts of the watershed (warm-water). The cold-water reaches of the Vermillion River and its tributaries are home to a self-sustaining brown trout population, so there is great interest in reducing or maintaining water temperatures suitable for a healthy brown trout fishery.

Continuous temperature data, measured in 15-minute intervals, has been collected annually starting in 2005 for many of the sentinel monitoring stations in the Vermillion River monitoring network. The

temperature data for 2021 for NC801 and NC808 (Farmington) shows temperature maximums were measured in the complete mortality range (red; > 25°C) during all summer months with the highest median water temperatures observed in July.

Biological and Habitat Assessments

The MPCA developed biological indices to evaluate the health of the macroinvertebrate community in the Vermillion River. In 2021, six sites were monitored in various parts of the watershed. The macroinvertebrate index of biological integrity (MIBI) scoring data is not available as of March 2022.

Habitat assessments were completed using the MPCA's Minnesota Stream Habitat Assessment protocol to further evaluate and understand the biological integrity of stream reaches. Of the sites monitored in 2021, three sites had a 'fair' score and three sites scored 'good.'

Bacteria Sampling

Some parameters have been measured at undesirable levels. *Escherichia coli* (E. coli) bacteria levels are high in many streams of southeast Minnesota, and the Vermillion River and its tributaries are no exception. Monitoring results in 2021 show numerous low-level exceedances during the season at all the sites in the network. The geometric mean at each site continues to show less variability than in 2019 and is even closer than in 2020 (Figure 8).

E. coli levels at VR24 continue to be higher than samples collected at other monitoring sites within the watershed. In 2021, the geometric mean for E. coli samples at VR24 was 27 times more than the standard, whereas other sites were two times higher than the standard (2020 geometric means were two to nine times higher than the standard). Efforts in 2021 and previous years have been conducted to identify the source(s) of the high E. Coli counts at VR24 but have been unsuccessful to date. Continued efforts are planned in 2022.

Agency Monitoring

The Minnesota Department of Natural Resources (DNR) continues its monitoring effort in response to potential impacts to the quantity of water within the Vermillion River from groundwater withdrawals through appropriations. The DNR maintains responsibility for 12 stream gaging stations within the watershed as part of this effort. The VRWJPO contracts annually with DNR hydrologists for assistance with maintenance, rating-curve development, and data analysis and compilation at these stations.

The VRWJPO provides cost-share for the operation of the U.S. Geological Survey (USGS) Blaine Avenue gaging station, which has the longest continuous record of flow in the watershed. Real-time stage and flow data are available from the USGS station. This information can be accessed from the USGS National Weather Information System (https://waterdata.usgs.gov/mn/nwis/uv?site_no=05345000).

Continuous temperature monitoring was conducted at the eight stream gaging stations the Dakota County SWCD, Scott SWCD, and DNR operate, as well as at the Metropolitan Council's Watershed Outlet Monitoring Program (WOMP) station in Hastings.

The Vermillion River Monitoring Network is valuable in that the watershed can be assessed on its physical, chemical, and biological characteristics, and that information is then used to make informed management decisions. Restoring in-stream and riparian habitat, reducing nutrients and suspended materials in the stream, and minimizing temperature peaks, among other possible conservation strategies, will have a cascading positive effect on the overall health of the river. It is important to consider physical parameters such as temperature, which plays an essential role particularly in cold water streams. Water quantity and flow patterns have a significant impact on aquatic communities, with too much or too little causing stress. An effective management strategy would be one which integrates both the quality and quantity aspects of the Vermillion River.

Land and Water Treatment

The VRWJPO continues to ensure that Capital Improvement Program (CIP) projects with direct and observable benefits to water quality and quantity and aquatic habitat are identified and developed. The VRWJPO provides financial assistance and incentives through cost-share programs for Local Government Units and other partners seeking effective solutions to local water quality or quantity problems. To find out more about cost-share programs, review the VRWJPO's project funding policy. Projects constructed in 2021 included:

Middle Creek Channel Restoration at Highview Avenue (Lakeville)

Middle Creek, in the heart of the developing fringe of Lakeville, had seen better days. Previous land use practices, channel straightening, and excess stormwater runoff have resulted in a stream with eroding banks and channel bottom that has eroded and deepened. With development occurring adjacent to Middle Creek and its tributary and a corridor along the creek and tributary now owned by the City of Lakeville, the changing land use provided an opportunity to improve the stream channel conditions.

The first step in the process was to identify trees along Middle Creek and the tributary for removal. The channel corridor was overgrown with poor tree species leaving very little ground cover to stabilize the banks of the channel. Trees were selectively removed, leaving only those that provided ecological and bank stabilization benefits, resulting in additional sunlight reaching the understory.



Figure 4. Middle Creek at Highview prior to project.



Figure 5. Post-restoration creek.

Bank sloping and stabilization measures were installed in Middle Creek and its tributary to reduce the amount erosion occurring on the banks. Some bends were added back into the previously straightened channel to promote natural stream channel processes. Rock structures were also installed in the bottom and sides of the channel that will prevent further erosion and deepening of the channel bottom.

The results are an improved Middle Creek and tributary that erode less, the transfer of less sediment downstream, and an ecologically healthier stream network. With greater access to the stream through the project area and nearby city park land, an added benefit is a more enjoyable recreational corridor.

Location: North of 185th St. and east of Highview Ave., Lakeville

Costs and contributions:

- VRWJPO: \$45,413 in cash match, design assistance, and construction oversight
- City of Lakeville: \$116,222 in cash match, project design, and construction oversight
- Clean Water Fund: \$374,587 in grant funding

Erickson Park Stormwater Improvements (Apple Valley)

Erickson Park provides open space and flood retention for the surrounding residential areas in Apple Valley. When the stormwater pond and piping was installed in the area 45 years ago, the focus was on holding water after heavy rains to prevent flooding, not on addressing water quality. As a result, the runoff from small storms passed through the pond with very little pollutant removal.

Stormwater flows through the Erickson Park open space and ultimately reaches Farquar Lake, which is impaired for nutrients. Improving the Erickson Park stormwater pond will provide better management and treatment of low flows and help reduce phosphorus delivery to Farquar Lake. Lastly, the improvements will provide better access for maintenance and sediment removal in the long-term.

The project was completed in fall 2021. Phosphorus reduction at Farquar Lake resulting from the project is estimated at seven pounds per year. Partners avoided construction in the existing pollinator area in the northern portion of Erickson Park due to the excellent quality of the vegetation present.



Figure 6. The pond at Erickson Park shortly after project completion.

Location: Erickson Park, 140th St W and 142nd Path W, Apple Valley

Costs and contributions:

- VRWJPO: \$50,000 in cash match, design, and pollutant reduction modeling assistance
- City of Apple Valley: \$135,990 in cash match, design assistance, and construction oversight plus \$77,752 of sediment removal
- Clean Water Fund: \$114,250 in grant funding

Bachmans Wholesale Property Stream Channel Clearing with CCMI (Eureka Township)

A reach of the Vermillion River east of Cedar Avenue contained several tree trunks and branch snags that were significantly inhibiting flow, increasing stream temperatures, reducing oxygen levels, and causing erosion. VRWJPO and Dakota County SWCD staff assisted crews from the Conservation Corps of Minnesota and Iowa (CCMI) to clear the snags using chainsaws and by hand to restore river flow and improve oxygen levels.

Project partners: VRWJPO, Dakota County SWCD, Bachmans Inc., CCMI

Dakota County SWCD Cost-Share Programs

In addition to the Landscaping for Clean Water courses described in the Public Communication & Outreach section of this report, VRWJPO provided funding to the Dakota County SWCD for their Conservation Initiative Funding and Incentive Payment Practice Programs. The projects from 2021 are listed below.

*May include other funding besides from VRWJPO. Technical Assistance costs are not included.

Project	Practice Installed	Location	Cost-Share Amount*	Landowner Contribution	Pollutant Reduction/Year
Steve Meyers	Water and Sediment Control Basin Repair	Douglas Township	\$930	\$310	19 lbs phosphorus (P) 57 tons sediment
Ron Beissel	Grade Stabilization Repair	Hampton Township	\$3,616.82	\$4,127.02	152 lbs P 264 tons sediment

Project	Practice Installed	Location	Cost-Share Amount*	Landowner Contribution	Pollutant Reduction/Year
The Food Group	Cover Crops	Eureka Township	\$2,125	\$0	40 lbs P 816 lbs nitrogen (N) 290 tons sediment
Jay Frandrup	Cover Crops	Vermillion Township	\$3,500	\$0	9 lbs P 1,152 lbs N 66 tons sediment
Charles Schaffer	Water and Sediment Control Basins	Hampton Township	\$28,325.99	\$9,442	38 lbs P 272 tons sediment
Molitor Brothers LTD Partnership	Water and Sediment Control Basin	Douglas Township	\$3,617.16	\$1,205.72	3.6 lbs P 43 tons sediment
Ambrey Gartner	Native Prairie Restoration	Marshan Township	\$2,074.08	\$691.36	8 lbs P 11.72 lb N 16 tons sediment
Century South HOA	Native Prairie Restoration	Hastings	\$1,800	\$5,622	0.04 lb P 1 ton sediment
Eric Johnson	Native Prairie Restoration	Ravenna Township	\$4,090.09	\$1,363.36	0.1 lb P 47 lbs N 0.2 tons sediment
Mike Serres	Grassed Waterway	Douglas Township	\$2,282.51	\$760.84	7 lbs P 60 tons sediment

Project	Practice Installed	Location	Cost-Share Amount*	Landowner Contribution	Pollutant Reduction/Year
Peter Schweich	Grassed Waterway	Douglas Township	\$1,293.75	\$431.25	4.5 lbs P 39 tons sediment
Jack Siebenaler	Native Prairie Restoration	Hampton Township	\$881.44	\$293.81	1.2 lbs P 14.7 lbs N 2.4 tons sediment
Brandy Wentzler	Native Prairie Restoration	Hampton Township	\$390.38	\$130.12	0.6 lbs P 7.3 lbs N 1.2 tons sediment
Noah Blaha	Native Prairie Restoration	Vermillion Township	\$785.47	\$261.82	0.3 lbs P 0.5 tons sediment
Audrey Anderson	Native Prairie Restoration	Ravenna Township	\$1,575	\$1,157.73	0.2 lbs P 0.4 tons sediment
Bryce Kimmes	Cover Crops	Marshan Township	\$2,500	\$0	10.4 lbs P 1,017 lbs N 38.33 tons sediment
Kent Otte	Grassed Waterway	Hampton Township	\$3,530.09	\$1,176.69	55 lbs P 165 tons sediment
Steve Devney	Cover Crops	Lakeville	\$750	\$0	5.6 lbs P 66 lbs N 22 tons sediment

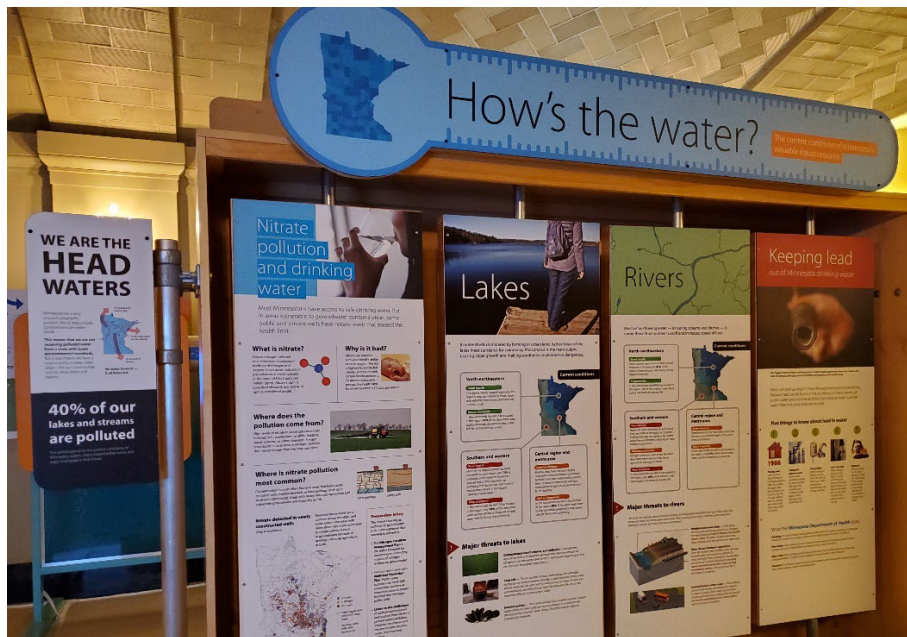
Project	Practice Installed	Location	Cost-Share Amount*	Landowner Contribution	Pollutant Reduction/Year
Metropolitan Mosquito Control	Native Prairie Restoration	Rosemount	\$3,750.02	\$1,250	3.5 lbs P 51 lbs N 7 tons sediment

Coordination and Collaboration

In cooperation with groups, the VRWJPO works to amplify mutual efforts, leverage resources, instill consistency, share knowledge and expertise, and make each public dollar go further in achieving water quality, quantity, and safety goals.

We Are Water MN

Dakota County was pleased to be selected to host the We Are Water Minnesota exhibit in 2022 at the Hastings Pleasant Hill Library and Lebanon Hills Regional Park in Eagan. VRWJPO staff Brita Moore-Kutz and Paula Liepold, along with Dakota County Environmental Resources, Soil and Water Conservation District, Parks, Libraries, and Communications staff, spent many hours in the second half of 2021 planning for the exhibit with support from the Minnesota Humanities Center and Minnesota Pollution Control Agency.



The exhibit consists of several components discussing the meaning of water in our state and the difficulties it's facing, from impaired waterbodies to drinking water safety. It also highlights personal

stories about water from people in the area currently hosting. As Hastings is a key location in the Vermillion River Watershed, the County intends to make the river a significant part of its exhibits. In addition to setting up the physical exhibits, we are planning for educational and stewardship events such as Smart Salting for Local Leaders and a Hastings drinking water treatment plant tour.

Part of the We Are Water journey is shining a light on absent narratives in our area – meaning, voices we have not listened to enough and have important stories to share. In Dakota County, our workgroup is collaborating with the Hmong American Farmers Association and local Indigenous artists as a start to delve into our own absent narratives.

For more about We Are Water, visit <https://mnhum.org/we-are-water-mn/>. Plan to visit the exhibit in Hastings and Eagan between Oct. 13 and Dec. 5, 2022.



Adopt-a-Drain

In 2021, VRWJPO continued its membership in the Metro Watershed Partners, a coalition of Twin Cities-area watershed organizations, cities, and interest groups providing water stewardship messages to the public. It is based out of Hamline University. Its well-known Adopt-a-Drain program encourages people to “adopt” storm drains in their area by keeping them clear of leaves, grass, trash, and other things that don’t belong in our waterways. 9,200 participants have adopted more than 17,000 storm drains in the metro area. This has resulted in nearly \$460,000 pounds of debris collected and reported on the Adopt-a-Drain website. In the Vermillion River Watershed in 2021, 100 new drains were adopted by 52 new participants, who kept a reported 638.7 pounds of debris out of our local waterbodies. A total of 186 participants have adopted 364 drains.

Wetland Health Evaluation Program (WHEP)

The VRWJPO continued financial support of the Wetland Health Evaluation Program (WHEP), engaging citizen volunteers to monitor wetlands in their community. The program turns volunteers into citizen scientists and is an excellent opportunity for environmental education and natural resource information gathering. Many changes implemented in 2020 for COVID-19 safety were carried over into 2021. However, both cross checks and macroinvertebrate identification by teams were reinstated. Six teams with 81 WHEP volunteers donated more than 1,248.75 hours to monitor 17 different wetlands in the Vermillion River Watershed.

Specific VRW wetlands and volunteer details in 2021:

Apple Valley

- Hidden Valley (AV-1)
- Alimagnet Lift Station Chain (AV-17)
- Sunset Park Pond (AV-18) (pictured)
- Alimagnet Lift Station Chain (AV-19)



Burnsville

- Alimagnet Dog Park (B-6)

Empire Township

- Empire Lake (DC-1)

Farmington

- Kral Pond (F-3)
- Autumn Glen (F-7)
- Cambodia Ave (F-9)

Hastings

- Stonegate Treated (H-4)
- Lake Rebecca (H-6)
- 180th Street Marsh
- Cari Park Pond (H-57)

Lakeville

- DNR #393 (L-8)

Rosemount

- Kelly Marsh (R-1)
- White Lake (R-2)
- Schwarz Pond (R-4)
- Birger Mitigation Area (R-15)

Number of volunteers on each team: Apple Valley (16), Burnsville (13), Farmington (8), Hastings (13), Lakeville (10), and Rosemount (21). Annual reports are posted on the WHEP website, www.mnwhep.org.

Minnesota Water Stewards

The Minnesota Water Stewards (MWS) program invites residents to become leaders protecting local waterways from pollution and educating their neighbors on clean water issues. The MWS program provides training and opportunities for stewards to build projects in their neighborhoods to prevent polluted stormwater from entering lakes or streams.

In 2021, we began with two Steward candidates, but unfortunately both had conflicts and had to drop. As of the end of 2021, we had one candidate set to begin the next round of the program, learning about hydrology and stormwater basics, water and environmental policy, community engagement, and best management practice planning, evaluation, and maintenance. Stewards will volunteer 50 hours in 2022 to maintain their certification. MWS is coordinated by Freshwater Society.

Metro Children's Water Festival



Dakota County staff took a leadership role in the Metro Children's Water Festival planning and implementation and provided financial support for schools to participate in the popular event. The event was virtual again this year and was a great success. The plan is to hold both in-person and virtual events in 2022.

Community Event Participation

With most Minnesotans being vaccinated for COVID-19, VRWJPO was able to return to some community events that we had been involved with before. We hosted tables at the Hastings Party in the Park in July,

the Dakota County Fair in August, and the Day Without Water event at the Lakeville Water Treatment Facility in October and will do more in 2022 as safety allows.

Public Communications and Outreach

Communicating the value of water is an essential part of the VRWJPO's mission, and in recent years, civic engagement has taken on greater importance in watershed processes. Among the outreach and communication programs wholly or partially funded by the VRWJPO in 2021 were:

Landscaping for Clean Water Workshops

Once again, VRWJPO helped fund and promote the Landscaping for Clean Water workshops hosted by the Dakota County SWCD. They continued being held virtually in 2021 due to spread of COVID-19.

- 7 classes were hosted live via Zoom – 4 Introduction classes and 3 Maintenance classes
- 371 Individuals participated in Introduction Classes (virtual or pre-recorded video)
- 96 Individuals participated in new three-part Maintenance Workshops (virtual or pre-recorded video)
- 142 Projects designed as part of virtual Design Workshops
- 3 grant rounds; 41 Raingardens & Native Gardens & Shorelines Installed
- 52 participants took part in the Office Hours program

Vermillion River Watch Program

In 2021, the VRWJPO continued support of Dakota County SWCD's work with educators and students at Rosemount and Hastings High Schools to collect macroinvertebrates and habitat data, identify macroinvertebrates, and compare species type and abundance to biological metrics. This is a successful way to interest students in scientific disciplines and engage them in protecting and improving water resources. VRWJPO staff also participated in a Hastings High School Paddle Day on the lower Vermillion River in May 2021, which was another opportunity for students to get up close with the river and talk with water and natural resources professionals.

Scott Clean Water Education Program

In 2021, the Scott Clean Water Education Program (SCWEP) focused activities and outreach on the overall theme of "Clean Water Starts with Me!" Multiple initiatives helped Scott County residents make clean water choices.

Four webinars were held on the topics of raingarden instillation, restoring shoreline, planting native prairie, and instilling proper winter maintenance techniques, all of which are available for free viewing on the Scott SWCD YouTube channel. The annual Outdoor Education Days event brought together 3-5th grade students, including those from Eagle View Elementary School in Elko New Market and Cedar Lake Farm Park in New Prague for interactive activities and learning stations on environmental issues. SCWEP also had a display table and informational rack cards at various public events throughout the year such

as the Scott County Fair. These cards provided information on urban and rural BMPs that landowners can do to improve water quality. SCWEP also writes and distributes news releases in various outlets including the Scott County SCENE, local papers, on partner websites, and social media. In 2021, 23 articles and 95 social media posts relating to the topic of clean water were published.

Maintenance Workshops

The VRWJPO provided cash and in-kind services for the Turf Maintenance workshop held virtually on March 17, 2021 with 34 attendees.

Staff member Paula Liepold organized three additional workshops:







- 4/20/2021 – Level 2 Smart Salting (virtual) – 28 attendees
- 10/5/2021 – Level 12 Smart Salting for Roads (in person for Transportation Dept only) – 24 attendees
- 11/2/2021 – Smart Salting for Property Managers (virtual) – 18 attendees

All attendees completed the trainings and passed their exams to become certified in smart salting.

Social Media

The VRWJPO continues to maintain its presence on social media. The watershed has been generating original content and sharing news from partners on Instagram, Facebook, and Twitter. Each platform has grown in its follower count over the past year. More specific numbers below:

Top Facebook and Instagram posts from 2021:

 <p>Aug 9, 2021 Stop in at the Dakota County... Post Reach 441</p>	 <p>Jul 14, 2021 The Burnsville, Minnesota g... Post Reach 152</p>	 <p>Jul 22, 2021 Each of these lawns is maint... Post Reach 140</p>
 <p>Aug 11, 2021 If you live alongside one of t... Post Reach 110</p>	 <p>Oct 6, 2021 Our Fall 2021 email newslett... Post Reach 109</p>	 <p>Jun 14, 2021 Though we could use some ... Post Reach 109</p>

Top tweets from 2021:



Vermillion River Watershed @VRWJPO · Jul 23, 2021

.@UMNExt and @MetCouncilNews: Lawns will survive the drought even if we don't water them. #mndrought #mnwx [twitter.com/kare11/status/...](https://twitter.com/kare11/status/1418111111111111111)



2



2



0

Impressions ⓘ

936

Engagements ⓘ

8

Detail expands ⓘ

4



Vermillion River Watershed @VRWJPO · Aug 9, 2021



Visit us this week in the @DakotaCoFairMN Natural Resources Building!



8



2



0

Impressions ⓘ

777

Engagements ⓘ

28

Detail expands ⓘ

4

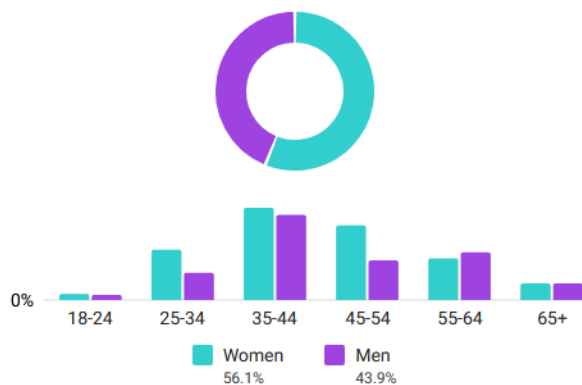


Social media account audiences:

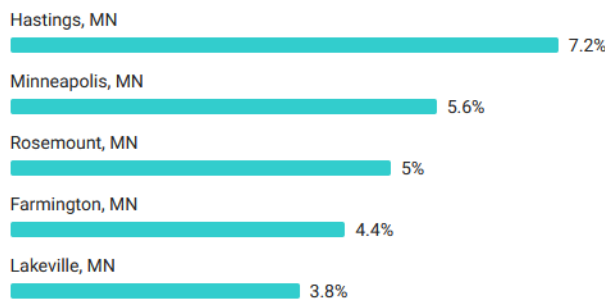
Facebook Page followers ⓘ

320

Age & Gender ⓘ



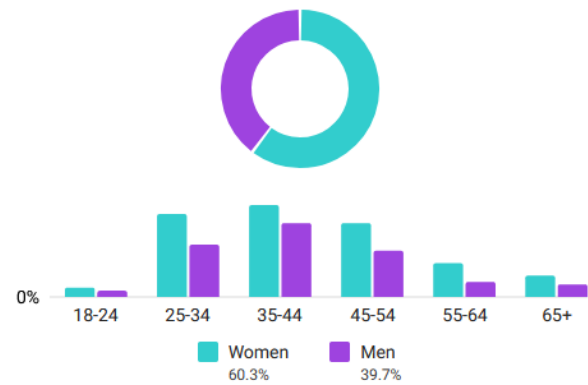
Top Cities



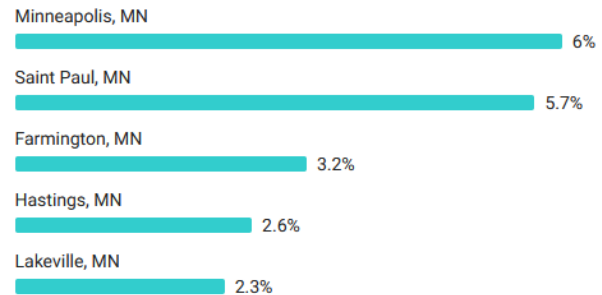
Instagram Followers ⓘ

349

Age & Gender ⓘ



Top Cities



Twitter does not have the analytical breakdown of follower demographics that Facebook and Instagram do. The account currently has 224 followers. From the data we do have, we can see that VRWJPO gained 84 new followers in 2021.

Publications

The VRWJPO provides an electronic newsletter to interested residents in the watershed twice a year (Spring and Fall 2021 issues can be found at <https://www.vermillionriverwatershed.org/news-events/newsletter/>) as required by Minn. Rules Part 8410.0100, Subpart 4.

Additionally, VRWJPO publishes fact sheets on its capital improvement projects (<https://www.vermillionriverwatershed.org/watershed-management/capital-improvement-projects/>) as required by the Clean Water Fund.

2021 Financial Statement

Governmental Fund Statement of revenues, expenditures, and changes in fund balance and governmental activities – Statement of Activities

Vermillion River Watershed Joint Powers Organization for the year ended December 31, 2021

Revenues	
Taxes	\$972,251
License and Permits	\$4,902
Intergovernmental	\$635,991
Investment earnings	\$13,473
Miscellaneous	\$18,619
Total Revenues	\$1,645,236

Expenditures/Expenses Current	
Conservation of Natural Resources	\$1,530,220

Fund Balances	
Net Change in Fund Balance/Net Position	\$115,016
Fund Balance/Net Position – Jan. 1, 2021	\$1,144,560
Fund Balance/Net Position – Dec. 31, 2021	\$1,259,576

2022 Work Plan and Activities

Watershed Plan Category	Budget Items	Budget Amount
Administration and Operations	Dakota County VRW staff	\$180,500
	Scott County VRW staff	\$15,000
	Other Dakota County staff time	\$12,000
	Legal support	\$25,000
	Miscellaneous Expenses (per diems, mileage, postage, etc.)	\$6,000
	Training, conferences, and certifications	\$2,000
	Subtotal Administration	\$240,500
Research and Planning	Dakota County SWCD Incentive Program Policy Assistance	\$1,600
	Scott County Staff	\$2,000
	VRW staff	\$12,000
	Subtotal Research and Planning	\$15,600
Monitoring and Assessment	Vermillion River Monitoring Network in Dakota County	
	A. Downloading	\$39,000
	B. Reporting	\$17,000
	C. Water Quality Sample Analysis and QA/QC samples	\$19,000

Watershed Plan Category	Budget Items	Budget Amount
	D. Equipment and Supplies	\$8,000
	Vermillion River Monitoring Network in Scott County	\$9,800
	USGS cost-share for Blaine Ave. Station	\$8,900
	DNR flow-gaging assistance	\$9,700
	Biological and Habitat Assessments	\$7,000
	Electrofishing	\$16,000
	Monitoring programs review and evaluation	\$15,000
	General GIS support (Dakota SWCD)	\$5,000
	Nitrate treatment practices sampling	\$1,000
	Iron enhanced sand filter performance sampling	\$2,000
	Subtotal Monitoring and Assessment	\$157,400
Public Communications and Outreach	Communication and Outreach staff	\$100,000
	Vermillion River Watch program	\$6,000
	Scott County outreach efforts	\$2,250
	Vermillion River Watershed projects signage and map updates	\$5,000
	Newsletter, mailings, website, general communication materials	\$10,000

Watershed Plan Category	Budget Items	Budget Amount
	Landscaping for Clean Water Workshop (Dakota SWCD)	\$30,400
	K-12 classroom presentations (Dakota SWCD)	\$4,000
	Local standards/ordinance and turf/salt workshops	\$3,500
	Subtotal Public Communications and Outreach	\$161,150
Regulation	Scott SWCD assistance with plan review	\$900
	Engineering assistance and review	\$35,000
	VRW staff local program assistance	\$20,000
	Subtotal Regulation	\$55,900
Coordination and Collaboration	Coordination VRW staff	\$32,000
	Metro Children's Water Festival support	\$600
	Metro Watershed Partners membership (incl. Adopt-a-Drain)	\$5,000
	Minnesota Water Stewards	\$5,000
	Subtotal Coordination and Collaboration	\$42,600
Land & Water Treatment: Capital Improvement Projects	Cost-share programs in Dakota County (SWCD)	\$80,000
	Cost-share programs in Scott County (SWCD)	\$31,300

Watershed Plan Category	Budget Items	Budget Amount
	Cost-share	\$215,550
	Subtotal Capital Improvement Projects	\$326,850
Land & Water Treatment: Maintenance	Past projects maintenance/repair	\$40,000
	CIP construction oversight, maintenance/repair staff costs	\$25,000
	Subtotal Maintenance	\$65,000
Land & Water Treatment: Feasibility/Preliminary Studies	Preliminary design, technical assistance, and marketing for capital improvements (Dakota SWCD)	\$40,000
	Improvements	\$150,000
	Subtotal Feasibility/Preliminary Studies	\$190,000
Land & Water Treatment: Irrigation Audit and Cost Share Program	Irrigation audits	\$5,000
	Irrigation cost-share	\$5,000
	Subtotal Irrigation Audit and Cost-Share	\$10,000
Land & Water Treatment: 2020-2023 Watershed-Based Implementation Fund (WBIF) Grant (BWSR) North Creek	North Creek stabilization	\$288,700
	VRWJPO cash match	\$50,000
	Subtotal 2020-2023 WBIF Grant North Creek Stabilization	\$338,700
Land & Water Treatment: 2020-2023 WBIF Grant Farmington	Farmington Direct Drainage Assessment	\$13,400
	VRWJPO cash match	\$3,330

Watershed Plan Category	Budget Items	Budget Amount
	Subtotal 2020-2023 WBIF Grant Farmington	\$16,730
Land & Water Treatment: 2020-2023 WBIF Grant Hastings Direct	Hastings Direct Drainage Assessment	\$26,700
	VRWJPO cash match	\$3,330
	Subtotal 2020-2023 WBIF Grant Hastings Direct	\$30,030
Land & Water Treatment: 2020-2023 WBIF Grant Ravenna Basins	Ravenna basins restoration	\$59,000
Land & Water Treatment: 2020-2023 WBIF Grant Ravenna Basins	VRWJPO cash match	\$26,000
	Subtotal 2020-2023 WBIF Grant Ravenna Basins Restoration	\$85,000
Land & Water Treatment: Clean Water Fund Grant (BWSR)	WBIF grant administration	\$17,700
	Subtotal WBIF grant administration	\$17,700
	Subtotal of Expenditures	\$1,753,160
	Cash Reserve	\$189,440
	TOTAL Annual Expenses	\$1,942,600

Appendix A: 2021 Resolutions of the Joint Powers Board

January

Res. No. VRW 21-00: Election of Officers

Res. No. VRW 21-01: Approval of Consent Agenda

- a. Approval of Agenda
- b. Approval of Minutes from the Dec. 3, 2020 meeting
- c. Acceptance of Treasurer's Report
- d. Execute a Joint Powers Agreement (JPA) with Dakota County Soil and Water Conservation District (SWCD) for services in 2021
- e. Execute a JPA with Scott SWCD for services in 2021
- f. Authorization to amend a JPA with the City of Hastings for the 21st St. Stormwater Treatment Projects

Res. No. VRW 21-02: Approval of Expenses totaling \$163,866.59 between Nov. 21, 2020 and Dec. 16, 2020 and \$144,602.44 between Dec. 17, 2020 and Jan. 19, 2021

Res. No. VRW 21-03: Appointment of Andrew Riesgraf and James Kotz to the Vermillion River Watershed Planning Commission

February

Res. No. VRW 21-04: Approval of Consent Agenda

Approval of Agenda

- a. Approval of Minutes from the Jan. 28, 2021 meeting
- b. Acceptance of Treasurer's Report
- c. Schedule a public hearing for modifications to the VRWJPO permit program fee and security schedule

Res. No. VRW 21-05: Approval of expenses totaling \$171,241.26 between Jan. 20, 2021 and Feb. 16, 2021.

Res. No. VRW 21-06: Adoption of an amendment to the Vermillion River Watershed Management Plan Implementation section

March

Res. No. VRW 21-07: Approval of Consent Agenda

- a. Approval of Agenda
- b. Approval of Minutes from the February 25, 2021, meeting
- c. Acceptance of Treasurer's Report
- d. Authorization to Amend a Joint Powers Agreement with the City of Apple Valley for the Erickson Park Stormwater Improvement Project
- e. Authorization to Execute a Grant Agreement with the Minnesota Board of Water and Soil Resources for Fiscal Year 2021 Watershed-Based Initiative Funding
- f. Authorization to Execute a Joint Powers Agreement with the City of Lakeville for the North Creek at Highview Avenue Channel Improvement Project
- g. Authorization to Execute a Joint Powers Agreement with the City of Rosemount for Anti-Icing Equipment Purchase
- h. Authorization to Execute a Joint Powers Agreement with the City of Farmington for Vermillion River Direct Drainage Stormwater Treatment Assessment
- i. Authorization to Execute a Joint Powers Agreement with the City of Hastings for Vermillion River Direct Drainage Stormwater Treatment Assessment

Res. No. VRW 21-08: Approval of Expenses totaling \$55,454.36 between Feb. 17, 2021 and March 12, 2021.

Res. No. VRW 21-09: Public Hearing to receive comments on and adoption of modifications to VRWJPO permit program fee and security schedule

Res. No. VRW 21-10: Adoption of modified VRWJPO permit program fee and security schedule

Res. No. VRW 21-11: Adoption of candidate selection and appointment process for Vermillion River Watershed Planning Commission members

April

Res. No. VRW 21-12: Approval of consent agenda

- a. Approval of Agenda
- b. Approval of Minutes from the March 25, 2021 meeting
- c. Acceptance of Treasurer's Report
- d. Authorization to Submit 2020 Vermillion River Watershed Joint Powers Organization (VRWJPO) Annual Activity Report and Financial Statement to the Minnesota Board of Water and Soil Resources (BWSR)

Res. No. VRW 21-13: Approval of Expenses totaling \$48,414.61 between March 13, 2021 and April 14, 2021

Res. No. VRW 21-14: Approval of proposed amendments to the VRWJPO 2021 budget

July

Res. No. VRW 21-15: Approval of Consent Agenda

- a. Approval of Agenda
- b. Approval of Minutes from the April 22, 2021, meeting
- c. Acceptance of Treasurer's Report
- d. Approval of the City of Elko New Market Comprehensive Stormwater Management Plan
- e. Schedule a Public Hearing to Receive Comments on the Draft VRWJPO Budget and Watershed Management Tax District Levy
- f. Authorization to Execute a Joint Powers Agreement with the City of Rosemount for an Irrigation Audit Program in 2021

Res. No. VRW 21-16: Approval of Expenses totaling \$120,244.30 between April 15, 2021 and May 11, 2021, \$54,885.44 between May 12, 2021 and June 11, 2021, and \$53,290.23 between June 12, 2021 and July 12, 2021

August

Res. No. VRW 21-17: Approval of Consent Agenda

- a. Approval of Agenda
- b. Approval of Minutes from the July 22, 2021, meeting
- c. Acceptance of Treasurer's Report

Res. No. VRW 21-18: Approval of Expenses totaling \$48,561.03 between July 13, 2021 and Aug. 12, 2021

Res. No. VRW 21-19: Public hearing on the draft 2022 VRWJPO budget and Vermillion River Watershed Management Tax District Levy

Res. No. VRW 21-20: Adoption of draft 2022 VRWJPO budget and Vermillion River Watershed Management Tax District Levy

September

Res. No. VRW 21-21: Approval of Consent Agenda

- a. Approval of Agenda
- b. Approval of Minutes from the August 26, 2021, meeting
- c. Acceptance of Treasurer's Report
- d. Approval of Expenses
- e. Board member site visits of two completed Capital Improvement Projects immediately following the meeting

October

Res. No. VRW 21-22: Approval of Consent Agenda

- a. Approval of Agenda
- b. Approval of Minutes from the September 23, 2021, meeting
- c. Acceptance of Treasurer's Report

Res. No. VRW 21-23: Approval of Expenses totaling \$480,845.31 between Sept. 13, 2021 and Oct. 12, 2021

Res. No. VRW 21-24: Amendment to agenda removing item 6a

December

Res. No. VRW 21-25: Approval of Consent Agenda

- a. Approval of Agenda
- b. Approval of Minutes from the October 28, 2021, meeting
- c. Acceptance of Treasurer's Report
- d. Approval of dates for 2022 Vermillion River Watershed Joint Powers Board (VRWJPB) meetings

Res. No. VRW 21-26: Approval of Expenses totaling \$236,159.21 between Oct. 13, 2021 and Nov. 12, 2021

Res. No. VRW 21-27: Authorized executive of a JPA with Dakota County for the Wetland Health Evaluation Program