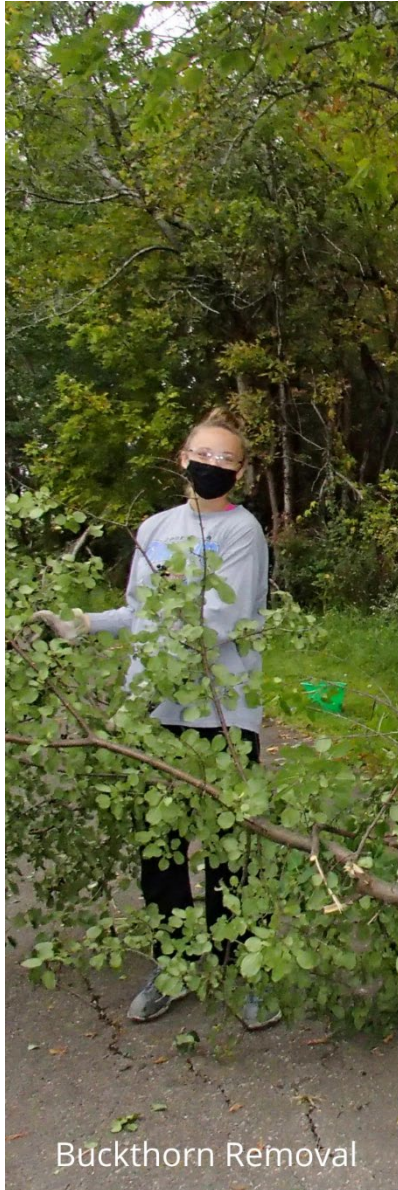




2020 Annual Activity Report and Financial Statement



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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.

Vermillion River Watershed
Joint Powers Organization
4100 220th Street, Suite 103
Farmington, MN 55024
Phone: 952-891-7000



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.

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; the VRWJPO adapted to keep staff and partners safe while successfully delivering programs and practices as it has in past years. This *2020 Annual Activity Report and Financial Statement* summarizes the VRWJPO's 2020 activities and its 2021 plans to protect and improve the Vermillion River Watershed.

Vermillion River Watershed 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 2020. The VRWJPB members included:

Commissioner Mike Slavik, Dakota County District 1 (Chair), Hastings
Commissioner Mary Liz Holberg, Dakota County District 6 (Vice-chair), Lakeville
Commissioner Tom Wolf, Scott County District 2 (Secretary/Treasurer), Prior Lake

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 2020, the WPC met four times. The WPC members in 2020 included:

Mark Henry, Castle Rock Township, Chair
Carolyn Miller, Elko New Market, Vice-chair
Ken Betzold, Castle Rock Township
Josh Borton, Apple Valley
Chuck Clanton, Hampton Township

Bruce Rydeen, Lakeville
Brian Rohrenbach, Rosemount
Tony Wotzka, Lakeville
Steve Hamrick, Lakeville

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 generally meets two times annually to discuss projects and policies from a scientific and technical perspective, though only one meeting was held in 2020 due to the pandemic. Representatives include, but are not limited to:

Cities and townships within the Vermillion River Watershed	Minnesota Department of Health
Dakota and Scott counties	Minnesota Department of Natural Resources
Dakota and Scott County Soil and Water Conservation Districts	Minnesota Board of Water and Soil Resources
Metropolitan Council	Prairie Island Indian Community
Minnesota Pollution Control Agency	University of Minnesota Extension
Minnesota Department of Agriculture	Environmental consulting firms
	Environmental groups
	Other interested parties

VRWJPO Administrators and Staffing

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 2020 included:

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

The counties' respective Soil and Water Conservation Districts (SWCD)s provide monitoring and technical assistance services for the VRWJPO. District Managers for the SWCDs in 2020 were:

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

Legal Consultant

The Joint Powers Agreement for the VRWJPO provides for consultation from the Dakota County Attorney's Office on legal and contractual matters. In 2020, the attorney assigned to the VRWJPO was:

Helen Brosnahan, Assistant Dakota County Attorney

Consultants

The VRWJPO enters into contracts with consultants to provide engineering and environmental professional services for water resources management projects. The approved consultant list for 2020-2021 follows.

Company	Address	City
Alliant Engineering, Inc.	233 Park Avenue S, Ste 300	Minneapolis
Applied Ecological Services, Inc.	21938 Mushtown Rd	Prior Lake
Barr Engineering Company	4300 MarketPointe Drive, Suite 200	Minneapolis
Cardno	7157 Commerce Circle South	Fridley
Emmons & Olivier Resources, Inc.	7030 6th St. North	Oakdale
Houston Engineering	7550 Meridian Circle North, Suite 120	Maple Grove
Inter-Fluve	2121 Randolph Ave, Second Floor	St. Paul
KLJ	370 Wabasha St., Suite 300	St. Paul
Landbridge Ecological	670 Vandalia Street	St. Paul
Limno-Tech, Inc.	7300 Hudson Blvd., Suite 295	Oakdale
Minnesota Native Landscapes, Inc.	8740 77th Street Northeast	Otsego
Native Resource Preservation	260 Wentworth Ave. E.	West St. Paul
SRF Consulting Group, Inc.	One Carlson Parkway North, Suite 150	Minneapolis
TKDA	444 Cedar Street, Suite 1500	St. Paul
Wenck Associates, Inc.	1800 Pioneer Creek Center, PO Box 249	Maple Plain
WSB	701 Xenia Avenue South, Suite 300	Minneapolis

Awarded Contracts

The VRWJPO also entered into several contracts because the projects required solicitation in 2020 as noted below.

Request for Quotes – Vegetation Management | Applied Ecological Services
Request for Quotes – Wetland Swale Addition and Outlet Structure Install | BKJ Excavating
Request for Quotes – Records Trail Grade Stabilization Project | Standard Contracting, Inc.
Request for Quotes – Irrigation Audit Services | Conserva Irrigation
Request for Proposals – Engineering and Technical Services for Stream Restoration | EOR, Inc.
Sole Source – Master Water Stewards 2019-2020 program year | Freshwater Society
Sole Source – Vermillion River Watershed Stewards Outreach Program | FMR
Request for Proposals – Feasibility Study for Water Reuse Project | SRF Consulting Group
Sole Source – Fish Monitoring Services | Wenck Associates

2020 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. 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.

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 2020, the VRWJPO researched the following:

Dakota County Plans

VRWJPO staff assisted with three Dakota County plans. Staff reviewed and commented on the Land Conservation Plan, Groundwater Plan and the Aquatic Invasive Species Plan. By participating in this effort, water quality, water quantity, and natural resources of the Vermillion River Watershed were represented and included in planning efforts.

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) assesses water quality and quantity in the Vermillion River Watershed. These data, which include a combination of chemical, physical, and biological parameters and assessments, enable local agencies to determine the health of the stream and implement appropriate management strategies. Analysis shows that many of the water monitoring parameters meet state water quality standards and indicate a generally healthy condition in the Vermillion River and its tributaries.

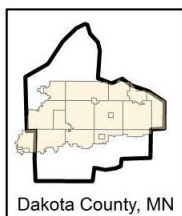
Chemistry:

Nitrate (NO₃; a form of nitrogen) levels were quite low, except at the one station on the South Branch Vermillion River (SB802), which 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, drainage

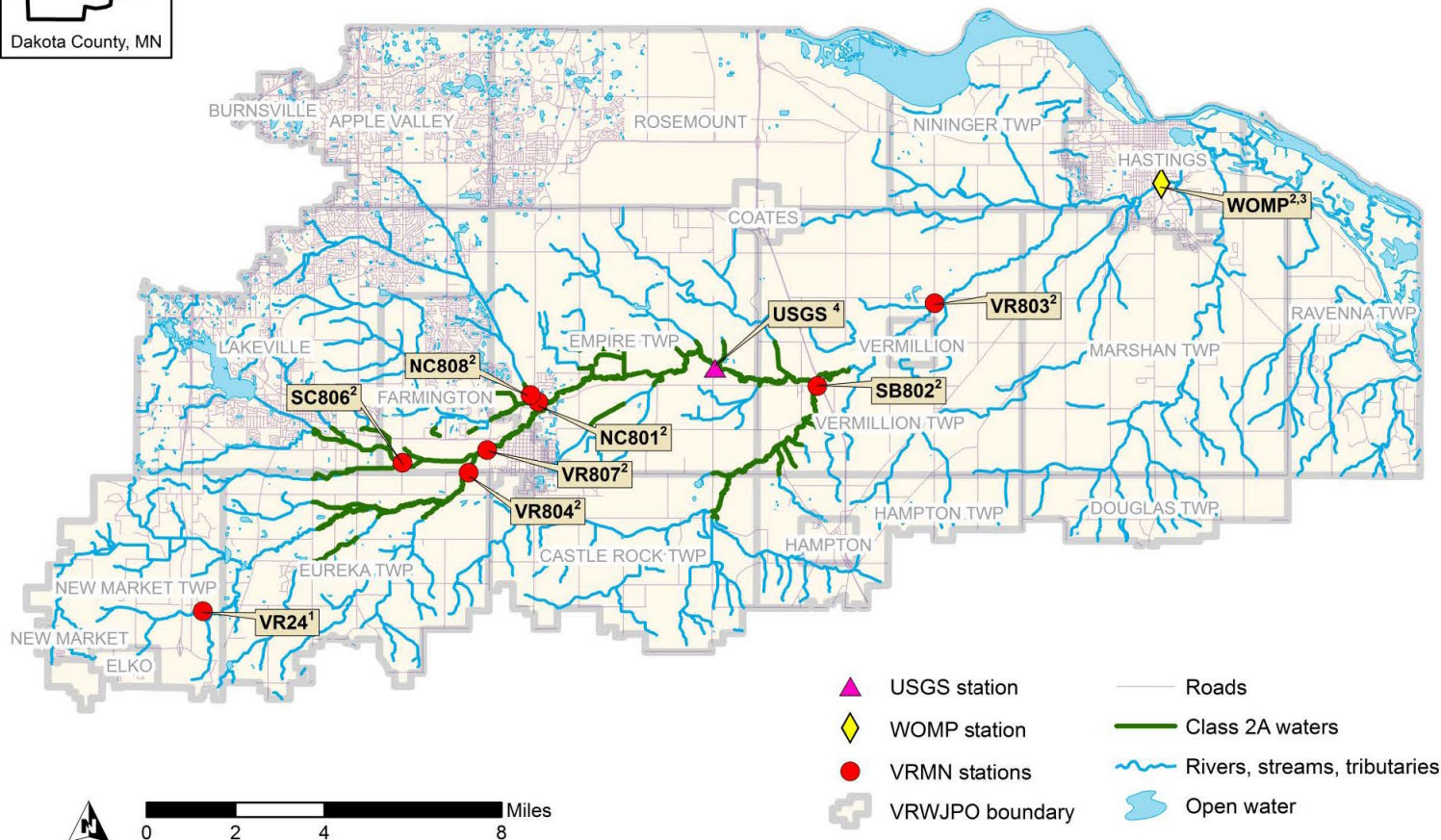
management practices, and agricultural land use that is predominant in the South Branch Vermillion River subwatershed. Monitoring locations downstream of the confluence with South Branch have elevated nitrate levels in comparison to sites higher in the watershed (above South Branch).

Vermillion River Monitoring Network

Chemistry and Flow Monitoring Stations



Dakota County, MN



This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data located in various City, County, and State Offices and other sources, affecting the area shown, and is to be used for reference purposes only. Dakota County SWCD is not responsible for any inaccuracies herein contained. If discrepancies are found please contact the Dakota County Soil & Water Conservation District at 651.480.7777.

- ¹ Monitored by Scott Soil and Water Conservation District
- ² Monitored by Dakota County Soil and Water Conservation District
- ³ Owned by Metropolitan Council
- ⁴ Owned by United States Geological Survey

The other primary nutrient monitored in the watershed is phosphorus, an essential life element for plants growth. Excess phosphorus can lead to eutrophication and increased algae growth in lakes and rivers. 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), SB802, and VR803 (most downstream site monitored by the VRWJPO).

Low dissolved oxygen concentrations following runoff events were common at several sites. The median dissolved oxygen levels met the standard for both 2A and 2B stream sites during baseflow conditions.

NC801 and NC808 have the lowest recorded levels during baseflow, but the median level above the standard (adequate oxygen levels) at similar levels to other sites. Median levels at the two sites on North Creek were below the standard (low oxygen levels) during runoff sampling and levels at SC806 (South Creek) were at the standard; individual event violations occur at several sites during runoff conditions.

High levels of total suspended solids (contributing to turbid, cloudy, water) following runoff events were also common at several sites. 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 VR24 and SB802. None of the eight sites had exceedances during snowmelt events.

Temperature:

The Vermillion River watershed includes stream reaches with both coldwater and warmwater use designations meaning that temperature standards are applied to the middle watershed (coldwater) but are not applicable to the reaches in the upper and lower parts of the watershed (warmwater). The coldwater 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 2020 for NC801 and NC808 (Farmington) shows temperature maximums were measured in the resistance range ($> 20^{\circ}\text{C}$) 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 2020, nine sites were monitored in various parts of the watershed. The macroinvertebrate index of biological integrity (MIBI) scoring data is not available currently.

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 2020, eight sites had a 'fair' score and one site 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 2020 show numerous low-level exceedances during the season at all sites in the network and the geometric mean at each site had less variability than in 2019.

E. coli levels at VR24 continue to be higher than samples collected at other monitoring sites within the watershed. In 2020, the geometric mean for *E. coli* samples at VR24 was twelve times more than the

standard, whereas other sites were between two to nine times higher than the standard (most sites were two to three times higher).

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 twelve stream gaging stations within the watershed as part of this effort.

The VRWJPO continues to provide 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 at [USGS National Weather Information System](#).

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.

Public Communications and Outreach

Communicating the value of clean 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 2020 were:

Landscaping for Clean Water Workshops

Raingarden installation engages watershed residents in hands-on water quality and landscape improvements. The VRWJPO maintained its support in 2020 for [Landscaping for Clean Water](#). After four in-person trainings, the Dakota County SWCD changed programming to a virtual format in response to COVID-19. Countywide, 613 individuals participated in the introduction class and 105 participants attended the brand-new maintenance workshop. Within the Watershed, nine rain gardens and eight native gardens were installed and funded by the VRWJPO in 2020.



Landscaping for Clean Water

Vermillion Stewards

The [Vermillion Stewards](#) program is executed by the Friends of the Mississippi River (FMR) through funding provided in part by the VRWJPO. Volunteers participate in hands-on stewardship and educational programs throughout the Vermillion River Watershed. During what began as a difficult year for in-person volunteering due to COVID-19, FMR organized five VRWJPO-sponsored program events. VRWJPO events attracted 89 volunteers contributing 158 volunteer hours to programs such as buckthorn removal, rain garden maintenance, and a rain barrel “make and take” workshop.



Vermillion River Watch Program

In 2020, 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.

Scott Clean Water Education Program

In 2020, 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 choices for clean water second nature. One Vermillion River Watershed resident attended a Restore your Shoreline webinar, and one Vermillion River Watershed resident attended a webinar on Winter Maintenance to Reduce Salt Pollution. Other programs and activities in 2020 included: a Cover Crop 101 workshop, a Lawns to Legumes webinar and a Plant Native Prairie webinar, all of which are available for free viewing on the Scott SWCD YouTube channel.

The annual Outdoor Education Days event was unfortunately canceled for 2020, but SCWEP is excited to debut its new Conservation in the Classroom (CIC) program. CIC will bring personalized conservation lessons to students in a safe, efficient manner and will benefit the students in Eagle View Elementary School and all other students in Scott County for years to come. SCWEP also writes and distributes news releases in various outlets including the Scott County SCENE and on partner websites. In 2020, 37 articles relating to the topic of clean water were published.

Summer and Winter Maintenance Workshops

The VRWJPO provided in-kind support for MPCA workshops taught by Fortin Consulting, Inc., on turf grass maintenance, winter road maintenance and winter parking lot and sidewalk maintenance. These workshops reached 111 employees that maintain parks, city, county, church, or school grounds representing public entities and private companies.

Social Media

The VRWJPO continues to maintain its presence on social media. The Watershed has been successful in generating original content and sharing news from partners, while gaining followers on [Instagram](#), [Facebook](#), and [Twitter](#). In 2020, the VRWJPO created a [YouTube](#) channel to host videos for the public.

Publications

The VRWJPO provides an electronic newsletter to interested residents in the watershed twice a year ([Spring](#) and [Fall](#) 2020 issues) as required by Minn. Rules Part 8410.0100, Subpart 4.

Coordination and Collaboration

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

Adopt-a-Drain

In 2020, the VRWJPO supported the Metro Watershed Partners, a coalition of watershed organizations, cities, and interest groups providing effective water-oriented messages to the public. Drain adoption in the [Adopt-a-Drain](#) program increased by nearly 40 percent in 2020; more than 7,500 participants have adopted more than 14,000 storm drains in the metro area. This resulted in more than 319,000 pounds of debris collected. In the Vermillion River Watershed, 134 drains were adopted by 64 participants who kept a reported 788.4 pounds of debris out of our local waterbodies. (A total of 137 participants have adopted 271 drains.)



Minnesota Water Stewards

The [Minnesota Water Stewards](#) (MWS) program (formerly Master Water Stewards) 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 2020, two stewards graduated after learning about hydrology and stormwater basics, water and environmental policy, community engagement, and best management practice planning, evaluation, and maintenance. These stewards will volunteer 50 hours in 2021 to maintain their certification. MWS is coordinated by Freshwater.

Wetland Health Evaluation Program

The VRWJPO continues 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. In 2020, many changes were made to the program due to COVID-19 including no cross checks and macroinvertebrate identification by teams (resulted in fewer hours and reduced potential for close contact). Five teams in the watershed with 94 WHEP volunteers donated more than 730 hours to monitor 14 different wetlands in the Vermillion River Watershed.



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 this year and was a great success.

Community Event Participation and School Outreach

As were many things in 2020, community events were canceled or altered. Due to the global pandemic, the VRWJPO did not participate in annual events that were attended in the past. There is an expectation that the VRWJPO will, once again, be able to safely engage the public at in-person events in 2021.

Capital Improvement Projects

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 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](#). Individual projects constructed in 2020 included:

Records Trail Grade Stabilization – Ravenna Township

The Etter Creek area of the Mississippi Direct subwatershed struggles with drainage and sedimentation issues coming from upland, intensive land use, and increased volumes of water from overland runoff, steep topography, and highly erodible soils. The drainage continues to create channel and bank stability problems increasing sedimentation to the Lower Vermillion River. A severely eroding ravine along Records Trail in Ravenna Township was fitted with bank and head cut stabilization best management practices to prevent further erosion. Partial funding for this project was provided through a Watershed-Based Implementation Funding (WBIF) grant from the Minnesota Board and Water and Soil Resources (BWSR).

Vermillion River Park Conservation Area Streambank Restoration Project – Empire Township

The VRWJPO contracted with Emmons & Olivier Resources, Inc. (EOR) to complete stream survey work and bank restoration design for a project on the mainstem Vermillion River at Dakota County's Vermillion River Park Conservation Area in Empire Township. VRWJPO staff worked with the consultant to develop the designs for the project and work with nearby landowners in 2020. The project was completed with staff time contributions from the VRWJPO and construction costs from Dakota County.

Nitrate Treatment Woodchip Bioreactor – Castle Rock

The VRWJPO constructed a nitrate treatment project that will treat drain tile water from an adjacent agricultural field. The project is designed to reduce the concentration of nitrate in the water that would eventually end up in the South Branch Vermillion River. The South Branch Vermillion River subwatershed is an area of concern for nitrate, as concentrations of nitrate in surface water are near water quality standard thresholds and the area contributes to drinking water contamination in groundwater aquifers in the eastern portion of the Watershed.



Webster Wetland Restoration – Elko New Market

The VRWJPO and the City of Elko New Market worked in partnership on a wetland restoration project within the City of Elko New Market. The Webster Wetland Project placed a permanent, non-perforated pipe in the wetland to allow upstream drainage to continue unabated while the wetland water level will be modified to restore wetland hydrology and benefit water quality downstream by capturing sediment and nutrients.

Aronson Park Stormwater Reuse – Lakeville

The VRWJPO secured a WBIF grant from BWSR to assist in the implementation of a stormwater reuse irrigation system at Aronson Park. A stormwater basin north of Aronson Park supplies water to a pump and irrigation system for the ball fields at Aronson Park. The stormwater reuse and irrigation system will benefit the VRWJPO and City by reducing nutrients and excess stormwater runoff from reaching South Creek, which is impaired for fish and macroinvertebrates and will reduce use of approximately 510,000 gallons of groundwater each year.

Hastings 21st Street Stormwater Improvement Projects – Hastings

Three stormwater best management practices located near 21st Street and Vermillion Falls Park in the City of Hastings received a WBIF grant to assist in their implementation. The projects included the construction of a biofiltration area located adjacent to Vermillion Falls Park to treat stormwater from 21st Street and the surrounding area. A second project stabilized eroding soils and provided for storage of stormwater in a basin located at the end of a large ravine that drains to the Vermillion River adjacent to the Vermillion Falls Park area. The third project was the installation of a hydrodynamic separator (an underground water quality structure) to capture and treat stormwater runoff from 21st St. These projects are intended to reduce the amount of sediment and nutrients entering the Vermillion River.



Dakota County SWCD Cost Share Programs

Besides Landscaping for Clean Water, the Dakota County SWCD received funding from the VRWJPO for their [Conservation Initiative Funding and Incentive Payment Practice Programs](#).

2020 Dakota County Soil and Water Conservation District Projects					
Project	Practice Installed	Jurisdiction	Cost Share Amount*	Landowner	Pollutant Reduction/Year
Steve Meyers	Water & Sediment Control Basins	Douglas Twp.	\$3,172	\$1,057	57 tons sediment 19 lbs phosphorus
Nicholas Stein	Grassed Waterway & Field Border	Hampton Twp.	\$17,964	\$5,988	1.9 tons sediment 3.8 tons soil loss 1.9 lbs phosphorus
Jacob Marthaler	Water & Sediment Control Basins	Marshan Twp.	\$11,100	\$5,302	8 tons sediment 46 tons soil loss 8 lbs phosphorus
Dennis Kimmes	Cover Crop	Nininger Twp.	\$1,700	\$0	109 tons sediment 21 lbs phosphorus
Duane Kimmes	Cover Crop	Marshan Twp.	\$1,525	\$0	88 tons sediment 87 lbs phosphorus
Pat Maher	Cover Crop	Marshan Twp.	\$1,500	\$0	2 tons sediment 4 lbs phosphorus
Sorg Farms	Cover Crop	Nininger Twp.	\$1,450	\$0	3 tons sediment 5 lbs phosphorus
Sorg Farms	Cover Crop	Nininger Twp.	\$2,450	\$0	2 tons sediment 5 lbs phosphorus
Bryce Kimmes	Cover Crop	Marshan Twp.	\$2,500	\$0	26 tons sediment 41 lbs phosphorus
Sorg Farms	Cover Crop	Ravenna Twp.	\$1,300	\$0	2 tons sediment 3 lbs phosphorus
Sorg Farms	Cover Crop	Ravenna Twp.	\$1,075	\$0	1 tons sediment 2 lbs phosphorus
Sorg Farms	Cover Crop	Nininger Twp.	\$2,200	\$0	31 tons sediment 49 lbs phosphorus
Charlie Schaffer	Grassed Waterways & Critical Area Planting	Hampton Twp.	\$9,869	\$3,290	30 tons sediment 36 lbs phosphorus

*May include other funding besides VRWJPO. Technical assistance costs not included.

Scott SWCD Cost Share Programs

Besides the Scott Clean Water Education Program, the Scott SWCD received funding from the VRWJPO for their [Technical Assistance and Cost Share Program](#).

2020 Scott Soil and Water Conservation District Projects					
Project	Practice Installed	Jurisdiction	VRWJPO*	Landowner	Pollutant Reduction/Year
Bruce & Susanne Heimerl	Conservation Cover	New Market Twp.	\$750	\$0	0.01 tons sediment 0.02 lbs phosphorus 0.11 acre ft runoff volume
Tracy Kipp	Well Decommissioning	New Market Twp.	\$500	\$748	Groundwater protection
Brian Smith	Conservation Cover	New Market Twp.	\$10,664	\$1,650	8.5 tons soil erosion 2.3 tons sediment 4.1 lbs phosphorus 2.1 acre ft runoff volume
Dan Thompson	Filter Strip	New Market Twp.	\$5,400	\$0	0.5 tons soil erosion 30.7 tons sediment 37.9 lbs phosphorus

*additional technical assistance costs not included

Maintenance

The VRWJPO provides maintenance on past projects based on evaluations of need to ensure they continue to function as designed. Project maintenance is also a requirement identified in project agreements and contracts.

Vermillion River Watershed Native Planting Maintenance

The VRWJPO hired a contractor to perform mowing and herbicide treatment at the South Branch nitrate treatment constructed wetland near County Highway 78 and 235th St. W. Two visits were made to mow and set back undesirable vegetation and two visits were made to spot treat undesirable vegetation with herbicide. Reed canary grass and cattails were the primary undesirable vegetation targeted by the mowing and herbicide treatments.

Feasibility/Preliminary Studies

Projects relying upon VRWJPO funds or support often require feasibility or preliminary studies to determine whether they are practical, cost effective, and implementable. Projects in 2020 included:

East Lake Fish Barrier Feasibility Study – Lakeville

East Lake is a 40-acre basin located within East Community Park in northeastern Lakeville. The lake drains to North Creek, a tributary of the Vermillion River. Assessments determined that common carp, an aquatic invasive species, are present in East Lake and are contributing to the internal nutrient loading

and the lake's nutrient impairment. Common carp are a widespread aquatic invasive species that can have deleterious effects on lake ecosystems by uprooting aquatic vegetation, resuspending lake bottom sediments, and increasing available nutrient that fuel algal growth leading to ecosystem degradation.

The City of Lakeville contracted Wenck Associates, Inc. to evaluate the feasibility of design alternatives for barriers to control future access for common carp to East Lake. The study area for the project is from the outlet of East Lake at 170th Street south to where the North Creek channel crosses under 173rd Street.

Department of Veteran Affairs Stormwater Water Reuse - Hastings

The VRWJPO accepted funding from the Minnesota Department of Veterans Affairs (MDVA) to partner on a stormwater reuse feasibility study at the MDVA Hastings' facility. MDVA is interested in potential sustainability improvements focused on reducing groundwater use at the Hastings' facility. MDVA staff obtained permission from the Minnesota Department of Transportation (MnDOT) and staff also evaluated the adjacent MnDOT facility to see if stormwater reuse is a reasonable option at that facility, or in combination with a system at the MDVA facility. MDVA staff have identified toilet flushing at either facility and/or vehicle washing at the MnDOT facility as the desired end uses. Based on site visit findings and desired end uses, staff believe potential exists for stormwater reuse at either facility or a combination of the two. Reducing groundwater use would help achieve MDVA sustainability goals. Reducing groundwater use would also help achieve the VRWJPO's Watershed Plan goal of maintaining a sustainable water supply.



Irrigation Efficiency – Lakeville

The VRWJPO, in partnership with the City of Lakeville, completed four Irrigation Audits with townhome associations in the City. The audits included review of overall system function, current scheduling practices, sprinkler alignment, water distribution, head failures requiring repair, smart controller capability, and an inventory of component types. After the audits were complete, a report was generated for each association that included: a narrative of basic system components, a map including failures requiring repair, areas of inappropriate water distribution, and a list of recommended actions including costs to implement. This project will reduce municipal water use once improvements are made to the irrigation systems.

Almquist Sediment Retention Basins' Rehabilitation – Ravenna Township

The VRWJPO, in partnership with Dakota County SWCD, evaluated restoring capacity in two sediment retention basins in Ravenna Township. Two existing basins, constructed in the late 1960's, are full of sediment and fully-grown trees are established in the basins. This results in having no capacity to capture and treat stormwater runoff; the basins are passing all water received downstream to Etter Creek. Etter Creek has historically had significant flooding and sediment deposition issues and restoring capacity within these two basins would allow for capture of sediment and metering the rate of water sent downstream to Etter Creek. VRWJPO and Dakota County SWCD staff surveyed the basins, developed preliminary designs and cost estimates, discussed the basin rehabilitation process and any in-kind contributions with the landowner, and applied for grant funding to offset local costs for the basin rehabilitation.

Regulation

The VRWJPO works with the cities and townships in the Watershed to ensure adoption of the Vermillion River Watershed Management Plan (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 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 have been reviewed and commented on as of March 2020. While comments were submitted by the VRWJPO for all plans, one local water management plan reviewed in early 2020 and one plan covering a group of communities may still require official Board approval in 2021 (no notice of regional approval of these plans was given to the VRWJPO).

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 did not occur in 2020 due to the COVID-19 pandemic as well as the delay in issuance of the State of Minnesota Municipal Separate Storm Sewer System (MS4) General Permit, which has similar requirements that need to be blended with the VRWJPO Standards. MS4 communities have until November 2021 (one year from issuance of the updated MS4 General Permit) to revise ordinances, so it is expected that communities will complete this process in the coming year.

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 and enforcement program. In 2020, 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 2020 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:

- Hastings Senior Living – Headwaters Development (Residential)
- Adelman Family Property AUAR in Elko New Market (Business Park) – informal comments through Scott County team members

- Vermillion AMA (Kummer) Improvements EAW in Vermillion Township (DNR Stream Restoration)
- Northern Natural Gas Willmar Pipeline, South Creek Crossing in Farmington (Pipeline Replacement) – comments through Dakota County
- Cove at Farquar Lake in Apple Valley (Residential) – informal comments provided in 2020; ongoing in 2021

2020 Financial Statement

**Governmental Fund Statement of Revenues, Expenses, and Changes in Fund Balance and
Governmental Activities – Statement of Activities
Vermillion River Watershed Joint Powers Organization for the Year Ended December 31, 2020**

Revenues	Taxes	\$926,126
	License and permits	\$20
	Intergovernmental	\$450,354
	Investment earnings	\$16,123
	Miscellaneous	\$2,511
	Total Revenue	\$1,431,144
Expenditures/ Expenses Current	Conservation of natural resources	\$1,411,767
Net Change	Fund Balance	\$19,377
Fund Balance	January 1, 2020	\$1,118,905
Fund Balance	December 31, 2020	\$1,138,282

2021 Work Plan and Activities

Category	Budget Items	Budget Amount
Administration and Operations	Dakota County VRW Staff	\$175,000
	Scott County VRW Staff	\$13,500
	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 Administrative	\$233,500
Research and Planning	Dakota SWCD Incentive Program Policy Assistance	\$1,600
	Scott County Staff	\$2,000
	VRW Staff	\$12,000
	Conservation Attitudes and Behavior Survey	\$50,000
	Subtotal Research and Planning	\$65,600
Monitoring and Assessment	VR Monitoring Network in Dakota County: Staff Time for Sample Collection, Equipment Installation, Maintenance, Downloading	\$39,000
	VR Monitoring Network in Dakota Co: Data analysis, database management, data reporting, FLUX modeling, reporting	\$17,000
	VR Monitoring Network in Dakota Co: Water Quality Sample Analysis and QA/QC samples	\$19,000
	VR Monitoring Network in Dakota Co: Equipment and Supplies	\$8,000
	Vermillion River Monitoring Network in Scott Co	\$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 Practice Sampling	\$1,000
	Iron Enhanced Sand Filter Performance Sampling	\$2,000
	East Lake Carp Assessment	\$3,200
	Subtotal Monitoring and Data Analysis	\$160,600
Public Communications and Outreach	Communication and Outreach Staff	\$110,000
	Wetland Health Evaluation Program Cost Share	\$3,000
	Vermillion River Watch Program	\$6,000
	Vermillion River Stewards	\$20,000
	Scott County Outreach Efforts	\$2,050

	Vermillion River Watershed Projects Signage and Map Updates	\$5,000
	Newsletter, Mailings, Website, General Communication Materials	\$10,000
	Landscaping for Clean Water Workshop Program	\$30,400
	K-12 Classroom Presentations (Dakota SWCD)	\$4,000
	Children's Water Festival Support	\$600
	Watershed Partners	\$5,000
	Master Water Stewards	\$12,500
	Local Standards/ Ordinance and Turf/Salt Workshops	\$3,500
	Subtotal Public Outreach and Communication	\$213,550
Regulations	Scott SWCD Assistance with Plan Review	\$900
	Engineering Assistance and Review	\$45,000
	VRW Staff Local Program Assistance	\$20,000
	Subtotal Regulation	\$65,900
Coordination and Collaboration	Coordination VRW Staff	\$25,000
	Subtotal Coordination and Collaboration	\$25,000
Capital Improvement Projects	Rosemount Cost Share JPA	\$58,000
	Cost Share Programs in Dakota County (SWCD)	\$80,000
	Cost Share Programs in Scott County (SWCD)	\$41,300
	Cost Share	\$325,000
	WBIF Grant Match	\$34,100
	Subtotal Capital Improvement Projects	\$538,400
Maintenance	Past projects maintenance/ repair	\$25,000
	CIP Construction oversight, maintenance/repair staff costs	\$25,000
	Subtotal Maintenance	\$50,000
Feasibility/Preliminary Studies	Preliminary Design, Technical Assistance and Marketing for Capital Improvements (Dakota SWCD)	\$40,000
	Preliminary Design, Technical Assistance and Marketing for Capital Improvements	\$100,000
	Subtotal Feasibility/Preliminary Studies	\$140,000
Irrigation Audit and Cost Share Program	Irrigation Audits	\$5,000
	Irrigation Cost Share	\$5,000
	Subtotal Irrigation Audit and Cost Share	\$10,000
CWF Grant (BWSR) Middle Creek Highview	Middle Creek Restoration	\$380,000
	VRWJPO cash match	\$50,000
	Subtotal CWF Grant Middle Creek Highview	\$430,000
CWF Grant (BWSR) Alimagnet Lake	Alimagnet Lake Stormwater Improvement Projects	
	VRWJPO cash match	
	Subtotal CWF Grant Alimagnet Lake	
CWF Grant (BWSR) Erickson Park Stormwater	Erickson Park Stormwater Improvement	\$114,300
	VRWJPO cash match	\$50,000
	Subtotal CWF Grant Erickson Park Stormwater	\$164,300

Improvements	Improvements	
CWF Grant (BWSR)	Aronson Park Stormwater Reuse Project	\$7,050
Aronson Park	VRWJPO cash match	\$2,950
Stormwater Reuse	Subtotal CWF Grant Aronson Park Stormwater Reuse	\$10,000
CWF Grant (BWSR)	Webster Wetland Restoration	\$67,000
Webster Wetland	VRWJPO cash match	\$0
Restoration	Subtotal CWF Grant Webster Wetland Restoration	\$67,000
CWF Grant (BWSR)	Technical Assistance and Cost Share Program (TACS)	\$17,700
Technical Assistance	VRWJPO cash match	\$1,800
and Cost Share	Subtotal CWF Grant Technical Assistance and Cost Share	
Program	Program	\$19,500
CWF Grant (BWSR)	Imminent Health Threat Septic Upgrades	\$8,000
Imminent Health	VRWJPO cash match	\$0
Threat Septic Upgrades	Subtotal CWF Grant Imminent Health Threat Septic	\$8,000
	21 st Street (Hastings) Ravine Outlet Modification	\$36,900
CWF Grant (BWSR) 21st	VRWJPO cash match	\$36,900
Street Ravine Outlet	Subtotal CWF Grant 21st Street Ravine Outlet	
	Modification	\$73,800
CWF Grant (BWSR)	Vermillion Falls Park Bioretention	\$7,475
Vermillion Falls Park	VRWJPO cash match	\$11,025
Bioretention	Subtotal CWF Grant Vermillion Falls Park Bioretention	\$18,500
CWF Grant (BWSR)	WBF Grant Administration	\$12,500
	Subtotal WBF Grant Administration	\$12,500
	Subtotal of Expenditures	\$2,306,150
	Cash Reserve	\$201,250
	TOTAL Annual Expenses	\$2,507,400

Appendix A: 2020 Resolutions

January

Res. No. VRW 20-00: Election of Officers

Res. No. VRW 20-01: Approval of Consent Agenda

Approval of Agenda

- Approval of Minutes from the December 5, 2019, Meeting
- Acceptance of Treasurer's Report
- Approval of Vermillion River Watershed Planning Commission Reappointments
- Execute a Joint Powers Agreement with Dakota County Soil and Water Conservation District for Services in 2020
- Execute a Joint Powers Agreement with Scott Soil and Water Conservation District for Services in 2020

Res. No. VRW 20-03: Authorization to Execute a Joint Powers Agreement with the City of Lakeville for 2020 Irrigation System Audit and Improvement Program

Res. No. VRW 20-04: Appointment of VRWJPO Staff as Representative to the Watershed Based Implementation Funding Convening Committee for the Vermillion River Watershed and Authorize VRWJPO as Fiscal Agent for WBIF Grant

February

Res. No. VRW 20-05: Approval of Consent Agenda

Approval of Agenda

- Approval of Minutes from the January 23, 2020, Meeting
- Acceptance of Treasurer's Report
- Authorization to Release RFQ for 2020-2021 VRWJPO Consultants List

Res. No. VRW 20-07: Public Hearing to Receive Comments and Adopt Proposed Amendments to the Vermillion River Watershed Joint Powers Organization Rules

Res. No. 20-08: Authorization to Execute a Joint Powers Agreement with Apple Valley for Additional Funding for the Alimagnet Lake Stormwater Improvement Project

March

Res. No. VRW 20-09: Res. Approval of Consent Agenda

Approval of Agenda

- Acceptance of Treasurer's Report
- Approval of Expenses
- Authorization to Execute a Joint Powers Agreement with the City of Lakeville for the Middle Creek at Highview Avenue Streambank and Grade Stabilization Project

- Acknowledgement of Agreement Termination Letter from Minnesota Zoo and Authorization for Staff to Initiate Termination of Metropolitan Council Agreement for Minnesota Zoo Rainwater Harvesting Project
- Authorization to Proceed with Social Media Outreach Using YouTube

April

Res. No. VRW 20-10: Approval of Consent Agenda

Approval of Agenda

- Approval of Minutes from the March 26, 2020, Meeting
- Acceptance of Treasurer's Report
- Approval of Expenses
- Authorization to Approve an Agreement with a Property Owner for the Connection of the Property Owner's Field Tile Outlets to a Vermillion River Watershed Joint Powers Organization Nitrate Treatment Project
- Authorization to Execute an Easement Agreement with Castle Rock Township for the Use of Township Property for a Nitrate Treatment Project
- Authorization to Submit 2019 Vermillion River Watershed Joint Powers Organization Annual Activity Report and Financial Statement to the Board of Water and Soil Resources
- Approval of Proposed Amendments to the Vermillion River Watershed Joint Powers Organization 2020 Budget
- Approval of Vermillion River Watershed Joint Powers Organization Consultant List for 2020-2021
- Authorization to Execute a Joint Powers Agreement with Dakota County for the 78-10 Nitrate Treatment Project
- Authorization to Change the Current Official Newspaper of the Vermillion River Watershed Joint Powers Organization
- Authorization to Execute Grant Agreement with BWSR for Middle Creek Stream Restoration Project

June

Res. No. VRW 20-11: Approval of Consent Agenda

Approval of Agenda

- Approval of Minutes from the April 23, 2020, meeting
- Acceptance of Treasurer's Report
- Approval of Expenses
- Authorization to Execute a Joint Powers Agreement with the City of Lakeville for the East Lake Fish Barrier Feasibility Study
- Authorization to Execute a Joint Powers Agreement with the City of Rosemount for an Irrigation Audit Program
- Appointment of Stephen Hamrick to the Vermillion River Watershed Planning Commission

July

Res. No. VRW 20-12: Approval of Consent Agenda

Approval of Agenda

- Approval of Minutes from the June 25, 2020, Meeting
- Acceptance of Treasurer's Report
- Approval of Expenses
- Authorization to Execute a Joint Powers Agreement with the Minnesota Department of Veterans Affairs for the Hastings' Facility Stormwater Reuse Feasibility Study
- Authorization to Execute a Joint Powers Agreement with the City of Elko New Market for the Restoration of the Webster Wetland

Res. No. VRW 20-13: Schedule a Public Hearing to Receive Comments on the Draft VRWJPO 2021 Budget and Special Tax District Levy

August

Res. No. VRW 20-14: Approval of Consent Agenda

Approval of Agenda

- Approval of Minutes from the July 23, 2020, meeting
- Acceptance of Treasurer's Report
- Approval of Expenses
- Summary of the Vermillion River Monitoring Network 2019 Report
- Summary of Fish Sampling Results from 2019 as Part of the VRWJPO Biomonitoring Plan
- Authorization to Execute a Joint Powers Agreement with Scott County to support a cost-share program for failing septic system replacement
- Authorization to Amend the VRWJPO 2020 Budget to Increase the Amount of the Feasibility/Preliminary Studies Budget Category
- Authorization to Reallocate FY2019-20 Watershed Based Implementation Funding Budget Between Selected Project
- Authorization to Execute Contract with Standard Contracting, Inc. for Construction of the Records Trail Grade Stabilization Project

Res. No. VRW 20-15: Public Hearing and Adoption of Draft VRWJPO 2021 Budget and Watershed Management Tax District Levy

October

Res. No. VRW 20-16: Approval of Consent Agenda

Approval of Agenda

- Approval of Minutes from the August 27, 2020, Meeting
- Acceptance of Treasurer's Report
- Approval of Expenses
- Authorization to Execute a Joint Powers Agreement with Dakota County for the Wetland Health Evaluation Program
- Authorization to Execute a Joint Powers Agreement with the City of Lakeville for the Jaguar Avenue Stormwater Basin Enhancement Project

December

Res. No. VRW 20-17: Approval of Consent Agenda

Approval of Agenda

- Approval of Minutes from the October 22, 2020, meeting
- Acceptance of Treasurer's Report
- Approval of Expenses
- Approval of Dates for 2021 Vermillion River Watershed Joint Powers Board Meetings

Res. No. VRW 20-18: Adoption of VRWJPO 2021 Final Draft Budget and Watershed Management Tax District Levy

Res. No. VRW 20-19: Approval of Submittal of an Amendment and Schedule a Public Hearing of the Vermillion River Watershed Joint Powers Organization Watershed Management Plan to the Board of Water & Soil Resources