July 28, 2022

RE: Vermillion River Watershed Joint Powers Organization 2022 Plan Amendment

Dear Stakeholder,

The Vermillion River Watershed Joint Powers Organization (VRWJPO) is proposing to amend its Watershed Plan to incorporate updates to its Implementation Plan. The Minnesota Board of Water and Soil Resources (BWSR) has identified that the proposed amendment can proceed under the minor amendment process identified in Minnesota Rule 8410.0140 Subp.2. The Vermillion River Watershed Joint Powers Board (VRWJPB) approved the release of the Watershed Plan amendment for State agency review on July 28, 2022. This letter acknowledges that the VRWJPO has sent copies of the amendment to the required plan review authorities for review and comment allowing at least 30 days for receipt of comments.

The Implementation Plan is being revised to incorporate additional activities from the Vermillion River Watershed Restoration and Protection Strategy (WRAPS) that were not originally incorporated when the Watershed Plan was adopted 2016. Other revisions include updates reflecting additional information and studies completed since the Watershed Plan was adopted, provide additional specificity to existing Implementation Plan activities, and assumptions regarding future Watershed-Based Implementation Funding (WBIF) grant revenues.

The amendment process requires the use of strikethrough to reflect what will be deleted and underline for what is being proposed. There is a significant amount of strikethrough and underline in this amendment, but staff do not want this to cause alarm for the reviewer. It was determined that this format provides a cleaner presentation of the proposed revisions by using strikethrough of the existing tables and incorporation of new, underlined tables rather than trying to incorporate deletions and additions into existing tables.

A public hearing regarding the proposed amendment is tentatively planned for the VRWJPB's September 22, 2022 meeting. If there are no significant concerns regarding comments received during the review and comment period or at the public hearing, the VRWJPB will adopt the revised Watershed Plan. Upon adoption of the revised Watershed Plan, the VRWJPO will distribute copies of the amended pages of the Watershed Plan to all on our Watershed Plan distribution list and post the amended pages on the VRWJPO's website within 30 days of adoption.

Comments related to the proposed amendment should be directed to Travis Thiel, VRWJPO Senior Watershed Specialist, and can be sent via email to travis.thiel@co.dakota.mn.us or via mail to address at the bottom of this page. If there are questions regarding this amendment process, please contact travis.thiel@co.dakota.mn.us or (952) 891-7546.

Regards,

MARK ZABEL

Mark Zabel, VRWJPO Administrator

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Section 7: Implementation Plan

7.0 Introduction

This section describes the Implementation Plan, as well as how activities were selected for implementation within the 10-year timeframe of the 2016-2025 Vermillion River Watershed Management Plan.

The implementation section of the Plan identifies specific, measurable actions necessary to achieve goals identified in Section 6: Goals, Objectives, and Actions.

These actions were suggested during the public involvement process or taken from the Vermillion River Watershed Restoration and Protection Strategy (WRAPS), geomorphic assessments, subwatershed assessments, partner Capital Improvement Plans (CIPs), and other previously completed planning documents.

The process of "blending" action steps from so many different sources into a coherent implementation plan was a challenge. An implementation table containing all recommended actions individually would be exhaustive, duplicative, and lacking in focus and priority.

The VRWJPO contracted with Emmons & Olivier Resources (EOR) to develop a process for an implementation plan. The VRWJPO wanted an implementation plan that would be true to source materials (WRAPS, geomorphic assessments, etc.) as well as the priorities expressed by stakeholders and the public.

Figure 7.0.1: VRWJPO Implementation Plan Development Process summarizes the steps taken to achieve the implementation plan.

An action in Section 6: Goals, Objectives, and Actions in the Implementation Plan are statements of intent by the VRWJPO. Implementation depends on future decisions by the Vermillion River Watershed Joint Powers Board (VRWJPB), which budgets for and authorizes initiatives. In many cases, implementation requires participation of other parties.

The VRWJPO is committed to regular evaluation of its programs, projects, and capital improvements. The VRWJPO will periodically (at least every two years) review its progress towards implementing this Plan. In response to feedback, new information, changes in priorities, or new technical approaches, the VRWJPO may revise or amend the Implementation Plan.

In 2022, VRWJPO staff reviewed the implementation activities for each subwatershed and made adjustments to each subwatershed management plan to reflect items that were not originally incorporated from the WRAPS, outcomes of new assessments and studies, and other knowledge gained as the Plan was implemented up until 2022. These changes demonstrate flexibility and adaptation based on the needs of the water resources in the VRWJPO.

Figure 7.0.1: VRWJPO Implementation Plan Development Process

Step 1: Compile Potential Implementation Activities	Step 2: Evaluate Implementation Activities	Step 3: Identify Watershed-wide Implementation Activities	Step 4: Develop Subwatershed Management Plans	Step 5: Prioritize Implementation Activities
Populated table with implementation activities found in the Goals, Objectives, and Actions (GOA), WRAPS, geomorphic assessments, Vermillion River Headwaters assessment, and others.	Sorted implementation activities by VRWJPO role: Administration and Operations; Coordination and Collaboration; Land and Water Treatment; Monitoring and Assessment; Public Communication and Outreach; Regulation; and Research and Planning.	Implementation activities that could occur anywhere within the watershed are included in the Implementation Plan Summary ("the big table").	Implementation activities that are unique to a specific area were identified in individual subwatershed management plans.	Implementation activities in individual subwatershed were prioritized by the VRWJPO. Estimates were made of the percentage of VRWJPO funding and effort that would be expended on each subwatershed.
Evaluated whether specific activities had been implemented; if yes, removed them from the table.	Made certain that implementation activities (now sorted by VRWJPO role) were assigned a goal and objective to track its origins in the GOA.	Implementation activities that are currently being performed or are ongoing responsibilities were grouped in one line item in "the big table" – Staff Function.	Implementation activities identified in geomorphic assessments were cross-referenced with projects in member communities' CIP to see if there was overlap and an opportunity to partner.	Ensured that all implementation activities had been evaluated, prioritized, and included in "the big table," with cost estimates based on the VRWJPO's annual budget projections over the next 10 years.
Contacted member communities (cities, counties) to request Capital Improvement Plans to identify opportunities for collaboration.		Implementation activities assumed to be new functions or projects of the VRWJPO are listed separately in "the big table."	After filling in each subwatershed management plan, total annual costs for implementation activities was calculated for that subwatershed and included in "the big table."	

7.1 Subwatershed Management Plans

The development of specific subwatershed management plans allows the VRWJPO to prioritize its projects among various subwatersheds based on resource conditions, impacts on other subwatersheds, or other issues. For example, a water quality improvement project implemented in an upstream subwatershed will benefit the resources downstream.

The VRWJPO staff developed a prioritization for subwatersheds based on these factors. (See Figure 7.1.1: Subwatershed Priorities.) The priority factor is the percentage of available project funding to be allocated for projects in specific subwatersheds to fund identified projects.

Figure 7.1.1: Subwatershed Priorities

Subwatershed	Priority Factor
Upper Main Stem	25
South Creek	20
North Creek	15
South Branch Vermillion	15
Middle Creek	10
Middle Main Stem	7
Lower Main Stem	5
Mississippi River Direct	3

Implementation projects depend on a variety of factors, including partner participation, opportunity, and available staff time. The annual budget allocations for projects in each subwatershed are contingent on VRWJPB approvals.

After implementing the Plan for five years, the subwatershed management plans were adjusted in 2022 to reflect challenges with project opportunities, challenges and opportunities finding cooperative landowners, newly identified projects based on current data, and new grant funding sources.

This adjustment to the subwatershed management plans results in changes in the proposed funding allocation for each subwatershed. The proposed funding allocation does not fully align with the priorities identified in Figure 7.1.1 based on challenges with project opportunities in each subwatershed.

The subwatershed management plans (Figures 7.2 through 7.9) consist of all of the potential projects that have been identified for the given subwatershed. The categories highlighted in beige represent those projects identified in geomorphic ~~or subwatershed~~ assessments. For example, Figure 7.3 South Creek Subwatershed, includes a category "Culvert/crossing" that includes several specific projects identified in the South Creek geomorphic assessment.
The projects in white are those that are recommended in the WRAPS, partner CIP plans, projects identified in a subwatershed assessment, or other planning documents.

Clearly, the VRWJPO will not be able to complete all of the projects listed in the subwatershed plans within its current budget structure. Each of the subwatershed management plan figures includes funding estimates based on:

- ≈ All potential projects that have been identified within the subwatershed.
- ≈ ~~A prioritized list of projects to be completed within the subwatershed given a $500,000 annual capital improvement budget.~~
- ≈ A prioritized list of projects to be completed within the subwatershed given the VRWJPO's existing annual budget, after watershed-wide initiatives have been allocated.

It should be noted that the costs for activities identified as nutrient management practices and agricultural BMPs anticipated to be just a fraction of the costs required for these practices and will need to be supplemented by State or other local funding.

Consultants and staff developed cost estimates for each activity in the subwatershed plans. Cost estimates were identified in the geomorphic assessments; the VRWJPO used the mid-range of the cost estimates in the subwatershed management plans. To reduce project costs, the VRWJPO will continue to collaborate with partners.

Consultants and staff reviewed the capital improvement programs or other planning documents of local partners to determine where work within the watershed is being proposed.

Some proposed partner projects – such as road reconstruction, facility upgrades, or residential developments – can be significantly improved by installing stormwater management or treatment practices concurrently. Partners can incorporate BMPs that protect infrastructure, reduce impacts of new impervious surface, reduce and treat stormwater, build resilience to weather events, and add landscape interest.

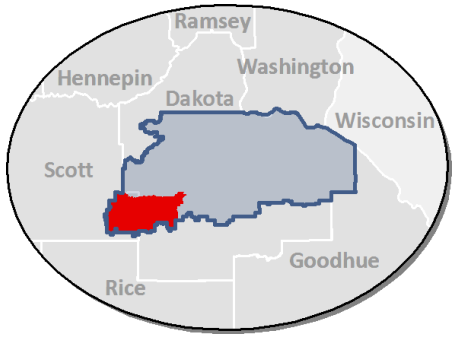
VRWJPO cost share funding can provide partners these benefits at a reduced cost. At the same time, the VRWJPO achieves its water and land improvement goals while working efficiently and economically in concert with activities already underway.

7.2 Upper Main Stem Subwatershed

The Upper Main Stem Subwatershed is the top priority for implementation projects. The subwatershed includes two reaches of the Vermillion River (520 and 517). Potential projects are shown in Figure 7.2.1.: Upper Main Stem Subwatershed Management Plan.

Figure 7.2.1: Upper Main Stem Subwatershed Management Plan

~~Upper Main Stem Subwatershed Management Plan~~	~~Original Scenario (All Activities)~~	~~500K Annual Scenario 1~~	~~Current Balance Scenario~~
~~Vermillion Headwaters Subwatershed Assessment BMPs~~	~~$ 137,720~~	~~$ 137,720~~	~~$ 137,720~~
~~Bemis Wetland Project~~	~~$30,000~~		
~~***Subtotal***~~	~~$ 137,720~~	~~$ 137,720~~	~~$ 137,720~~
~~*Culverts/crossings*~~	~~*$ 500,000*~~	~~*$ 1,112,280*~~	~~*$ 406,030*~~
~~*Riparian buffers*~~	~~*$ 250,000*~~		
~~*Natural Channel Restoration*~~	~~*$ 250,000*~~		
~~*Streambank stabilization*~~	~~*$ 750,000*~~		
~~*Additional projects identified in future geomorphic assessment*~~	~~*$ 500,000*~~		
~~*Future Geomorphic Subtotal*~~	~~*$ 2,250,000*~~		
~~**Ten Year Total Budget (25% of total)**~~	~~**$ 2,417,720**~~	~~**$ 1,250,000**~~	~~**$ 543,750**~~



Upper Main Stem Subwatershed Management Plan (2022 Amendment)	**Estimated Cost**
Vermillion Headwaters Subwatershed Assessment BMPs	$125,000
Wetland restoration and water storage practices • Bemis Wetland Project	$50,000
Bacteria reduction practices (e.g. septic, livestock, etc.)	$20,000
Subtotal	**$195,000**
Stream channel improvements • Culverts/crossings • Riparian buffers • Natural Channel Restoration • Streambank stabilization • Additional projects identified in future geomorphic	$300,000
Budget Total	**$495,000**

A geomorphic assessment has not been conducted for this subwatershed, so dollar amounts shown for these activities (shaded beige in the figure) were estimated based on expenditures found in other, similar subwatersheds. ~~Note that the dollar amount to be spent on projects~~

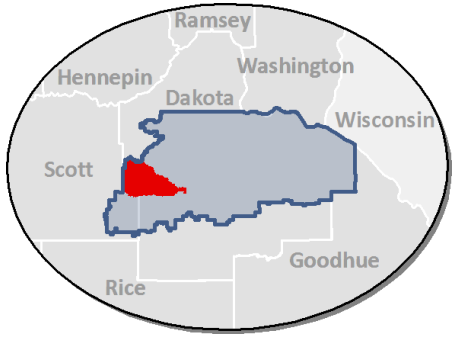
~~identified in the geomorphic assessments is lumped for the two budget scenarios.~~ The specific geomorphic assessment projects to be conducted will be determined based on the evaluation criteria and priorities established within the assessment.

7.3 South Creek Subwatershed

The South Creek Subwatershed was identified as one of the top priorities for implementation projects. The subwatershed includes impaired reach 527 and Lake Marion. Potential projects are identified in Figure 7.3.1.: South Creek Subwatershed Management Plan.

Figure 7.3.1: South Creek Subwatershed Management Plan

~~South Creek Subwatershed Management Plan~~	~~Original Scenario (All Activities)~~	~~500K Annual Scenario 1~~	~~Current Balance Scenario~~
~~Bacteria Feasibility Study~~	~~$ 25,000~~		
~~Bacteria Project~~	~~$ 125,000~~		
~~BMP retrofits Lakeville downstream of Marion Lake.~~	~~$ 300,000~~	~~$ 300,000~~	~~$ 300,000~~
~~BMPs for Hamburg Ave. re-construction in reaches 570, 715~~	~~$ 150,000~~		
~~***Subtotal***~~	~~$ 600,000~~	~~$ 300,000~~	~~$ 300,000~~
~~*Bank Stabilization*~~	~~*$ 18,750*~~	~~*$ 700,000*~~	~~*$ 135,000*~~
~~*Culvert/crossing*~~	~~*$ 131,250*~~		
~~*Infastructure/Bank Stabilization*~~	~~*$ 18,750*~~		
~~*Infrastructure*~~	~~*$ 393,750*~~		
~~*Natural Channel Restoration*~~	~~*$ 2,343,750*~~		
~~*Riparian Management*~~	~~*$ 1,087,500*~~		
~~*Geo Morph Subtotal*~~	~~*$ 3,993,750*~~		
~~**Ten Year Total Budget (20% of total)**~~	~~**$ 4,593,750**~~	~~**$ 1,000,000**~~	~~**$ 435,000**~~



South Creek Subwatershed Management Plan (2022 Amendment)	**Estimated Cost**
South Creek BMP retrofits • BMP retrofits from South Creek Downtown/ Industrial Park SWA • BMPs for Hamburg Ave. re-construction	$200,000
Lake Marion Protection Stormwater Improvements	$50,000
Subtotal	**$250,000**
Stream channel improvements • Bank Stabilization • Culvert/crossing • Infrastructure/Bank Stabilization • Infrastructure • Natural Channel Restoration • Riparian Management • Geo Morph Subtotal	$391,200
Budget Total	**$641,200**

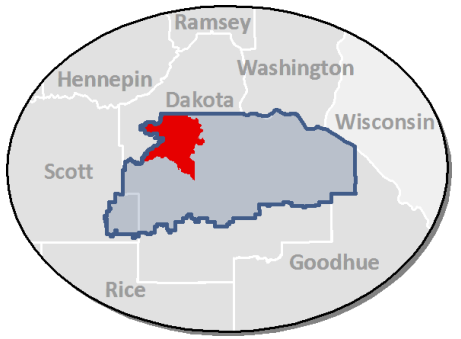
The projects highlighted in beige were identified in the geomorphic assessment that was done for South Creek, available on the VRWJPO website. ~~Note that the dollar amount to be spent on projects identified in the geomorphic assessments is lumped for the two budget scenarios.~~ The specific geomorphic assessment projects to be conducted will be determined based on the evaluation criteria established within the assessment.

7.4 North Creek Subwatershed

The North Creek Subwatershed was identified as one of the top priorities for implementing projects. The subwatershed includes three impaired reaches of North Creek (545, 670 and 671). Potential projects are identified in Figure 7.4.1.: North Creek Subwatershed Management Plan.

Figure 7.4.1: North Creek Subwatershed Management Plan

~~North Creek Subwatershed Management Plan~~	~~Original Scenario (All Activities)~~	~~500K Annual Scenario 1~~	~~Current Balance Scenario~~
~~Bacteria Feasibility Study~~	~~$ 25,000~~		~~$ -~~
~~Bacteria Project~~	~~$ 75,000~~		~~$ -~~
~~SW Storage in Headwaters~~	~~$ 300,000~~	~~$ 150,000~~	~~$ 150,000~~
~~SW Retrofits: Pilot Knob~~	~~$ 275,000~~	~~$ 125,000~~	~~$ 125,000~~
~~Assess weirs/dams and backwaters~~	~~$ 85,000~~	~~$ 85,000~~	
~~**Subtotal**~~	~~**$ 760,000**~~	~~**$ 360,000**~~	~~**$ 275,000**~~
~~*Bank Stabilization*~~	~~$ 37,500~~		
~~*Crossing/culvert*~~	~~$ 937,500~~		
~~*Grade Stabilization*~~	~~$ 281,250~~		
~~*Infrastructure*~~	~~$ 150,000~~	~~$ 390,000~~	~~$ 51,250~~
~~*Natural Channel Restoration*~~	~~$ 731,250~~		
~~*Riparian Management*~~	~~$ 187,500~~		
~~*Geo Morph Subtotal*~~	~~$ 2,512,500~~		
~~**Ten Year Total Budget (15% of total)**~~	~~**$ 3,085,000**~~	~~**$ 750,000**~~	~~**$ 326,250**~~



North Creek Subwatershed Management Plan (2022 Amendment)	**Estimated Cost**
Alimagnet Lake External Load Phosphorus Reduction BMPs • Enhanced Street Sweeping • Public land water quality improvements • Stormwater retrofits	$25,000
Alimagnet Lake Internal Load Phosphorus Reduction BMPs • Lake Alum or Drawdown Feasibility Study • Lake Alum Treatment or Lake Drawdown • Fisheries Management • Lake Shoreline and Buffer Improvements	$400,000
East Lake External Load Phosphorus Reduction BMPs • Stormwater Improvement or retrofit BMPs from North Creek/East Lake SWAs • Enhanced Street Sweeping • Lake Shoreline and Buffer Improvements	$100,000

East Lake Internal Load Phosphorus Reduction BMPs • Fisheries Management • Fish barrier • Lake Alum Feasibility Study • Lake Alum Treatment	
North Creek Stormwater Improvement BMPs • Stormwater Improvement BMPs from North Creek/East Lake SWA • Dodd Blvd Stormwater Treatment BMP • Foxborough Park Area Stormwater Retrofit Projects • Buffer Improvements	$75,000
Long/Farquar Lake stormwater improvements BMPs • Stormwater improvement BMPs from Long/Farquar TMDL Implementation Plan	$100,000
Subtotal	**$900,000**
Stream channel improvements • Bank Stabilization • Culvert/crossing • Infrastructure/Bank Stabilization • Infrastructure • Natural Channel Restoration • Riparian Management • Geo Morph Subtotal	$50,000
Budget Total	**$950,000**

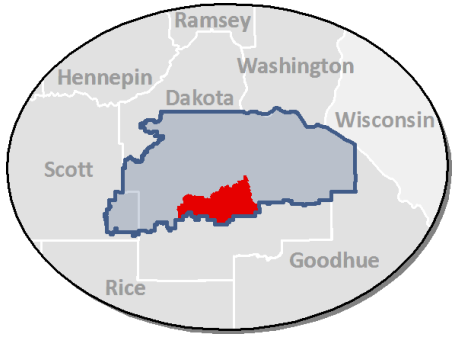
The projects highlighted in beige were identified in the geomorphic assessment that was done for North Creek and its tributaries, available on the website. ~~Note that the dollar amount to be spent on projects identified in the geomorphic assessments is lumped for the two budget scenarios.~~ The specific geomorphic assessment projects to be conducted will be determined based on the evaluation criteria established within the assessment.

7.5 South Branch Vermillion Subwatershed

The South Branch Vermillion Subwatershed was identified as one of the top priorities for implementing projects. The subwatershed includes South Branch reach 707. Potential projects are identified in Figure 7.5.1.: South Branch Vermillion Subwatershed Management Plan.

Figure 7.5.1: South Branch Vermillion Subwatershed Management Plan

~~South Branch Vermillion Subwatershed Management Plan~~	~~Original Scenario (All Activities)~~	~~500K Annual Scenario 1~~	~~Current Balance Scenario~~
~~Woodchip bioreactors and other N removal BMPs~~	~~$ 75,000~~	~~$ 75,000~~	~~$ 75,000~~
~~*Riparian Buffers*~~	~~*$ 250,000*~~	~~*$ 250,000*~~	~~*$ 125,625*~~
~~*Natural Channel Restoration*~~	~~*$ 100,000*~~	~~*$ 100,000*~~	~~*$ 125,625*~~
~~*Culverts/crossings*~~	~~*$ 50,000*~~	~~*$ 50,000*~~	~~*$ 50,000*~~
~~Ten Year Total Budget (15% of total)~~	~~$ 475,000~~	~~$ 475,000~~	~~$ 376,250~~



South Branch Vermillion Subwatershed Management Plan (2022 Amendment)	Estimated Cost
Woodchip bioreactors and other N removal BMPs	$75,000
Nutrient management practices • Cover crops • Perennial crops	$15,000
Best management practices identified in South Branch Vermillion SWA	$134,700
Wetland Restoration and Water Storage Practices	$244,400
Subtotal	**$469,100**
Stream channel improvements • Riparian buffers • Natural Channel Restoration • Culverts/Crossings	$136,700
Budget Total	**$605,800**

~~A geomorphic assessment has not been conducted for this subwatershed yet so the dollar amounts shown for these activities (shaded beige in the figure) were estimated based on expenditures found in other, similar subwatersheds. The specific geomorphic assessment projects to be conducted will be determined based on the evaluation criteria and priorities established within the assessment.~~

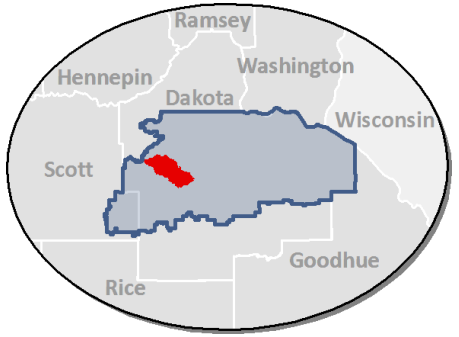
A geomorphic assessment was conducted by the Minnesota Department of Natural Resources in 2020. The assessment was not conducted in the same manner as other geomorphic assessments conducted by the VRWJPO that focus on project identification, and this assessment primarily focused stream classification based on field surveys and visual observations. As a result, it is more difficult to develop an implementation plan for stream channel improvements, but VRWJPO staff identified potential projects and estimated costs based on the information available.

7.6 Middle Creek Subwatershed

The Middle Creek Subwatershed was identified as a lower priority for implementing projects. The subwatershed includes two impaired reaches of Middle Creek (548 and 668). Potential projects are identified in Figure 7.6.1.: Middle Creek Subwatershed Management Plan.

Figure 7.6.1: Middle Creek Subwatershed Management Plan

~~Middle Creek Subwatershed Management Plan~~	~~Original Scenario (All Activities)~~	~~500K Annual Scenario 1~~	~~Current Balance Scenario~~
~~Headwater Stream Ponds (upstream of 195th St)~~	~~$ 200,000~~	~~$ 100,000~~	~~$ 100,000~~
~~Bacteria Feasibility Study~~	~~$ 25,000~~		~~0~~
~~Bacteria Project~~	~~$ 125,000~~		~~0~~
~~Headwaters Cost Share~~	~~$ 25,000~~	~~$ 25,000~~	~~0~~
~~Connect re-constructed area in reach 547 downstream of 195th Street~~	~~$ -~~	~~0~~	~~0~~
~~***Subtotal***~~	~~$ 375,000~~	~~$ 125,000~~	~~$ 100,000~~
~~*Bank Stabilization*~~	~~*$ 56,250*~~	~~*$ 375,000*~~	~~*$ 117,500*~~
~~*Crossing/culvert*~~	~~*$ 356,250*~~		
~~*Grade Stabilization*~~	~~*$ 262,500*~~		
~~*Infrastructure*~~	~~*$ 37,500*~~		
~~*Natural Channel Restoration*~~	~~*$ 1,068,750*~~		
~~*Riparian Management*~~	~~*$ 112,500*~~		
~~*Geo Morph Subtotal*~~	~~*$ 1,893,750*~~		
~~**Ten Year Total Budget (10% of total)**~~	~~**$ 2,268,750**~~	~~**$ 500,000**~~	~~**$ 217,500**~~



Middle Creek Subwatershed Management Plan (2022 Amendment)	**Estimated Cost**
Wetland Restoration and Water Storage Practices	$75,000
Headwater Improvement Cost Share	$25,000
Subtotal	**$100,000**
Stream channel improvements • Bank Stabilization • Crossing/culvert • Grade Stabilization • Infrastructure • Natural Channel Restoration • Riparian Management	$260,000
Budget Total	**$360,000**

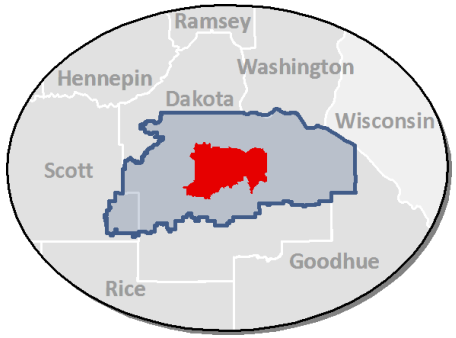
The projects highlighted in beige were identified in the geomorphic assessment that was done for Middle Creek and its tributaries, available on the website. ~~Note that the dollar amount to be spent on projects identified in the geomorphic assessments is lumped for the two budget scenarios.~~ The specific geomorphic assessment projects to be conducted will be determined based on the evaluation criteria established within the assessment.

7.7 Middle Main Stem Subwatershed

The Middle Main Stem Subwatershed was identified as a lower priority for implementing projects. The subwatershed includes Vermillion River reach 507. Potential projects are identified in Figure 7.7.1.: Middle Main Stem Subwatershed Management Plan.

Figure 7.7.1: Middle Main Stem Subwatershed Management Plan

~~Middle Main Stem Subwatershed Management Plan~~	~~Original Scenario (All Activities)~~	~~500K Annual Scenario 1~~	~~Current Balance Scenario~~
~~Study to determine SW pond temperature~~	~~$ 25,000~~	~~$ 25,000~~	~~$ 25,000~~
~~***Subtotal***~~	~~$ 25,000~~	~~$ 25,000~~	~~$ 25,000~~
~~*Bank Stabilization*~~	~~*$ 337,500*~~	~~*$ 325,000*~~	~~*$ 127,250*~~
~~*Culvert/crossing*~~	~~*$ 637,500*~~		
~~*Infrastructure*~~	~~*$ 131,250*~~		
~~*Natural Channel Restoration*~~	~~*$ 2,231,250*~~		
~~*Riparian Management*~~	~~*$ 600,000*~~		
~~*Geo Morph Subtotal*~~	~~*$ 3,937,500*~~		
~~**Ten Year Total Budget (7% of total)**~~	~~**$ 3,962,500**~~	~~**$ 350,000**~~	~~**$ 152,250**~~



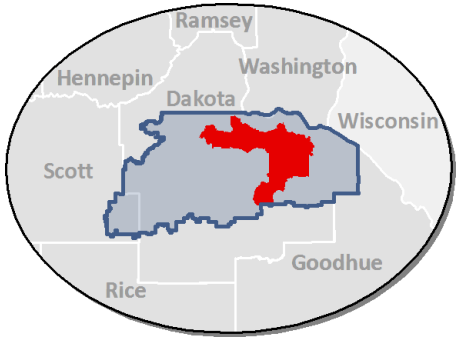
Middle Main Stem Subwatershed Management Plan (2022 Amendment)	**Estimated Cost**
Stormwater Volume and/or Pollutant Reduction BMPs • Stream temperature reduction BMPs • SW pond temperature reduction BMPs • Urban stormwater BMPs	$125,000
Nutrient management practices • Cover crops • Perennial crops	$15,000
Agricultural BMPs	$25,000
Wetland Restoration and Water Storage Practices	$75,000
Subtotal	**$240,000**
Stream channel Improvements • Bank Stabilization • Culvert/crossing • Infrastructure • Natural Channel Restoration • Riparian Management	$50,000
Budget Total	**$290,000**

The projects highlighted in beige were identified in the geomorphic assessment that was done in the Empire Flowages, available on the website. ~~Note that the dollar amount to be spent on projects identified in the geomorphic assessments is lumped for the two budget scenarios.~~ The specific geomorphic assessment projects to be conducted will be determined based on the evaluation criteria established within the assessment.

7.8 Lower Main Stem Subwatershed

The Lower Main Stem Subwatershed was identified as a lower priority for implementing projects. The subwatershed includes Vermillion River reach 692. Potential projects are identified in Figure 7.8.1.: Lower Main Stem Subwatershed Management Plan.

Figure 7.8.1: Lower Main Stem Subwatershed Management Plan



~~Lower Main Stem Subwatershed Management Plan~~	~~Original Scenario (All Activities)~~	~~500K Annual Scenario 1~~	~~Current Balance Scenario~~
~~*Riparian Buffers*~~	~~*$ 250,000*~~	~~*$ 50,000*~~	~~*$ 54,375*~~
~~Urban BMP retrofit opportunities in residential areas of Hastings~~	~~$ 450,000~~	~~$ 150,000~~	
~~*Streambank Stabilization*~~	~~*$ 250,000*~~	~~*$ 50,000*~~	~~*$ 54,375*~~
~~Ten Year Total Budget (5% of total)~~	~~$ 950,000~~	~~$ 250,000~~	~~$ 108,750~~

Lower Main Stem Subwatershed Management Plan (2022 Amendment)	Estimated Cost
Urban BMP retrofit opportunities	$37,750
Wetland Restoration and Water Storage Practices	$10,000
Nutrient management practices • Cover crops • Perennial crops	$15,000
Best management practices identified in Lower Mainstem South SWA	$45,000
Subtotal	**$107,750**
Stream channel Improvements • Bank Stabilization • Infrastructure • Riparian Management	$55,250
Budget Total	**$163,000**

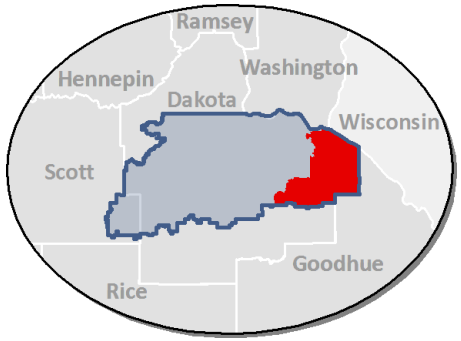
~~A geomorphic assessment has not been conducted for this subwatershed yet so the dollar amounts shown for these activities (shaded beige in the figure) were estimated based on expenditures found in other, similar subwatersheds. The specific geomorphic assessment projects to be conducted will be determined based on the evaluation criteria and priorities established within the assessment.~~

The projects highlighted in beige were identified in the geomorphic assessment that was done in the Lower Mainstem, available on the website. ~~Note that the dollar amount to be spent on projects identified in the geomorphic assessments is lumped for the two budget scenarios.~~ The specific geomorphic assessment projects to be conducted will be determined based on the evaluation criteria established within the assessment.

7.9 Mississippi River Direct Subwatershed

The Mississippi River Direct Subwatershed was identified as a lower priority for implementing projects. The subwatershed includes the Ravenna Coulees. Potential projects are identified in Figure 7.9.1.: Mississippi River Direct Subwatershed Management Plan.

Figure 7.9.1: Mississippi River Direct Subwatershed Management Plan



~~Mississippi Direct Subwatershed Management Plan~~	~~Original Scenario (All Activities)~~	~~500K Annual Scenario 1~~	~~Current Balance Scenario~~
~~Ag BMPS in Upstream Areas~~	~~$ 25,000~~	~~$ 25,000~~	~~$ 25,000~~
~~*Riparian Buffers*~~	~~*$ 50,000*~~	~~*$ 50,000*~~	~~*$ 50,000*~~
~~Urban BMP retrofit opportunities in residential areas of Hastings~~	~~$ 300,000~~		
~~*Ravenna Coulee 1, West Drainage, PP01 Grade Stabilization*~~	~~*$ 25,000*~~	~~*$ 25,000*~~	
~~Ten Year Total Budget (3% of total)~~	~~$ 400,000.00~~	~~$ 100,000.00~~	~~$ 75,000.00~~

Mississippi Direct Subwatershed Management Plan (2022 Amendment)	**Estimated Cost**
Water Storage in Upstream Areas	$10,000
Urban BMP retrofit opportunities	$37,750
Nutrient management practices • Cover crops • Perennial crops	$15,000
Agricultural BMPs	$15,000
Subtotal	**$77,750**
Stream channel Improvements • Riparian Buffers • Etter Creek improvement and ravine stabilization projects • Other ravine stabilization projects	$75,000
Budget Total	**$152,750**

The projects highlighted in beige were identified in the geomorphic assessment that was done in the Etter Creek/ Ravenna Coulees, available on the website. ~~Note that the dollar amount to be spent on projects identified in the geomorphic assessments is lumped for the two budget scenarios.~~ The specific geomorphic assessment projects to be conducted will be determined based on the evaluation criteria established within the assessment.

7.10 Implementation Plan Table

Figure 7.10.1: Implementation Plan Table uses the VRWJPO roles and Watershed Plan goals to provide cost estimates for the Section 6 actions not included in the subwatershed plans.

Those actions that can be taken by VRWJPO staff as part of current operations are included in the "Staff Function" line in the Implementation Plan Table. An annual budget of $240,000 over each of the next 10 years for staff functions encompasses many of the actions listed in Section 6.

Those actions that require additional resources (planning, development, policy, consultation, etc.) are specifically listed in the table, with cost estimates. The subwatershed plan costs are summarized and listed in the Land and Water Treatment category.

Where implementation activities are dependent upon one another (e.g. water quality improvement project dependent upon the completion of a feasibility study and/or modeling effort), the relationship is reflected in the schedule.

Implementation activities and cost estimates are taken from previous studies or projects. In other cases, the costs are estimates based on current understanding of the activity's scope. Cost estimates are shown as either a one-time cost (typical of feasibility studies and capital improvement projects) or as annual costs for ongoing programs. In general, the Implementation Plan provides a planning-level projection that can be used as a starting point for the detailed annual budgeting process.

The implementation plan table is organized by the roles of the VRWJPO as defined in Section 6: Goals, Objectives, and Actions. For each of the VRWJPO roles, the plan table provides a budget for general staff functions.

7.11 VRWJPO Financing

Dakota and Scott counties jointly fund the administration and activities of the VRWJPO, as specified in the Joint Powers Agreement (see Appendix A). The funding is provided through the counties' annual property tax levies, using the following process:

- Dakota and Scott counties provide the VRWJPO with estimates of Vermillion River Watershed Management Tax District tax capacity.
- In August, the VRWJPO staff submits a preliminary annual budget and Vermillion River Watershed Management Tax District Levy for the subsequent year to the VRWJPB.
- The VRWJPB holds a public hearing and adopts the proposed budget and levy amounts for the next year.
- In September, the Dakota County and Scott County Boards certify the preliminary levy amounts allocated to the portions of the watershed in each County according to tax capacity.
- In December, as the annual budget cycle ends, the VRWJPO staff updates the proposed budget to a final version for the subsequent year. The VRWJPB adopts the final budget and levy.
- In December, the Dakota County and Scott County Boards certify the final Vermillion River Watershed Management Tax District levy.

The Vermillion River Watershed Management Tax District levy is a primary, but not the only, source of funding for VRWJPO activities. The VRWJPO also pursues grant opportunities, partnerships, or coordinated efforts that align with Watershed Plan goals and needs. The VRWJPO may also pursue other alternative funding options as identified in Minnesota Statutes 103B, if these options are consistent with the Joint Powers Agreement.

Figure 7.10.1: Implementation Plan Table

VRWJPO Roles and Goals	Implementation Initiatives	Grant Eligibility	Costs										
			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	10-Year Total
Administration and Operations			**$ 245,000**	**$ 245,000**	**$ 240,000**	**$ 240,000**	**$ 240,000**	**$ 240,000**	**$ 240,000**	**$ 240,000**	**$ 240,000**	**$ 240,000**	**$ 2,410,000**
	Staff Function		$ 240,000	$ 240,000	$ 240,000	$ 240,000	$ 240,000	$ 240,000	$ 240,000	$ 240,000	$ 240,000	$ 240,000	$ 2,400,000
Goal F	Establish a riparian habitat improvement program that includes tree shading in trout stream reaches	Yes	$ 5,000.00	Tree shading efforts are included within each of the individual subwatershed management plans									5000
Goal A	Use restorable wetland tools and inventories to develop partnerships and implement restoration projects.	Yes	$ -	$ 5,000.00									5000
Coordination & Collaboration			**$ 20,000**	**$ 20,000**	**$ 30,000**	**$ 20,000**	**$ 20,000**	**$ 20,000**	**$ 20,000**	**$ 20,000**	**$ 20,000**	**$ 20,000**	**$ 210,000**
	Staff Function		See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	$ -
	Collaborate with Dakota and Scott County Land Conservation staff to identify high priority riparian habitat and assist in easement acquisition and restoration or protection through cost-share and incentives		*See previous item #1 under Climate Change above*	*See previous item #1 under Climate Change above*	*See previous item #1 under Climate Change above*	*See previous item #1 under Climate Change above*	*See previous item #1 under Climate Change above*	*See previous item #1 under Climate Change above*	*See previous item #1 under Climate Change above*	*See previous item #1 under Climate Change above*	*See previous item #1 under Climate Change above*	*See previous item #1 under Climate Change above*	$ -
	Work with partners and landowners to protect wetlands and restore wetlands with strategic value in flood protection and pollutant filtration through conservation easement, fee title, tile removal, revegetation, and other techniques		*See following item*	*See following item*	*See following item*	*See following item*	*See following item*	*See following item*	*See following item*	*See following item*	*See following item*	*See following item*	$ -
Goal A	Assist Dakota County and Scott County Land Protection programs in acquiring permanent conservation easements in riparian areas in the Vermillion River Watershed		$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 200,000
	Work with landowners and other agencies to eliminate fencing across public waters and associated potential liabilities (e.g., Vermillion River and tributaries).		*See item under L&WT, WQ*	*See item under L&WT, WQ*	*See item under L&WT, WQ*	*See item under L&WT, WQ*	*See item under L&WT, WQ*	*See item under L&WT, WQ*	*See item under L&WT, WQ*	*See item under L&WT, WQ*	*See item under L&WT, WQ*	*See item under L&WT, WQ*	$ -
	Consider developing stormwater management system maintenance guidance for watershed communities		$ -	$ -	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000
	Assist with buffer acquisition, riparian plantings, shoreline restoration, acquisition and/or removal of structures that degrade the corridor		*See previous item #1 under Climate Change above*	*See previous item*	*See previous item*	*See previous item*	*See previous item*	*See previous item*	*See previous item*	$ -	$ -	$ -	$ -
~~**Land and Water Treatment**~~			~~**$ 243,475**~~	~~**$ 278,475**~~	~~**$ 313,475**~~	~~**$ 293,475**~~	~~**$ 283,475**~~	~~**$ 313,475**~~	~~**$ 288,475**~~	~~**$ 268,475**~~	~~**$ 268,475**~~	~~**$ 268,475**~~	~~**$ 2,819,750**~~
Land and Water Treatment			**$ 385,775**	**$ 420,775**	**$ 455,775**	**$ 435,775**	**$ 425,775**	**$ 455,775**	**$ 430,775**	**$ 410,775**	**$ 410,775**	**$ 410,775**	**$ 4,242,750**
	Staff Function		See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	$ -
Goal A	~~Implement activities identified in the North Creek Subwatershed Management Plan~~	~~Yes~~	~~$ 32,625~~	~~$ 32,625~~	~~$ 32,625~~	~~$ 32,625~~	~~$ 32,625~~	~~$ 32,625~~	~~$ 32,625~~	~~$ 32,625~~	~~$ 32,625~~	~~$ 32,625~~	~~$ 326,250~~
	~~Implement activities identified in the Middle Creek Subwatershed Management Plan~~	~~Yes~~	~~$ 21,750~~	~~$ 21,750~~	~~$ 21,750~~	~~$ 21,750~~	~~$ 21,750~~	~~$ 21,750~~	~~$ 21,750~~	~~$ 21,750~~	~~$ 21,750~~	~~$ 21,750~~	~~$ 217,500~~
	~~Implement activities identified in the South Creek Subwatershed Management Plan~~	~~Yes~~	~~$ 43,500~~	~~$ 43,500~~	~~$ 43,500~~	~~$ 43,500~~	~~$ 43,500~~	~~$ 43,500~~	~~$ 43,500~~	~~$ 43,500~~	~~$ 43,500~~	~~$ 43,500~~	~~$ 435,000~~
	~~Implement activities identified in the Upper Mainstem Subwatershed Management Plan~~	~~Yes~~	~~$ 54,375~~	~~$ 54,375~~	~~$ 54,375~~	~~$ 54,375~~	~~$ 54,375~~	~~$ 54,375~~	~~$ 54,375~~	~~$ 54,375~~	~~$ 54,375~~	~~$ 54,375~~	~~$ 543,750~~
	~~Implement activities identified in the South Branch Vermillion Subwatershed Management Plan~~	~~Yes~~	~~$ 37,625~~	~~$ 37,625~~	~~$ 37,625~~	~~$ 37,625~~	~~$ 37,625~~	~~$ 37,625~~	~~$ 37,625~~	~~$ 37,625~~	~~$ 37,625~~	~~$ 37,625~~	~~$ 376,250~~
	~~Implement activities identified in the Middle Mainstem Subwatershed Management Plan~~	~~Yes~~	~~$ 15,225~~	~~$ 15,225~~	~~$ 15,225~~	~~$ 15,225~~	~~$ 15,225~~	~~$ 15,225~~	~~$ 15,225~~	~~$ 15,225~~	~~$ 15,225~~	~~$ 15,225~~	~~$ 152,250~~
	~~Implement activities identified in the Lower Mainstem Subwatershed Management Plan~~	~~Yes~~	~~$ 10,875~~	~~$ 10,875~~	~~$ 10,875~~	~~$ 10,875~~	~~$ 10,875~~	~~$ 10,875~~	~~$ 10,875~~	~~$ 10,875~~	~~$ 10,875~~	~~$ 10,875~~	~~$ 108,750~~
	~~Implement activities identified in the Mississippi River Direct Subwatershed Management Plan~~	~~Yes~~	~~$ 7,500~~	~~$ 7,500~~	~~$ 7,500~~	~~$ 7,500~~	~~$ 7,500~~	~~$ 7,500~~	~~$ 7,500~~	~~$ 7,500~~	~~$ 7,500~~	~~$ 7,500~~	~~$ 75,000~~
	~~Conduct Subwatershed Assessments~~		~~$ 20,000~~	~~$ 20,000~~	~~$ 20,000~~	~~$ 20,000~~	~~$ 20,000~~	~~$ 20,000~~	~~$ 20,000~~	~~$ -~~	~~$ -~~	~~$ -~~	~~$ 140,000~~
Goal A	Implement activities identified in the North Creek Subwatershed Management Plan	Yes	$ 95,000	$ 95,000	$ 95,000	$ 95,000	$ 95,000	$ 95,000	$ 95,000	$ 95,000	$ 95,000	$ 95,000	$ 950,000
	Implement activities identified in the Middle Creek Subwatershed Management Plan	Yes	$ 36,000	$ 36,000	$ 36,000	$ 36,000	$ 36,000	$ 36,000	$ 36,000	$ 36,000	$ 36,000	$ 36,000	$ 360,000
	Implement activities identified in the South Creek Subwatershed Management Plan	Yes	$ 64,120	$ 64,120	$ 64,120	$ 64,120	$ 64,120	$ 64,120	$ 64,120	$ 64,120	$ 64,120	$ 64,120	$ 641,200
	Implement activities identified in the Upper Mainstem Subwatershed Management Plan	Yes	$ 49,500	$ 49,500	$ 49,500	$ 49,500	$ 49,500	$ 49,500	$ 49,500	$ 49,500	$ 49,500	$ 49,500	$ 495,000
	Implement activities identified in the South Branch Vermillion Subwatershed Management Plan	Yes	$ 60,580	$ 60,580	$ 60,580	$ 60,580	$ 60,580	$ 60,580	$ 60,580	$ 60,580	$ 60,580	$ 60,580	$ 605,800
	Implement activities identified in the Middle Mainstem Subwatershed Management Plan	Yes	$ 29,000	$ 29,000	$ 29,000	$ 29,000	$ 29,000	$ 29,000	$ 29,000	$ 29,000	$ 29,000	$ 29,000	$ 290,000
	Implement activities identified in the Lower Mainstem Subwatershed Management Plan	Yes	$ 16,300	$ 16,300	$ 16,300	$ 16,300	$ 16,300	$ 16,300	$ 16,300	$ 16,300	$ 16,300	$ 16,300	$ 163,000
	Implement activities identified in the Mississippi River Direct Subwatershed Management Plan	Yes	$ 15,275	$ 15,275	$ 15,275	$ 15,275	$ 15,275	$ 15,275	$ 15,275	$ 15,275	$ 15,275	$ 15,275	$ 152,750
	Conduct Subwatershed Assessments		$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ 20,000	$ -	$ -	$ -	$ 140,000
Goal D	Identify urban/suburban developed areas without adequate or any stormwater controls				$ 25,000								$ 25,000
	Develop outreach and cost-share incentives for homeowners, homeowners' associations and businesses in areas without stormwater controls to install stormwater rate and volume control BMPs		0	10000	10000	15000	15000	20000	20000	20000	20000	20000	150000
	Research and make recommendations about BMPs suitable for ultra-urban conditions (no room to integrate most BMPs).		$ -	$ -	$ -	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000

	Provide cost-share or other incentives for producers using cover crops or nutrient management plans		--	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 25,000	$ 225,000

Figure 7.10.1: Implementation Plan Table

VRWJPO Roles and Goals	Implementation Initiatives	Grant Eligibility	Costs										
			2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	10-Year Total
Goal C	Research strategies for water use, re-use, or infiltration that minimize groundwater use at mining sites			$ -	$ 10,000	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ -	$ 35,000
Monitoring and Assessment			**$ 202,500**	**$ 202,500**	**$ 227,500**	**$ 202,500**	**$ 192,500**	**$ 232,500**	**$ 192,500**	**$ 192,500**	**$ 192,500**	**$ 192,500**	**$ 2,030,000**
	Staff Function		See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	$ -
Goal A	Add continuous dissolved oxygen (DO) monitoring to Monitoring Network sampling for reaches listed as impaired for DO		$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,000
	Collect and analyze surface water quality monitoring data and report annually on condition, trends, and recommendations for improvement		$ 192,500	$ 192,500	$ 192,500	$ 192,500	$ 192,500	$ 192,500	$ 192,500	$ 192,500	$ 192,500	$ 192,500	$ 1,925,000
	Complete geomorphic assessments on the South Branch and Lower Main stem Vermillion River (Hwy 52 to Hastings).		$ -	$ -	$ 25,000	$ -	$ -	$ 40,000	$ -	$ -	$ -	$ -	$ 65,000
Public Communication and Outreach			**$ 221,000**	**$ 226,000**	**$ 231,000**	**$ 226,000**	**$ 226,000**	**$ 221,000**	**$ 226,000**	**$ 226,000**	**$ 221,000**	**$ 221,000**	**$ 2,245,000**
	Staff Function		$ 220,000	$ 220,000	$ 220,000	$ 220,000	$ 220,000	$ 220,000	$ 220,000	$ 220,000	$ 220,000	$ 220,000	$ 2,200,000
Goal E	Host VRWJPO watershed tours for elected and appointed officials to highlight demonstrations of innovative technology, successful water quality and quantity improvement practices, and restoration activities		$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 10,000
Goal B	Collaborate with partners on turf and fertilizer management workshops for facility managers of businesses, parks, schools, and others	Yes			$ 5,000		$ 5,000			$ 5,000			$ 15,000
	Continue to promote and support workshops on ice/snow management and turfgrass maintenance			$ 5,000		$ 5,000			$ 5,000				$ 15,000
	Consider facilitating a watershed- or county-wide outreach and education campaign to increase awareness about the urban and rural land use contributions to nitrate contamination of groundwater	Yes			$ 5,000								$ 5,000
Goal A	Implement outreach activities identified in the WRAPS Civic Engagement Plan												$ -
Regulation			**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 100,000**	**$ 1,000,000**
	Staff Function		$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 100,000	$ 1,000,000
Research and Planning			**$ 10,000**	**$ 35,000**	**$ 10,000**	**$ 165,000**	**$ 45,000**	**$ 10,000**	**$ 160,000**	**$ -**	**$ 10,000**	**$ 150,000**	**$ 595,000**
	Staff Function		See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	See initial Staff Function	$ -
Goal G	Propose demonstration or research projects that have the potential to protect the brown trout population from thermal impacts	Yes				$ 150,000			$ 150,000			$ 150,000	$ 450,000
Goal E	Conduct a follow-up of watershed landowners in 2017 (five years after the University of Minnesota survey).		$ -	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000
Goal B	Coordinate with other agencies to monitor condition and trends in groundwater levels and contaminant concentrations		$ 10,000		$ 10,000		$ 10,000		$ 10,000		$ 10,000		$ 50,000
Goal A	Evaluate need for new Watershed Standards on aggregate mining, if research shows potential water resource impacts	Yes	$ -	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,000
	Review existing research on aggregate mining impacts on water and groundwater, in conditions comparable to the watershed.	Yes		$ -	$ -	$ -	$ 10,000	$ -	$ -	$ -	$ -	$ -	$ 10,000
	Discuss research needs to evaluate cumulative landscape-scale impacts of aggregate mining in the watershed with partners	Yes	*See previous item*	*See previous item*	*See previous item*	*See previous item*	*See previous item*	*See previous item*	*See previous item*	*See previous item*	*See previous item*	*See previous item*	$ -
	Explore implementation of BWSR's "One Watershed, One Plan" principles as a means of addressing watershed-wide needs.		$ -	$ -	$ -	$ -	$ 25,000	$ -	$ -		$ -	$ -	$ 25,000
Goal C	Consider developing Water Conservation Standards for the watershed		$ -	$ -	$ -	$ 15,000	$ -	$ -			$ -	$ -	$ 15,000
	Review 2006 inventory of groundwater recharge areas and update, if needed		$ -	$ -	$ -	$ -	$ -	$ 10,000	$ -	$ -	$ -	$ -	$ 10,000
~~ANNUAL TOTALS~~			~~$ 1,041,975~~	~~$ 1,106,975~~	~~$ 1,151,975~~	~~$ 1,246,975~~	~~$ 1,106,975~~	~~$ 1,136,975~~	~~$ 1,226,975~~	~~$ 1,046,975~~	~~$ 1,051,975~~	~~$ 1,191,975~~	~~$ 11,309,750~~
~~TOTALS FUNDED THROUGH LEVY~~			~~$ 1,041,975~~	~~$ 1,081,975~~	~~$ 1,151,975~~	~~$ 1,096,975~~	~~$ 1,096,975~~	~~$ 1,136,975~~	~~$ 1,076,975~~	~~$ 1,046,975~~	~~$ 1,051,975~~	~~$ 1,041,975~~	~~$ 10,824,750~~
~~TOTALS FUNDED THROUGH GRANTS~~			~~$ -~~	~~$ 25,000~~	~~$ -~~	~~$ 150,000~~	~~$ 10,000~~	~~$ -~~	~~$ 150,000~~	~~$ -~~	~~$ -~~	~~$ 150,000~~	~~$ 485,000~~
ANNUAL TOTALS			$ 1,184,275	$ 1,249,275	$ 1,294,275	$ 1,389,275	$ 1,249,275	$ 1,279,275	$ 1,369,275	$ 1,189,275	$ 1,194,275	$ 1,334,275	$ 12,732,750
TOTALS FUNDED THROUGH LEVY			$ 1,184,275	$ 1,224,275	$ 1,294,275	$ 1,239,275	$ 1,239,275	$ 1,279,275	$ 882,775	$ 852,775	$ 819,275	$ 809,275	$ 10,824,750
TOTALS FUNDED THROUGH GRANTS			$ -	$ 25,000	$ -	$ 150,000	$ 10,000	$ -	$ 486,500	$ 336,500	$ 375,000	$ 525,000	$ 1,908,000