

SECTION 4: GOALS, POLICIES, OBJECTIVES, AND ACTIONS

4.0 INTRODUCTION

Section 4 of the Plan identifies the general **goals** of the VRWJPO and a **rationale** for each goal with respect to its broad categories of concern (listed below). The general **policies** defining the VRWJPO's approach to management in each of the categories are also identified. For each of the goals, more specific **objectives** are listed; and, for each of the objectives, several action steps (**actions**) have been identified that will allow the VRWJPO to achieve the objectives. Section 4 is a compilation of the goals, rationales, policies, objectives and actions for each of the following VRWJPO areas of concern:

- 4.1 Surface Water Quality
- 4.2 Surface Water Quantity
- 4.3 Groundwater
- 4.4 Wetlands and Habitat
- 4.5 Floodplains
- 4.6 Land Use Management
- 4.7 Open Space and Recreational Areas
- 4.8 Education.

The Rural Collaborative is incorporating all of the VRWJPO goals, policies, objectives, and actions, as amended by the VRWJPO in February 2008, in this Collaborative Plan. In an effort to highlight specific actions that may apply to or are relevant to individual Collaborative communities, a matrix has been prepared for each objective and action within the eight areas of concern above. The matrix identifies actions that 1) impact the LGU but do not require direct input from the LGU, 2) require direct action by or cooperation of the LGU, 3) may require direct actions of the LGU, but are not mandatory, and 4) are not applicable. The Rural Collaborative matrices follow each section of VRWJPO goals, policies, objectives, and actions

4.1 SURFACE WATER QUALITY

Goal – Protect and enhance surface water quality in the Vermillion River Watershed.

Rationale – The Vermillion River is a primary cultural, aesthetic, and recreational resource within the Watershed. The Vermillion River is the only trophy trout stream located in the Metropolitan Area. Additionally, the many lakes, ponds, wetlands, and River tributaries provide aesthetic and recreational value, as well as recharge opportunities for area aquifers. Surface water quality must be improved and protected to sustain the beneficial uses of the waterbodies in the Watershed, including wildlife habitat (e.g., cold-water fishery), drinking water recharge, and water based recreation.

Major reaches of the Vermillion River have been included on the Minnesota Pollution Control Agency’s (MPCA) impaired waters (303(d)) list. Much of the main stem of the River, west (upstream) of Hastings, is listed as impaired by fecal coliform bacteria; and the reach from below the falls at Hastings to the Mississippi River is listed as impaired by turbidity, mercury, and PCBs. Recreational use – swimming, wading, etc – of the Vermillion River and its tributaries is restricted because of poor water quality. Additional desirable features of the river, including its cold-water fishery, are also threatened. The Vermillion River loses water to local aquifers in its lower reaches, which affects the quality of the groundwater. Further impairments may exist that have not yet been detected through monitoring, and, additional degradation is likely as land use changes occur.

Infiltration of high-nitrate surface water from the Vermillion River has been identified as a factor in high nitrate levels in the groundwater supply of the City of Hastings, and a concern for residents with wells located close to the River.

Given the current surface water and groundwater impairments and the threats posed by further urbanization of the watershed, it is critical that the VRWJPO make every effort to protect the Vermillion River, its tributaries, and other upstream water bodies.

Policies

1. The condition of water bodies in the Watershed included on the MPCA impaired waters [303(d)] list must be improved so that these waterbodies can be removed from the 303d list.
2. The Vermillion River will be safe for human contact (i.e., swimmable) within 10 years.
3. Local governments, agricultural users and developers will be responsible for effectively managing stormwater.
4. Responsibility for enforcing water quality and stormwater management standards developed through this Plan will be assumed by the VRWJPO where local governments are deemed to be non-implementing entities (see Administration section for more information).
5. A reduction in runoff rates will be supported and promoted by the VRWJPO.
6. Use of existing natural retention and detention areas for stormwater management to maintain or improve existing water quality will be encouraged by the VRWJPO throughout the Watershed.
7. Land use planning, policies and controls that maintain sustainable, high-quality surface water resources will be supported by the VRWJPO.

Objectives

Surface Water Quality Objective 1 – Work with the MPCA and other agencies to develop and implement Total Maximum Daily Load (TMDL) studies on all impaired water bodies, including, but not limited to those included on the 303(d) list. [Rationale: Water quality improvement is a central mission of the VRWJPO; therefore, the organization should be active in TMDL studies and implementation (e.g., the Dakota County Regional TMDL Study for fecal coliform bacteria in the Lower Mississippi River Basin, which includes the Vermillion River fecal coliform bacteria study report, and the Vermillion River TMDL study for turbidity below the Hastings Dam)].

Action 1 – Actively participate in the TMDL process (e.g., study sponsorship, participation in public meetings, education, liaison activities, and assistance in seeking and providing funding).

Action 2 – Determine appropriate responsibilities in implementing load reduction measures identified in TMDL studies.

Surface Water Quality Objective 2 – Continue and improve the water quality monitoring program for the Vermillion River and its major tributaries. (Rationale: Protecting the River requires data to determine strategies and successes. The current level of monitoring may not be adequate to manage the entire Watershed.)

Action 1 – Expand and enhance water quality monitoring in the Watershed.

Action 2 – Collect, organize, and interpret water quality monitoring data.

Action 3 – Continue to fund the Vermillion River Watch program.

Action 4 – Collect information on the location of agricultural drainage installations (tile systems) and the effect of these systems on downstream waters.

Action 5 – Monitor runoff from urban and agricultural areas, and determine the sources of pollutants of concern.

Action 6 – Make water quality monitoring data available via website or other means and summarize data for public information purposes.

Surface Water Quality Objective 3 – Establish implementation programs on a subwatershed basis through establishing water quality goals and evaluating the effectiveness of management activities on affected water bodies. (Rationale: Sources and loadings will vary with location; implementation is required, but should be aimed at maximum effectiveness within a given subwatershed. Water body classification helps set reasonable goals for individual water bodies and guides public investment in the protection and restoration of water quality.)

Action 1 – Coordinate with cities, townships, and other agencies and groups to conduct an inventory of existing and desired uses for major water bodies within the Watershed.

Action 2 – Analyze monitoring data, identify trends, identify data gaps, and target areas or subwatersheds with water quality issues.

Action 3 – Develop a management framework for water bodies, based on existing statutory classifications, desired uses, existing conditions, and the priorities of the VRWJPO.

Action 4 – Where water quality does not support desired uses, prepare and implement subwatershed plans to meet required water quality.

Action 5 – Implement a program to establish buffers along major waterways wetlands, and other water bodies.

1. Inventory, map, and prioritize water features with existing buffers and those in need of buffers.
2. Determine appropriate buffer locations and widths according to: priorities within each subwatershed, type of waterbody, and adjacent land use.
3. Coordinate buffer configuration and acquisition efforts with the Dakota County Farmland & Natural Areas Program, the Scott County SWCD buffer program, and similar or related local, state, or federal programs.
4. Implement the buffer program through cost sharing with other voluntary programs and through requirement of local ordinances that mandate creation of buffers as part of approval of developments and land-disturbing activities (see Action 6 under Objective 5).

Surface Water Quality Objective 4 – Monitor management of recreational lakes. (Rationale: Cities are already active in management of lakes (e.g., Alimagnet, Farquar). These are important local features but may have limited impact on the overall Watershed due to limited outflow.)

Action 1 – Identify and prioritize recreational lakes that are to be the responsibility of the VRWJPO.

Action 2 – Review the status of lake water quality and management plans on at least a five-year basis as part of VRWJPO planning.

Action 3 – Work with local units of government to develop management framework that assigns roles and responsibilities for implementation of lake management projects.

Action 4 – If problems or shortcomings exist, work with affected municipalities to address problems through regulation, education, and/or implementation of capital projects.

Action 5 – Collaborate with Soil and Water Conservation Districts (SWCD), federal, State and local programs to cost share for lake shore restoration projects undertaken by landowners.

Action 6 – Collaborate with cities and townships to monitor lakes, including participation in citizen volunteer monitoring efforts such as CAMP and CLMP.

Surface Water Quality Objective 5 – Minimize water quality impacts (including thermal impacts) from land disturbing activities, including new development and redevelopment (urban/rural), road construction, agricultural production, and other rural uses. (Rationale: Water quality impacts from development are best mitigated in the development stage, rather than as retrofits. Some communities may not be providing adequate review of water quality impacts during planning phases.)

Action 1 – Review federal, State, and local agency programs and designations related to water quality and identify where additions or changes are needed.

Action 2 – Develop Watershed standards as a minor amendment to this Plan. These standards will include requirements for water quality treatment (possibly on a subwatershed basis) that are based on analyses from Objectives 2 and 3, will include requirements for addressing thermal impacts, will address preservation of riparian buffers, will possibly include measures for minimizing nitrate contamination in surface waters, and will require the use of best management practices (BMPs), including erosion/sedimentation control practices consistent with the National Pollutant Discharge Elimination System (NPDES) Phase II Rule. (This action will fill in where cities/townships are not required to complete an NPDES MS4 permit.) The VRWJPO will take a leadership role in exploring a watershed-based approach to NPDES Phase II MS4 permitting.

Action 3 – Develop and adopt official rules to implement the standards set in Action 2. During the rule-making process, the VRWJPO will work with the local units of government to incorporate the VRWJPO standards into their stormwater management plans, ordinances and other controls. During this rule-making process, the VRWJPO will:

1. Assist the townships with development of a model ordinance that incorporates the VRWJPO standards,
2. Review of existing local ordinances, to check for gaps between local standards and VRWJPO standards,
3. Require that local governments submit proposed land alteration plans to the VRWJPO for review and comment, if the plans include any of the following conditions:
 - Variances from the local government's ordinances that affect surface water or impact surface water/groundwater interactions
 - Diversions
 - Intercommunity flows (to or from)
 - Project site size of 40 acres or more.

Action 4 –During the interim period between VRWJPO rule adoption (March 2007) and local government adoption of ordinances and controls, the VRWJPO will, in LGUs without Local Water Plans approved by the VRWJPO:

1. Work with local governments to revise/adopt their ordinances and other controls to incorporate the VRWJPO standards.

2. Assist the townships in developing a model ordinance that incorporates the VRWJPO standards.
3. Require that local governments submit proposed land alteration plans to the VRWJPO for review and comment, prior to the local government issuing a permit, if the plans include any of the following conditions:
 - Variances from the local government's ordinances that affect surface water or impact surface water/groundwater interactions
 - Diversions
 - Intercommunity flows (to or from)
 - Project site size of 40 acres or more
 - Other proposed activities, as identified in the VRWJPO rules.

The VRWJPO may also conduct other selected project reviews in order to evaluate the implementation of local units of government's ordinances and permitting programs.

The VRWJPO envisions three categories of permitting responsibility following adoption of the VRWJPO rules:

Category 1. VRWJPO responsible for all permitting.

Category 2. Local governments responsible for all permitting

Category 3. Local governments responsible for all permitting, with VRWJPO permitting required under certain circumstances.

Following VRWJPO rule adoption, the VRWJPO will evaluate local government ordinances to determine if they match the VRWJPO Standards. If a local government's ordinances are found to be insufficient (i.e., do not meet the VRWJPO Standards), the VRWJPO will implement a permitting program in that community (Category 1).

If a local government incorporates the VRWJPO Standards into its ordinances and controls, and demonstrates compliance with the VRWJPO Standards, that local government will be responsible for permitting of certain proposed land alteration plans (Category 2). The VRWJPO will require local governments responsible for permitting to submit some proposed land alteration plans to the VRWJPO for review and comment each year through a VRWJPO evaluation program. Land alteration plans with the following conditions are particularly important to the VRWJPO for review:

- Diversions
- Intercommunity flows (to or from)
- Project site size of 40 acres or more
- Projects that are adjacent to or appear to impact major waterways or unique natural resources

All land alteration plans that require an amendment to or a variance from the adopted Local Water Plan must be submitted to the VRWJPO for review and approval or denial as prescribed by Minn. Stat. 103B.211. The VRWJPO will enforce its permits and rules as allowed by Minnesota Statutes 103B and 103D. The VRWJPO may also evaluate local government permitting programs. If these evaluations show non-compliance with the VRWJPO's Standards and/or the local government's ordinances, the VRWJPO will implement a permitting program in that local government.

The VRWJPO may establish special subtaxing districts to collect funds to cover its cost to implement the permitting program in communities where the VRWJPO has permitting authority. As an alternative to setting up special subtaxing districts, the VRWJPO will consider collecting permit fees to offset the costs of implementing the permitting program.

Action 5 – Require city and township stormwater plans to include documentation adequate to ensure that urban runoff will meet VRWJPO water quality standards and not adversely affect the Vermillion River, its major tributaries and other waterbodies.

Action 6 – Require cities and townships to develop stormwater plans and ordinances that ensure that the costs of constructing, operating, and maintaining stormwater management systems for new development are fairly allocated so as not to unduly burden local governments or the VRWJPO (development pays for itself).

Action 7 – Monitor emerging technologies for protecting the cold-water fishery, including reducing thermal impacts to streams from stormwater runoff, and constructing or sponsoring construction of demonstration or research projects that show promise to protect the cold-water fishery.

Action 8 – Develop and implement an incentive program to encourage implementation of additional (beyond what is required) BMPs.

Surface Water Quality Objective 6 – Ensure stormwater management systems are maintained. (Rationale: Maintenance of ponds and channels helps maintain water quality and avoid erosion and sedimentation.)

Action – Establish stormwater management system maintenance standards for cities and townships within the Watershed.

Surface Water Quality Objective 7 – Monitor individual NPDES permits for point source discharges in the Watershed. (Rationale: Point source discharges to the Vermillion River and/or its tributaries can have a significant impact on the water quality of Watershed water resources.)

Action 1 – Inventory individual NPDES point source permits in the Watershed. Identify the permits the VRWJPO should monitor.

Action 2 – Review water quality standards for the identified NPDES permits. Determine if there are gaps between the permit standards and what the VRWJPO believes is needed to protect Watershed water resources.

Action 3 – If there are gaps, develop recommendations and/or options for addressing the gaps/deficiencies, such as new water quality standards (e.g., thermal standards) to apply to these point sources.

Action 4 – Review NPDES permit applications, renewals, revisions, etc. and comment on aspects of the permit application that impact the water resources in the Watershed. Suggest additional or modified standards to MPCA, when/if appropriate.

Action 5 – Review annual monitoring reports of wastewater discharge facilities within the Vermillion River Watershed.

4.1.1 Surface Water Quality Goal: Protect and enhance surface water quality in the Vermillion Watershed

Dakota County Rural Collaborative	Objective 1		Objective 2						Objective 3					Objective 4						Objective 5								Objective 6		Objective 7				
	Action 1	Action 2	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 1	Action 2	Action 3	Action 4	Action 5	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 7	Action 8	Action 1	Action 1	Action 2	Action 3	Action 4	Action 5	
Castle Rock Township	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
City of Coates	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
Douglas Township	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
Empire Township	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
Eureka Township	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
City of Hampton	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
Hampton Township	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
Marshan Township	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
Nininger Township	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
Ravenna Township	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
City of Vermillion	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	
Vermillion Township	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✗	✓	NA	NA	NA	NA	NA	NA	✓	✓	✓	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	

✓ Impacts LGU but does not require direct input from LGU ✗ Requires direct action or cooperation of LGU ● Requires direct action of LGU but is not mandatory NA Not Applicable

4.2 SURFACE WATER QUANTITY

Goal – Manage the rate and volume of runoff entering rivers, streams, lakes and wetlands within the Watershed.

Rationale – Monitoring indicates that the Vermillion River is receiving increased quantities of runoff. Downstream residents are concerned about greater frequency and duration of high water. In addition to these direct impacts, increases in rate and volume can have indirect impacts including:

- The erosive power of this increased runoff damages stream channels, making them unstable (the 1999 Vermillion River Assessment found the Vermillion River is highly susceptible to channel changes and erosion)
- Channel erosion degrades in-stream habitat.
- Erosion causes sedimentation problems at downstream locations where water velocity slows down.
- Unstable stream channels and degraded water quality and stream habitat have the ability, over time, to depress land values, damage property, endanger high value structures and render prime building locations unbuildable, directly impacting the health, safety and welfare of watershed residents.
- Unstable channels undermine bridges, clog culverts, and can damage infrastructure, requiring costly repairs and ensuing legal problems for both public agencies and private individuals.
- Water quantity increases usually correspond to a decrease in water quality. Stormwater can carry a variety of pollutants that can affect downstream areas and groundwater.

Our understanding of the hydrology of the Vermillion River and other surface waters in the Watershed must continue to improve in order to effectively address these and other impacts and concerns.

Policies

1. A reduction in runoff volumes will be supported and promoted.
2. Use existing natural retention and detention areas for stormwater management to maintain or improve existing water quality.
3. Stormwater will be managed to minimize erosion.
4. Support for and participation in sedimentation removal projects following completion of a feasibility study that identifies the sediment source(s).
5. Outlets from landlocked basins will be allowed, provided such outlets are consistent with State and federal regulations, and the downstream impacts, riparian impacts, and habitat impacts of such outlets have been analyzed and no detrimental impacts result.

Objectives

Surface Water Quantity Objective 1 – Advance the understanding of the hydrology of the Vermillion River. (Rationale: A better understanding of the hydrology can produce better, more cost-effective management strategies and help avoid costly errors.)

Action 1 – Monitor and document the surface water origins of Vermillion River flows, based on actual flows from treatment plants and River tributaries (Note: groundwater origins are addressed in Section 4.3 – Groundwater).

Action 2 – Seek funding for monitoring network.

Action 3 – Monitoring data will be used, when needed, to calibrate and refine hydrologic models.

Action 4 – Develop and implement a program to monitor streambank stability along the Vermillion River and its major tributaries (North Creek, South Creek, Middle Creek, South Branch, and Etter Creek).

Surface Water Quantity Objective 2 – Minimize impacts of runoff from land disturbing activities including new development and redevelopment (urban/rural), road construction, agricultural production, and other rural uses and preserve a viable cold-water fishery by developing stormwater rate and volume control techniques. (Rationale: Increases in rate, volume and duration of runoff can degrade streams; increases in impervious surfaces are correlated with the loss of aquatic habitat.)

Action 1 – Provide funding for staff time or contracted services to provide oversight and guidance to assist developers in planning and designing onsite water management practices to meet VRWJPO standards.

Action 2 – Develop Watershed standards as a minor amendment to this Plan. These standards will be based on hydrologic/hydraulic modeling results, research guidance documents (e.g., BMPs manuals), monitoring data, other agency standards and practices, etc. The standards will include requirements for controlling stormwater runoff by minimizing impervious surface, maximizing infiltration, requiring cities and townships to control stormwater rates crossing municipal boundaries, and creating stormwater storage that addresses not only peak flows for extreme events, but takes into account the cumulative effects of runoff volume, and will include stormwater rate control requirements.

Action 3 – Compile design and guidance documents for stormwater management within the Watershed.

Action 4 – Develop and adopt official rules to implement the standards set in Action 2. During the rule-making process, the VRWJPO will work with the local governments to incorporate the VRWJPO standards into their stormwater management plans, ordinances and other controls.

Action 4 – During the interim period between VRWJPO rule adoption (March 2007) and local government adoption of ordinances and controls, the VRWJPO will, in LGUs without a Local Water Plan approved by the VRWJPO:

1. Work with local governments to revise/adopt their ordinances and other controls to incorporate the VRWJPO standards.

2. Assist the townships in developing a model ordinance that incorporates the VRWJPO standards.
3. Require that local governments submit proposed land alteration plans to the VRWJPO for review and comment, prior to the local government issuing a permit, if the plans includes any of the following conditions:
 - Variances from the local government's ordinances that affect surface water or impact surface water/groundwater interactions
 - Diversions
 - Intercommunity flows (to or from)
 - Project site size of 40 acres or more
 - Other proposed activities, as identified in the VRWJPO rules.

The VRWJPO may also conduct other selected project reviews in order to evaluate the implementation of local units of government's ordinances and permitting programs.

The VRWJPO envisions three categories of permitting responsibility following adoption of the VRWJPO rules:

Category 1. VRWJPO responsible for all permitting.

Category 2. Local governments responsible for all permitting

Category 3. Local governments responsible for all permitting, with VRWJPO permitting required under certain circumstances.

Following VRWJPO rule adoption, the VRWJPO will evaluate local government ordinances to determine if they match the VRWJPO Standards. If a local government's ordinances are found to be insufficient (i.e., do not meet the VRWJPO Standards), the VRWJPO will implement a permitting program in that community (Category 1).

If a local government incorporates the VRWJPO Standards into its ordinances and controls, and demonstrates compliance with the VRWJPO Standards, that local government will be responsible for permitting of certain proposed (Category 2). The VRWJPO will require local governments responsible for permitting to submit some proposed land alteration plans to the VRWJPO for review and comment each year through a VRWJPO evaluation program. Land alteration plans with the following conditions are particularly important to the VRWJPO for review:

- Diversions
- Intercommunity flows (to or from)
- Project site size of 40 acres or more
- Projects that are adjacent to or appear to impact major waterways or unique natural resources

All land alteration plans that require an amendment to or variance from the adopted Local Water Plan must be submitted to the VRWJPO for review and approval or denial as prescribed by Minn. Stat. 103B.211.

The VRWJPO will enforce its permits and rules as allowed by Minnesota Statutes 103B and 103D. The VRWJPO may also evaluate local government permitting programs. If these evaluations show non-compliance with the VRWJPO's Standards and/or the local government's ordinances, the VRWJPO will implement a permitting program in that local government.

The VRWJPO may establish special subtaxing districts to collect funds to cover its cost to implement the permitting program in communities where the VRWJPO has permitting authority. As an alternative to setting up special subtaxing districts, the VRWJPO will consider collecting permit fees to offset the costs of implementing the permitting program.

Action 5 – Require city and township stormwater plans to include documentation adequate to ensure that urban runoff will meet VRWJPO water quality standards and not adversely affect the Vermillion River, its major tributaries and other waterbodies.

Action 6 – Develop and implement an incentive program to encourage implementation of additional (beyond what is required) BMPs.

Surface Water Quantity Objective 3 – Mitigate and reduce the impact of past increases in stormwater discharge on downstream conveyance systems.

Action 1 – Identify River corridor reaches for streambank erosion reduction projects, and restore damaged stream banks at priority locations, taking advantage of partnerships and cost-sharing whenever possible.

Action 2 – Collaborate with Soil and Water Conservation Districts (SWCD), federal, State and local programs to cost share for streambank restoration projects undertaken by landowners.

Action 3 – Complete a feasibility study that identifies sources of sedimentation in the Vermillion River and its major tributaries. Implement sediment removal projects based on results of feasibility study.

Action 4 – Seek opportunities to retrofit existing developments with low impact development techniques, in partnership with cities and other units of government.

Surface Water Quantity Objective 4 – Reduce soil erosion (sheet and rill, wind erosion, gully and streambank erosion) on rural land to the recommended "T" value (the maximum rate of soil erosion that will maintain a high level of long-term crop production) or below by requiring implementation of rural best management practices (BMPs).

Action 1 – Promote participation in existing local, State, and federal agriculture and conservation programs [e.g., Environmental Quality Incentives Program (EQIP), Conservation Reserve Enhancement Program (CREP), Reinvest in Minnesota (RIM), MN Cost Share Program, Dakota County Farmland & Natural Areas Program, Conservation Security Program, Wildlife Habitat Incentives Program (WHIP), Farm and Ranch Lands Protection Program, Conservation Reserve Program (CRP)] and to identify rural areas needing the most assistance.

Action 2 – Collaborate with other agencies to provide best management practices (BMPs) information in targeted rural areas.

Surface Water Quantity Objective 5 – Address known flooding/erosion problems that cross jurisdictional boundaries and address other boundary issues (e.g., inflows from Goodhue County into Ravenna and Douglas Townships, boundary issues with Gun Club Lake WMO, Lower Mississippi River WMO, and other WMOs, Lebanon Hills Park/Minnesota Zoo), and diversion/alteration of watershed flows in local water management plans.

Action 1 – Document intergovernmental hydrology.

Action 2 – Establish a workgroup to study issues.

Action 3 – Establish agreements and funding to address priority issues.

Surface Water Quantity Objective 6 – Address gully erosion problems in the Watershed.

Action 1 – Identify, inventory, and prioritize gully erosion problems in the Watershed (e.g., gully erosion within communities directly tributary to the Mississippi and Vermillion Rivers below the falls in Hastings).

Action 2 – Work cooperatively with other government entities to address identified gully erosion problems in the Watershed.

4.2.1 Surface Water Quantity

Goal: Manage the rate and volume of runoff entering rivers, streams, lakes and wetlands within the Watershed.

Dakota County Rural Collaborative	Objective 1				Objective 2						Objective 3				Objective 4		Objective 5			Objective 6		
	Action 1	Action 2	Action 3	Action 4	Action 1	Action 2	Action 3	Action 4	Action 4 (2)	Action 5	Action 6	Action 1	Action 2	Action 3	Action 4	Action 1	Action 2	Action 1	Action 2	Action 3	Action 1	Action 2
Castle Rock Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓
City of Coates	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	NA	NA	✓	✗	✗	✗	✓	✓	✗	✓	✓
Douglas Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓
Empire Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓
Eureka Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓
City of Hampton	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓
Hampton Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓
Marshan Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓
Nininger Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓
Ravenna Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓
City of Vermillion	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓
Vermillion Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✓	✓	✗	✓	✓

- ✓ Impacts LGU but does not require direct input from LGU
- ✗ Requires direct action or cooperation of LGU
- Requires direct action of LGU but is not mandatory
- NA Not Applicable

4.3 GROUNDWATER

Goal – Protect groundwater quality and quantity to preserve it for sustainable and beneficial purposes.

Rationale – The Vermillion River and its major tributaries are affected by, and affect, the regional groundwater system in various ways:

- In the upper reaches, the groundwater discharge to the River keeps water quality high and helps sustain a trout fishery.
- In the lower reaches, the River loses water to local aquifers, thus influencing groundwater quantity and quality.
- Infiltration of high-nitrate surface water from the Vermillion River has been identified as a factor in high nitrate levels in the water supply of the City of Hastings. This is also a concern for residents with wells located close to the river.
- Inadequate septic systems (discussed here as a groundwater issue) are suspected to be a major source of fecal coliform contamination of the Vermillion River.

The areas of Dakota and Scott Counties within the Watershed rely almost exclusively on groundwater for domestic, municipal, agricultural and industrial water supplies. The significant increase in population and resulting increase in impervious surface in the two Counties has and will continue to put increased pressure on groundwater supplies. As development continues, demand for groundwater will increase, and at the same time, groundwater recharge areas will be lost.

The Minnesota Department of Natural Resources (MDNR) and the Minnesota Department of Health (MDH) have significant regulatory programs for drinking water quality, but do not have watershed management authority.

The Dakota and Scott County Groundwater Protection Plans are incorporated into this Plan by reference.

Policies

1. Groundwater quality should not be sacrificed to manage surface water. Holding ponds, animal watering ponds, wetlands and other water storage areas must be designed to protect groundwater.
2. The relationship between surface water and groundwater will be understood, and contaminated surface water will be prevented from entering groundwater supplies to the greatest extent possible.
3. Infiltration of stormwater and resulting groundwater recharge will be promoted where it is feasible and does not pose a threat to groundwater quality.
4. Groundwater monitoring, inventory, studies, and permitting programs should be increased and/or enhanced cooperatively by local, regional, State and federal agencies and organizations.

5. Critical groundwater recharge areas (especially those areas that support the Vermillion River cold-water fishery) should be identified, defined, and protected from harmful land use activities and practices.
6. Land use planning, policies and controls that maintain a sustainable source of high-quality groundwater will be supported.

Objectives

Groundwater Objective 1 – Continue monitoring and research on the Vermillion River Watershed groundwater system and development of groundwater management strategies. (Rationale: Understanding the groundwater system is the key to managing it. The VRWJPO must be an active partner in data collection and modeling efforts, especially as they affect the flow of the River and the River’s impact on the quality and quantity of the water supply.)

Action 1 – Collaborate with other agencies to develop and implement a groundwater monitoring system along the Vermillion River to better understand surface water/groundwater interactions.

Action 2 – Collaborate with other agencies to develop and implement a groundwater monitoring system throughout the Watershed to monitor changes in groundwater levels and contaminants.

Action 3 – Assess nitrogen application rates in high infiltration areas of the watershed and strive for nitrogen application rate reductions, starting in the targeted areas.

Action 4 – Collect information on the location of agricultural drainage installations and their effects on nitrate concentrations (and other pollutants of concern) in surface water and groundwater resources.

Action 5 – Identify natural and unnatural conduits from the ground surface to the groundwater (e.g., Karst features) that have the potential to introduce pollutants into drinking water and develop management strategies to protect groundwater in these areas.

Action 6 – Use collected data, identify needed research, and seek partnerships with other entities to develop and implement collaborative groundwater projects and programs [e.g., Hastings Area Nitrate Study (HANS) future phases, Vermillion River Headwaters Groundwater Study].

Action 7 – Provide annual budget funding to leverage other funds and collaborate with other entities.

Groundwater Objective 2 – Avoid reductions in the base flow of the River and its tributaries, and reductions in “normal” water levels of lakes and wetlands, due to increased appropriations. (Rationale: Withdrawal of water from aquifers potentially reduces flow to surface waters and/or increases downward leakage and reduces yield available to the River and its tributaries. Many cities with new wells have already instituted water conservation plans; other cities and non-public suppliers may not have conservation plans.)

Action 1 – Review current water conservation standards and practices and develop standards for the Watershed by 2005.

Action 2 – Collaborate with other agencies to develop a water conservation guidance document and provide this guidance document to cities and agriculture-related agencies and groups.

Action 3 – Implement an educational campaign to distribute Watershed water conservation standards and monitoring requirements to public and non-public water suppliers by 2006.

Action 4 – Encourage public and non-public water suppliers to institute phased water conservation techniques through education, monitoring, and development and implementation of standards by 2008. VRWJPO will provide assistance to public and non-public water suppliers to develop standards by 2007.

Action 5 – Develop a program to determine the most effective water conservation techniques for water supplies and local waters.

Action 6 – Encourage development of local water conservation plans as required by the Minnesota Land Planning Act.

Action 7 – Work with the Minnesota Department of Natural Resources (MDNR) and Southwest Metro Groundwater Workgroup to address well interference and water appropriation issues in the Watershed.

Action 8 – If requested, provide education to local governments and residents regarding the hydrologic cycle, groundwater, groundwater/surface water interactions, groundwater recharge areas, and groundwater conservation.

Groundwater Objective 3 – Eliminate discharges of fecal coliform bacteria and minimize discharges of nitrate and other pollutants to groundwater and surface waters of the Watershed. (Rationale: The Vermillion River is on the MPCA impaired waters (303(d)) list for fecal coliform bacteria; failing septic systems are suspected as a major source of contamination. Failing septic systems and agricultural practices are major sources of the high nitrate levels in the River and are contributing to degradation of drinking water supplies. Some communities may not have adequate regulation of septic systems. Abandoned wells are likely a significant source of pollutant transmitted from surface to ground water.)

Action 1 – Encourage local governments and rural subdivision developers to install community wells and septic systems, when feasible, as a method to reduce pollution potential and increase groundwater resource management; include educating developers and local government representatives as a part of this action.

Action 2 – Work with the Minnesota Pollution Control Agency (MPCA) and local governments to develop watershed standards and requirements for community wells and septic systems.

Action 3 – Work with LGUs and others to develop an information piece about wells and septic systems to distribute to developers and well and septic contractors.

Action 4 – Educate land use authorities about community wells and septic systems.

Action 5 – Develop a model zoning ordinance to promote community wells and septic systems.

Action 6 – Require communities to adopt and implement an inspection program for septic systems within the Watershed.

Action 7 – Support the counties’ efforts to inventory failing and non-compliant septic systems and jointly prioritize areas for septic system upgrades.

Action 8 – Consider alternatives to upgrade non-compliant septic-systems, including:

- Support of focused enforcement of ISTS requirements, in potential partnership with other units of government; and/or
- Utilization or development of a cost-share or loan program to implement septic system upgrades within the Watershed, in potential partnership with the counties, Community Development Agencies, MPCA, etc.

Action 9 – Support Minnesota Department of Health (MDH) development of standards for pesticide degradates and mixtures.

Action 10 – Inventory abandoned wells in key/sensitive areas for potential groundwater contamination.

Action 11 – Provide cost-share funding to seal abandoned wells in key/sensitive areas for potential groundwater contamination.

Groundwater Objective 4 – Use Dakota County Well Management database and Scott County well index database in plan and permit reviews, and provide education (e.g., landowner outreach). (Rationale: Poorly constructed and unsealed wells are a potential source of infiltration for contamination into drinking water aquifers.)

Action – Assist counties in developing and distributing general well and well sealing information, or distribute existing information pieces, and identify opportunities to make landowners aware of general well information and well sealing programs

Groundwater Objective 5 – Implement or assist in implementing the VRWJPO’s priority strategies and objectives from the Dakota and Scott County Groundwater Protection Plans by 2009. [Rationale: Watershed management plans are required to address County groundwater plans. Groundwater protection is important in the Watershed because of the interaction between the Vermillion River and groundwater (e.g., Hastings area groundwater nitrate level problems).]

Action 1 – Identify priority strategies and objectives in both County Groundwater Protection Plans (e.g., defining groundwater recharge areas).

Action 2 – Develop a strategy/action that supports or corroborates the implementation of County Plan objectives, but that does not duplicate County efforts, and implement these actions (e.g., model ordinance to protect recharge areas).

Groundwater Objective 6 – Support the Minnesota Department of Health (MDH) and other State, regional and local agencies in implementing wellhead protection programs and plans within the Watershed through policies and actions contained in this Plan. (Rationale: Wellhead protection zoning helps protect drinking water supplies.)

Action 1 – Encourage communities in the Watershed to – within five years – assure that non-compliant Individual Sewage Treatment Systems (ISTS) located in wellhead protection areas are upgraded.

Action 2 – Support the implementation of best management practices (BMPs) for wellhead protection areas.

Groundwater Objective 7 – Distribute (and develop or assist in developing, if necessary) educational materials or support programs that provide information on groundwater and how land use impacts our drinking water supply.

Action 1 – Develop (or assist in developing) and distribute groundwater protection areas information. The VRWJPO will use existing information and modify/create new information only if necessary.

Action 2 – Research the issue of infiltration impacts on groundwater and develop a consistent approach to protecting areas sensitive to groundwater contamination.

Groundwater Objective 8 – Support and assist in groundwater research, regulation and education.

Action 1 – Collaborate with State and local agencies to provide groundwater monitoring data/information and use the data/information to develop targeted educational messages.

Action 2 – Work with partners to develop a distribution strategy to get the right information to the right public and private sector groups.

Action 3 – Encourage cities and townships to work with the Minnesota Department of Health (MDH) and Dakota and Scott Counties to periodically assess the vulnerability of groundwater used for drinking water supplies.

4.3.1 Groundwater

Goal: Protect groundwater quality and quantity to preserve it for sustainable and beneficial purposes.

Dakota County Rural Collaborative	Objective 1							Objective 2							Objective 3							Objective 4	Objective 5		Objective 6		Objective 7		Objective 8							
	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 7	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 7	Action 8	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 7	Action 8	Action 9	Action 10	Action 11	Action 1	Action 1	Action 2	Action 1	Action 2	Action 1	Action 2	Action 1	Action 2	Action 3
Castle Rock Township	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
City of Coates	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
Douglas Township	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
Empire Township	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
Eureka Township	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
City of Hampton	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
Hampton Township	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
Marshan Township	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
Nininger Township	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
Ravenna Township	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
City of Vermillion	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗
Vermillion Township	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✗	✗	✗

✓ Impacts LGU but does not require direct input from LGU ✗ Requires direct action or cooperation of LGU ● Requires direct action of LGU but is not mandatory NA Not Applicable

4.4 WETLANDS AND HABITAT

Goals – Maintain and enhance, where possible, the functions and values of existing wetlands and habitats within the Watershed.

Promote the restoration and/or creation of wetlands.

Rationale – Wetlands and adjacent upland areas provide a variety of functions, including:

- Filtering pollutants and trapping sediment
- Providing fish and wildlife habitat
- Slowing and storing flood water
- Recharging groundwater
- Serving as groundwater outlets to recharge streams, and
- Providing recreational areas.

Wetlands also provide value (including social, economic, aesthetic and ecological benefits) that the public places on specific wetlands. These functions and values are important to the overall character of the Watershed and specifically benefit the major water bodies of the Watershed.

There are existing programs that protect wetlands through no-net loss policies. These include the Wetland Conservation Act (WCA), the DNR public waters program, and the Corps of Engineers 404 program. However, many wetlands were already drained or filled prior to adoption of these laws. Where wetlands have been lost, creating new wetlands or restoring lost wetlands would provide additional benefit. The Watershed's focus should be on areas that are critical to the Vermillion River.

The upland green space areas adjacent to wetlands are integral to wetlands achieving full value.

Policies

1. Work to achieve no net loss of wetland quantity, quality and biological diversity in the Vermillion River Watershed.
2. Wetland replacements will occur in the same subwatershed whenever possible and must occur within the VRWJPO; new wetlands will provide equal or greater functions and values at the replacement ratio dictated by the Wetland Conservation Act.

3. Avoidance of direct or indirect wetland disturbance will be required for all developments and land disturbing activities, in accordance with State and federal requirements and approved local wetland management plans.
4. Buffers, acting as filter strips, will be required around every wetland based on its management classification.
5. Wetlands will be protected from chemical, physical, biological, or hydrological changes so as to prevent significant adverse impacts to the following designated wetland uses: maintaining biological diversity, preserving wildlife habitat, providing recreational opportunities, erosion control, groundwater recharge, low flow augmentation, stormwater retention, stream sedimentation, and aesthetic enjoyment, as specified in Minnesota Rules 7050.0210, Subp. 13a.
6. Fragmentation of natural areas and corridors will be avoided when feasible, and mitigated when unavoidable at equal value.
7. Impacts to locally and regionally significant natural areas will be avoided when feasible or mitigated when unavoidable at equal value.
8. High priority natural areas identified through the land cover mapping done for the Dakota County Farmland & Natural Area Program, the Dakota County Biological Survey, the Scott County Biological Survey, and other inventories will be the tools used to evaluate development proposals and set preservation goals to protect high-quality habitat for plants and animals.
9. Implementation of the Dakota County Farmland & Natural Areas Program will be supported as a means to improve water quality in the Watershed.

Objectives

Wetlands and Habitat Objective 1 – Require local governments to develop and implement Comprehensive Wetland Management Plans. [Rationale: Local plans can guide Wetland Conservation Act (WCA) and Corps of Engineers 404 implementation and achieve greater functions and values than regulation alone.]

These plans must follow the guidelines of the Wetland Conservation Act (Minnesota Rules 8420.0650). Acceptable federal and State programs related to wetlands should include the following components:

1. An inventory of functions and values using MNRAM 3 or equivalent methodology.
2. On the basis of functions and values, a classification of wetlands in management categories to set priorities for wetland protection and use.
3. Defined and prioritized opportunities for wetland restoration, creation or enhancement.

Action – Support and/or assist local governments in the development and implementation of Comprehensive Wetland Management Plans.

Wetlands and Habitat Objective 2 – Require local governments to adopt land use and development ordinances to complement existing wetland protection regulations. (Rationale: WCA, MDNR Public Waters and Corps of Engineers 404 programs effectively limit wetland impacts destruction, but preservation requires complementary land use practices.)

These land use ordinances must include the following components:

1. Established standards for wetland buffers. Buffer widths should vary based on the quality of the wetland, and should consider land use, soil type, and topography.
2. Preservation and protection of high-priority wetland areas.

Action – Support and/or assist local governments in the development of the above ordinances.

Wetlands and Habitat Objective 3 – Identify and pursue wetland restoration opportunities within the Watershed. (Rationale: Many wetlands have been drained or filled; restoration of wetlands will increase available functions and values.)

Action 1 – Identify priority wetland restoration project opportunities.

Action 2 – Explore and implement partnership opportunities and implement priority restoration projects. As part of the funding process, the VRWJPO will provide incentives to landowners and local governments for restoration projects.

Wetlands and Habitat Objective 4 – Protect existing fish and wildlife habitat areas and promote the development of additional fish and wildlife habitat areas. (Rationale: VRWJPO activities and requirements, along with other water and land preservation programs, will reserve significant amounts of land from development and agriculture; these areas can be managed for wildlife benefits.)

Action 1 – Coordinate with other agencies and organizations to develop or enhance wildlife habitat corridors that connect open space, stream corridors, lake buffers, wetland buffers and stormwater management facilities. (See also Surface Water Quality Objective 3, Action 6.)

Action 2 – Coordinate with conservation agencies and other organizations to supplement their fish and wildlife habitat protection and enhancement efforts and programs.

Action 3 – Provide cost-share funds, if available, to encourage fish and wildlife habitat protection and enhancement, and the development of habitat inventories.

Action 4 – Evaluate fish and wildlife habitat areas to prioritize the acquisition of easements over floodplains. (See also Floodplain Objective 3, Action3.)

Action 5 – Require communities to obtain conservation easements over critical habitat areas during development. The VRWJPO will strongly consider requiring developers to set aside critical habitat at the time of development or contribute to a dedicated fund for critical habitat preservation. Local units of government have used similar approaches before for similar programs (e.g. open space preservation). Critical habitat will be defined during the standards development process. The definition will be based on the Dakota County Farmland and Natural Areas Program, and other biological inventories or assessments.

Action 6 – Coordinate habitat and wetland programs (e.g., A VRWJPO incentive program for wetland restoration, Dakota County’s Farmland & Natural Areas Program, local wetland plans) to help produce a continuous corridor, especially along the Vermillion River and its major tributaries.

Wetlands and Habitat Objective 5 – Protect sensitive habitats and communities, and rare species. (Rationale: Section 1 of this Plan describes sensitive habitats and communities and lists rare species in Dakota and Scott Counties. The VRWJPO has a responsibility to be mindful of the impacts of its programs on sensitive habitats and rare species.)

Action 1 – Require local water management and wetland plans to include known sensitive habitats and communities, and rare species, and take reasonable measures to avoid impacts to these areas.

Action 2 – Review projects and plans with an awareness of sensitive habitats and communities, and rare species, as listed in this Plan or otherwise available (e.g., County Biological Survey or other biological inventories).

Wetlands and Habitat Objective 6 – Assist in public education efforts regarding the fish and wildlife of the Vermillion River Watershed. (Rationale: Public value of wildlife expenditures needs to be explained and justified to the public).

Action 1 – Support signage and other location-specific education practices in public open spaces of the Vermillion River corridor.

Action 2 – Distribute (and develop or assist in developing, if necessary) educational materials or support programs that provide information on the fish and wildlife resources of the Vermillion River and the steps being taken to preserve habitat.

Action 3 – Provide support to local communities to continue the Wetland Health Evaluation Program.

4.4.1 Wetland and Habitat

Goal: Maintain and enhance, where possible, the functions and values of existing wetlands and habitats within the Watershed.

Dakota County Rural Collaborative	Objective 1	Objective 2	Objective 3		Objective 4						Objective 5		Objective 6		
	Action 1	Action 1	Action 1	Action 2	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 1	Action 2	Action 1	Action 2	Action 3
Castle Rock Township	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
City of Coates	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
Douglas Township	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
Empire Township	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
Eureka Township	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
City of Hampton	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
Hampton Township	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
Marshan Township	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
Nininger Township	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
Ravenna Township	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
City of Vermillion	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x
Vermillion Township	x	x	✓	x	x	x	x	x	x	x	x	x	x	✓	x

- ✓ Impacts LGU but does not require direct input from LGU
- x Requires direct action or cooperation of LGU
- Requires direct action of LGU but is not mandatory
- NA Not Applicable

4.5 FLOODPLAINS

Goal – Manage and protect the floodplains of the Watershed from encroachment.

Rationale – Protecting floodplains from encroachment preserves the natural function of the floodplain, thereby protecting human life and property from flood damage. Note: The Wisconsin DNR estimates avoiding 1% of flood damages saves \$1.5M/yr.

Policies

1. The natural function of the floodplain as a floodwater storage area should be protected from encroachment.
2. Work to maintain no net loss of floodplain storage.
3. Floodplains will be managed to maintain critical 100-year flood storage volumes.
4. Local Water Plans will include a provision that restricts construction of new structures to sites above flood prone areas.
5. Local governments will adopt floodplain zoning regulations consistent with Dakota and Scott County water resource plans and ordinances.
6. Upstream floodwater storage should be maximized.
7. Accumulated sediment should be removed from flood storage facilities prior to reaching 50 percent of the storage area's capacity.
8. Infiltration in appropriate floodplain areas should be increased through increased vegetated areas and reduced impervious surfaces.
9. Local governments will adopt policies for designation of flood/stormwater storage areas.

Objectives

Floodplain Objective 1 – Require adoption of shoreland and floodplain ordinances that are compatible with existing County and State ordinances. (Rationale: Floodplain ordinances are the main tool for preserving floodplains. Dakota and Scott Counties enforce floodplain ordinances in unincorporated areas. Some cities may not have adequate floodplain ordinances.)

Action 1 – Review the status of local floodplain and shoreland ordinances.

Action 2 – Work with local governments that lack adequate ordinances to develop and adopt ordinances compatible with VRWJPO, County, and State requirements.

Floodplain Objective 2 – Require local governments to identify and protect Watershed floodplains. (Rationale: Many floodplains are not identified on current FEMA maps. Identifying floodplains is the first step toward managing them.)

Action 1 – Encourage local participation in the National Flood Insurance Program.

Action 2 – Require local stormwater management plans to identify 100-year floodplains for all water bodies, and be consistent with the counties' revised FEMA floodplain maps.

Action 3 – Require local governments to establish minimum building elevations for any structures allowed in the floodplain.

Action 4 – Require cities and townships to obtain flood and drainage easements and easements for maintenance access and over emergency overflow routes during development and/or building permit processes.

Action 5 – Coordinate with responsible government units to ensure that structures are properly located relative to the floodplain before permits are issued.

Action 6 – Conduct an inventory of “grandfathered structures” within floodplain setbacks.

Action 7 – Assist local governments in developing, if necessary, and distributing educational materials regarding floodplain locations, protection, and floodplain land use and land alteration restrictions.

Floodplain Objective 3 – Limit floodplain alterations in order to obtain "no net loss" of floodplain storage, and including the preservation, restoration and management of floodplain wetlands. (Rationale: This is a stricter requirement than basic floodplain ordinances. The basic floodplain law allows reduction in floodplain storage as long as the water conveyance capacity of the stream is preserved; the storage of stormwater in the floodplain is generally beneficial; the loss of storage should be compensated.)

Action 1 – Ensure that local governments require compensatory storage for future filling or structures within the floodplain.

Action 2 – Create a policy to guide the proportion of local and Watershed financial contributions to flood storage projects (e.g., Farmington basin that would serve more than one community).

Action 3 – Establish a funding program to obtain easements within floodplains to prevent and minimize flood damages, preserve the thermal integrity of the stream, and reduce and prevent sedimentation.

4.5.1 Floodplains

Goal: Manage and protect the floodplains of the Watershed from encroachment.

Dakota County Rural Collaborative	Objective 1		Objective 2							Objective 3		
	Action 1	Action 2	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 7	Action 1	Action 2	Action 3
Castle Rock Township	✓	x	x	x	x	x	x	✓	x	x	✓	x
City of Coates	✓	x	x	x	x	x	x	✓	x	x	✓	x
Douglas Township	✓	x	x	x	x	x	x	✓	x	x	✓	x
Empire Township	✓	x	x	x	x	x	x	✓	x	x	✓	x
Eureka Township	✓	x	x	x	x	x	x	✓	x	x	✓	x
City of Hampton	✓	x	x	x	x	x	x	✓	x	x	✓	x
Hampton Township	✓	x	x	x	x	x	x	✓	x	x	✓	x
Marshan Township	✓	x	x	x	x	x	x	✓	x	x	✓	x
Nininger Township	✓	x	x	x	x	x	x	✓	x	x	✓	x
Ravenna Township	✓	x	x	x	x	x	x	✓	x	x	✓	x
City of Vermillion	✓	x	x	x	x	x	x	✓	x	x	✓	x
Vermillion Township	✓	x	x	x	x	x	x	✓	x	x	✓	x

- ✓ Impacts LGU but does not require direct input from LGU
- x Requires direct action or cooperation of LGU
- Requires direct action of LGU but is not mandatory
- NA Not Applicable

4.6 LAND USE MANAGEMENT

Goal – Protect and conserve water resources by promoting sustainable growth, integrated land use and land use planning, rural land conservation methods that reduce non-point sources of pollution from agricultural lands, and water resource management.

Rationale – The protection of water resources and the establishment of a variety of new and ongoing land uses (e.g., development, agriculture, mining) can complement each other if standards are set and measures taken before problems occur. New and innovative growth, land use, and water resource management elements can be incorporated into agricultural and developing or developed areas to create positive water resource protection and conservation outcomes. Integrated land use promotes the occurrence of several, compatible uses on one parcel or overlapping land uses or uses in close proximity to each other. For example, integrated land use planning considers the full range of resources and values present on public land and aims to blend or coordinate management strategies and implementation requirements across jurisdictions. These land use and planning techniques could help conserve water resources and promote compatible growth that is protective of Watershed resources.

Policies

1. The orderly and planned expansion of the Metropolitan Urban Service Area (MUSA) to accommodate growth in a flexible, connected and efficient manner will be supported.
2. The presence of environmentally sensitive natural resource areas should guide land use management decisions.
3. The impacts of land disturbing activities on water resources, including cumulative impacts, should be considered for each proposed activity before the activity occurs.
4. Stormwater best management practices must be identified as part of the development approval process.
5. The retirement of marginal agricultural land through local, State and federal easement programs will be supported.
6. Continued Dakota and Scott County delegated feedlot permitting programs will be supported.
7. Coordination with other entities (e.g., Dakota and Scott SWCDs, NRCS) to reduce non-point source pollution from agricultural activities will be supported.
8. Agricultural standards will be developed to address gaps in existing agricultural programs and regulations.

Objectives

Land Use Management Objective 1 – Require land disturbing activities including new development and redevelopment (urban/rural), road construction, agricultural production, and other rural uses within the Watershed to address impacts on water resources, including cumulative impacts.

Action 1 – While conducting environmental reviews [e.g., Environmental Assessment Worksheets (EAW), Alternative Urban Area Reviews (AUAR) and Environmental Impact Statements (EIS)] and reviewing local plan amendments, the VRWJPO will evaluate the impacts of proposed and existing land uses on surface water and groundwater resources in the Watershed.

Action 2 – Assist local governments within the Watershed in developing criteria to consider potential off-site impacts (e.g., how far downstream to evaluate, what types of problems to look for).

Action 3 – Require development plans to consider impacts on local natural resources and corresponding receiving waters.

Action 4 – Work with local governments to:

1. Inventory road crossings
2. Identify opportunities for flood control, water quality improvement, and channel/stream restoration initiatives
3. Set standards for managing stormwater and culvert flows on road and other public improvement projects.

Land Use Management Objective 2 – Coordinate the implementation of the Vermillion River Watershed Management Plan with the implementation of the Dakota and Scott County Comprehensive Plan updates.

Land Use Management Objective 3 – Reduce non-point source pollution from agricultural activities through education, incentives and initiatives.

Action 1 – Encourage Dakota and Scott Counties to update and maintain their feedlot inventories.

Action 2 – Assist Dakota and Scott Counties, where appropriate, in implementing/administering their delegated county feedlot permitting programs.

Action 3 – Assist State and local agencies in providing technical assistance to feedlot operators and other agricultural landowners whose operations are causing pollution problems. Assist agencies and/or feedlot operators and other agricultural landowners in obtaining grants to correct/mitigate pollution problems.

Action 4 – Assist State and local agencies in the distribution of research data, information and case studies showing how to reduce non-point source pollution from agricultural land by implementing best management practices (BMPs).

Action 5 – Coordinate with State, local and federal agencies to identify tilled farmland and potential point and non-point pollution sources.

Action 6 – The VRWJPO will identify the resource-based voids/gaps in existing local, State and federal agricultural/rural incentive and regulatory programs, and will seek to build on and fill voids in these programs. The VRWJPO will identify locations where conservation plans are most needed. The VRWJPO will require agricultural/rural landowners to complete and implement conservation plans to enhance eligibility for conservation programs, provide flexibility in meeting regulatory requirements, and/or to participate in VRWJPO cost-share programs. For example, if a project would be eligible for 50% cost-share funds through the NRCS EQIP, the landowner would be eligible for additional VRWJPO funding through completion and implementation of a conservation plan. The VRWJPO will work with the USDA, the SWCD, and other organizations to assist landowners in completing conservation plans for these lands, and will assist in implementing conservation plans in these targeted areas, through incentive programs, cost share programs, and other measures (such as purchase of no-till drills). The VRWJPO’s assistance will be focused on agricultural erosion control and water quality improvement measures, including, but not limited to:

- No-till practices
- Residue management practices
- Temporary cover crop plantings to provide erosion control from fall through spring (harvest through planting)
- Buffers
- Filter strips
- Livestock exclusion
- Feedlot best management practices.

Action 7 – Develop standards for agricultural/rural lands to fill identified resource-based voids/gaps in existing agricultural/rural programs and regulations. These standards will be incorporated into this Plan through a minor plan amendment. These standards will include requirements for conservation plans. These standards could address drainage, buffers, soil loss, nutrient applications, and pesticide use.

Action 8 – Develop and adopt official rules to implement the standards set in Action 7. During the rule-making process, the VRWJPO will work with the local units of government to incorporate the VRWJPO standards into their stormwater management plans, ordinances and other controls. During this rule-making process, the VRWJPO will:

1. Work with local governments to revise/adopt their ordinances and other controls to incorporate the VRWJPO standards.
2. Assist the townships in developing a model ordinance that incorporates the VRWJPO standards.
3. Require that local governments submit proposed land alteration plans to the VRWJPO for review and comment, prior to the local government issuing a permit, if the plans includes and of the following conditions:
 - Variances from the local government’s ordinances that affect surface water or impact surface water/groundwater interactions

- Diversions
- Intercommunity flows (to or from)
- Project site size of 40 acres or more

Action 9 – During the interim period between VRWJPO rule adoption (March 2007) and local government adoption of ordinances and controls, the VRWJPO will, in LGUs without a Local Water Plan approved by the VRWJPO:

1. Work with local governments to revise/adopt their ordinances and other controls to incorporate the VRWJPO standards.
2. Assist the townships in developing a model ordinance that incorporates the VRWJPO standards.
3. Require that local governments submit proposed land alteration plans to the VRWJPO for review and comment, prior to the local government issuing a permit, if the plans includes any of the following conditions:
 - Variances from the local government’s ordinances that affect surface water or impact surface water/groundwater interactions
 - Diversions
 - Intercommunity flows (to or from)
 - Project site size of 40 acres or more
 - Other proposed activities, as identified in the VRWJPO rules.

The VRWJPO may appeal the community’s approval of a project, if the VRWJPO believes the project is not consistent with the community’s local water management plan. The VRWJPO will use these selected project reviews as informal audits of the local units of government’s ordinances and permitting programs.

The VRWJPO envisions three categories of permitting responsibility following adoption of the VRWJPO rules:

Category 1. VRWJPO responsible for all permitting.

Category 2. Local governments responsible for all permitting

Category 3. Local governments responsible for all permitting, with VRWJPO permitting required under certain circumstances.

Following VRWJPO rule adoption, the VRWJPO will evaluate local government ordinances to determine if they match the VRWJPO Standards. If a local government’s ordinances are found to be insufficient (i.e., do not meet the VRWJPO Standards), the VRWJPO will implement a permitting program in that community (Category 1).

If a local government incorporates the VRWJPO Standards into its ordinances and controls, and demonstrates compliance with the VRWJPO Standards, that local government will be responsible for all permitting (Category 2). The VRWJPO will require local governments responsible for permitting to submit some proposed land alteration plans to the VRWJPO for review and comment each year through a VRWJPO evaluation program. Land alteration plans with the following conditions are particularly important to the VRWJPO for review:

- Diversions
- Intercommunity flows (to or from)
- Project site size of 40 acres or more
- Projects that are adjacent to or appear to impact major waterways or unique natural resources

All land alteration plans that require an amendment to or a variance from the adopted Local Water Plan must be submitted to the VRWJPO for review and approval or denial as prescribed by Minn. Stat. 103B.211.

The VRWJPO will enforce its permits and rules as allowed by Minnesota Statutes 103B and 103D. The VRWJPO may also evaluate local government permitting programs. If these evaluations show non-compliance with the VRWJPO's Standards and/or the local government's ordinances, the VRWJPO will implement a permitting program in that local government.

The VRWJPO will establish special subtaxing districts to collect funds to cover its cost to implement the permitting program in communities where the VRWJPO has permitting authority. As an alternative to setting up special subtaxing districts, the VRWJPO will consider collecting permit fees to offset the costs of implementing the permitting program.

Action 10 – Work with State and local agencies to provide local, State and federal cost-share money to landowners implementing BMPs.

Action 11 – Along with appropriate State and local agencies, work with livestock owners to eliminate direct access by livestock to natural waterbodies (e.g., lakes, wetlands, rivers, streams). [Minnesota Rules, Chapter 7020 only prohibits livestock from standing in lakes.]

Action 12 – Work with State and local agencies to educate landowners regarding the potential liabilities associated with continuing to maintain fencing across public waters (e.g., Vermillion River and tributaries).

Action 13 – Promote participation in local, State and federal conservation programs [e.g., Reinvest in Minnesota (RIM), Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), Environmental Quality Incentives Program (EQIP), Dakota County Farmland & Natural Areas Program, MN Cost Share Program, Conservation Security Program, Wildlife Habitat Incentives Program (WHIP), Farm and Ranch Lands Protection Program].

4.6.1 Land Use Management

Goal: Protect and conserve water resources by promoting sustainable growth, integrated land use and land use planning, rural land conservation methods that reduce non-point source pollution from agricultural lands, and water resource management.

	Objective 1				Objective 3												
	Action 1	Action 2	Action 3	Action 4	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 7	Action 8	Action 9	Action 10	Action 11	Action 12	Action 13
Dakota County Rural																	
Castle Rock Township	✓	x	x	x	✓	✓	x	x	x	x	✓	x	x	x	x	x	x
City of Coates	✓	x	x	x	✓	✓	x	x	x	NA	NA	x	x	x	x	x	x
Douglas Township	✓	x	x	x	✓	✓	x	x	x	x	✓	x	x	x	x	x	x
Empire Township	✓	x	x	x	✓	✓	x	x	x	x	✓	x	x	x	x	x	x
Eureka Township	✓	x	x	x	✓	✓	x	x	x	x	✓	x	x	x	x	x	x
City of Hampton	✓	x	x	x	✓	✓	x	x	x	NA	NA	x	x	x	x	x	x
Hampton Township	✓	x	x	x	✓	✓	x	x	x	x	✓	x	x	x	x	x	x
Marshan Township	✓	x	x	x	✓	✓	x	x	x	x	✓	x	x	x	x	x	x
Nininger Township	✓	x	x	x	✓	✓	x	x	x	x	✓	x	x	x	x	x	x
Ravenna Township	✓	x	x	x	✓	✓	x	x	x	x	✓	x	x	x	x	x	x
City of Vermillion	✓	x	x	x	✓	✓	x	x	x	NA	NA	x	x	x	x	x	x
Vermillion Township	✓	x	x	x	✓	✓	x	x	x	x	✓	x	x	x	x	x	x

- ✓ Impacts LGU but does not require direct input from LGU * Requires direct action or cooperation of LGU
- Requires direct action of LGU but is not mandatory NA Not Applicable

4.7 OPEN SPACE AND RECREATIONAL AREAS

Goal – Develop or improve recreational, fish and wildlife, open space areas and accessibility in conjunction with water quality improvement projects.

Rationale – Improving and maintaining water quality in the Watershed is the main concern and focus of the VRWJPO. Improved water quality is key to enhancing and increasing recreational uses, which are a secondary benefit. Increasing public access to the waters within the Vermillion River Watershed and providing places that offer a variety of water resource-related outdoor experiences can be the long-term results of improving water quality. Recreational and open space uses by the public can enhance people's understanding of the importance of protecting the natural resources in the Watershed. Through water quality improvement projects, the VRWJPO should seek opportunities to help provide quality open space and recreational areas in the Watershed, especially in the River corridor and along its major tributaries. This goal and the associated objectives and actions are intended to be long-term achievements that will follow significant improvements in water quality. The exceptions to this are: Objective 1 – increasing public awareness of the Vermillion River and its major tributaries, which should begin right away; and Objective 2 – maintaining natural stream corridor qualities, which should be done whenever opportunities arise.

Policies

1. Recreational uses of waterbodies in the Watershed will not be promoted by the VRWJPO unless or until water quality is not a threat to human health.
2. Impacts to regionally and locally important natural areas should be avoided or mitigated.
3. Fragmenting natural areas and natural/wildlife corridors should be avoided or mitigated.
4. Creation and preservation of navigational and wading access to public waters will be sought, where appropriate; opportunities may arise that should be pursued for future recreational uses, even if the VRWJPO is not currently willing to promote recreational uses due to water quality that poses a threat to human health.
5. Natural areas, shoreland and wetland environments will be preserved, restored and enhanced wherever possible.
6. Use of native vegetation should be maximized in local government projects and private development open spaces.
7. Certain recreational uses will be prohibited or restricted in natural areas and open spaces if the uses will degrade the natural features or characteristics of the area.
8. Existing open spaces, outdoor recreational amenities, and cultural resources will be connected and enhanced whenever possible.
9. Open space uses in wellhead protection areas will be encouraged and promoted.
10. Community efforts to create a continuous trail system along the Vermillion River and its major tributaries will be supported. Note: VRWJPO support will not include funding for trail construction.

Objectives

Open Space and Recreational Areas Objective 1 – Increase public awareness of the Vermillion River and its major tributaries as a valued resource. (Rationale: The public may not be aware of the attributes and characteristics of the Vermillion River and its watershed.)

Action 1 – Implement an education program (e.g., brochures, television public service spots) to educate the public about the River system and its characteristics.

Action 2 – Educate the public on the recreational opportunities provided by the Vermillion River through publication of maps and placement of signs denoting River access, etc.

Open Space and Recreational Areas Objective 2 – Maintain natural stream corridor qualities for recreational users and local residents. (Rationale: Public use and appreciation of the stream for open space and recreational uses are dependent on maintaining the natural beauty of the stream. The value of the public investment in water quality improvement and flow management will be diminished if the stream is degraded by litter and debris, invasive species and poorly planned structures.)

Action 1 – Support non-profit and volunteer groups for river cleanup activities.

Action 2 – Require communities to adopt shoreland ordinances that comply with existing County and State ordinances, and comply with VRWJPO standards.

Action 3 – Evaluate the River corridor and main tributaries for opportunities to restore natural scenic values.

Action 4 – Improve the visual quality of the River and main tributaries through buffer acquisition, riparian plantings, shoreline restoration, acquisition and/or removal of structures that degrade the corridor.

Open Space and Recreational Areas Objective 3 – Partner with others to develop a plan to improve access to public waters, while avoiding impacts of over-use or conflicting uses. (Rationale: Public use and access increase beneficial uses of streams and create public interest in conservation of stream corridors; however, increased use can create conflicts.)

Action 1 – Establish a task force of VRWJPO staff, citizens, and State, regional, and local agency/organization representatives to advise the VRWJPO on river corridor issues.

Action 2 – Encourage and sponsor preparation of a Vermillion River corridor recreational plan with the task force. The plan will identify priority areas and assess specific recreational uses and problems.

Action 3 – Educate recreational users on good stewardship practices to avoid damage to the stream or water body environment or conflicts with riparian landowners.

Open Space and Recreational Areas Objective 4 – Remove stream access barriers, and other impairments, consistent with the plan created in Objective 3.

Action 1 – Implement a targeted education program (e.g., brochures, flyers) to educate landowners about liabilities associated with River obstacles located on/originating from private land.

Action 2 – Work with the Minnesota Department of Natural Resources (MDNR) and landowners to remove dangerous impairments to river navigation (e.g., fallen trees that pose a danger, electrified and other fences).

Action 3 – Work with and support other agencies to address health and safety requirements in the River.

Open Space and Recreational Areas Objective 5 – Partner with others to pursue recreation and natural resource protection and enhancement opportunities. (Rationale: Establishment of stream and wetland buffers for water quality protection, and implementation of the Dakota County Farmland & Natural Areas Program will provide opportunities to improve recreational and aesthetic values. Some natural areas should not be promoted for all types of recreational use.)

Action 1 – Provide annual budget funding to leverage other funds and collaborate with other entities.

Action 2 – Explore and implement appropriate partnership opportunities [e.g., Dakota County Farmland & Natural Areas Program, southeast Minnesota Conservation Reserve Enhancement Program (CREP), etc.]

Action 3 – Work with Dakota County to enhance the Dakota County Farmland & Natural Areas Program, and assist in developing a process to continue the program when the initial investment ends.

Action 4 – Work with local units of government to integrate the Dakota County Farmland and Natural Area Protection Program, greenway planning, and water resource protection into local comprehensive plans.

Action 5 – Work with other governmental agencies and private landowners to increase public access to open space, the Vermillion River, and other public waters (e.g., Metropolitan Council through legislative park acquisition funding, Minnesota Department of Transportation to preserve ponding areas for future highway projects).

Action 6 – Support community efforts to create a continuous trail system along the Vermillion River and its major tributaries. Note: VRWJPO support will not include funding for trail construction.

Action 7 – Request that the Minnesota Department of Natural Resources (MDNR) conduct an expanded fisheries survey of the water resources in the Watershed to better identify aquatic habitat issues and restoration opportunities.

Action 8 – Request that the MDNR conduct creel surveys and access surveys of the River and other major water resources in the Watershed.

4.7.1 Open Space and Recreation Areas

Goal: Develop or improve recreational, fish and wildlife, open space areas and accessibility in conjunction with water quality improvement projects.

Dakota County Rural Collaborative	Objective 1		Objective 2				Objective 3			Objective 4			Objective 5							
	Action 1	Action 2	Action 1	Action 2	Action 3	Action 4	Action 1	Action 2	Action 3	Action 1	Action 2	Action 3	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 7	Action 8
Castle Rock Township	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓
City of Coates	✓	✓	✓	NA	NA	NA	NA	NA	✓	NA	NA	NA	✓	✓	✓	✗	✗	NA	NA	NA
Douglas Township	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓
Empire Township	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓
Eureka Township	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓
City of Hampton	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓
Hampton Township	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓	
Marshan Township	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓	
Nininger Township	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓	
Ravenna Township	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓	
City of Vermillion	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓	
Vermillion Township	✓	✓	✓	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✗	●	✓	✓	

✓ Impacts LGU but does not require direct input from LGU
 ● Requires direct action of LGU but is not mandatory
 ✗ Requires direct action or cooperation of LGU
 NA Not Applicable

4.8 EDUCATION

Goal – Offer programs, educational opportunities, and information that facilitate an understanding of watershed principles and objectives.

Rationale – Educating and working with stakeholders in the Watershed can provide a network of knowledgeable people who can support and even help implement the Plan to achieve Watershed goals.

Policies

1. Assist in distributing materials developed by other organizations and/or develop educational materials, where appropriate.
2. Support education for local officials emphasizing sustainable land use decisions that protect water quality, such as the Nonpoint Education for Municipal Officials (NEMO) program.
3. Coordinate and collaborate general education efforts with the efforts of the local units of government in the VRWJPO (e.g. NPDES Phase II MS4 permit education requirements).

Objectives

General Action – Provide training and guidance to local planners, developers and engineers on how best to implement Watershed standards and requirements.

General Action – Work with other agencies and groups to develop and implement education programs related to responsible land use practices. Ensure that elected officials have access to this program.

General Action – Work with government, nonprofit and other agencies to provide education programs on watershed issues.

Education Objective 1 – Develop an educational program related to each goal area in the Plan that includes marketing and other efforts to educate and motivate the target audience (e.g., elected officials, general public). The following is a compilation of educational actions from previous sections.

Action 1 – Water Quality:

Objective 2, Action 2: Collect, organize and interpret water quality monitoring data.

Objective 2, Action 3: Continue to fund the Vermillion River Watch program.

Objective 2, Action 6: Make water quality monitoring data available via website or other means and summarize data for public information purposes.

Objective 4, Action 4: If problems or shortcomings exist [in recreational lake management], work with affected municipalities to address problems through regulation, education, and/or implementation of capital projects.

Action 2 – Water Quantity

Objective 1: Advance the understanding of the hydrology of the Vermillion River.

Objective 2, Action 1: Provide funding for staff time or contracted services to provide standards oversight and guidance to assist developers in planning and designing onsite water management practices.

Objective 2, Action 3: Compile design and guidance documents for stormwater management within the Watershed.

Objective 4, Action 2: Collaborate with other agencies to provide best management practices (BMP) information in targeted rural areas.

Action 3 – Groundwater

Objective 2, Action 2: Collaborate with other agencies to develop a water conservation guidance document and provide this guidance document to cities and agriculture-related agencies and groups.

Objective 2, Action 3: Implement an educational campaign to distribute Watershed water conservation standards and monitoring requirements to public and non-public water suppliers by 2006.

Objective 2, Action 4: Encourage public and non-public water suppliers to institute phased water conservation techniques through education, monitoring, and development and implementation of standards by 2008. VRWJPO will provide assistance to public and non-public water suppliers to develop standards by 2007.

Objective 2, Action 8: Provide education to local governments and residents on the hydrologic cycle, groundwater, groundwater/surface water interactions, groundwater recharge areas, and groundwater conservation.

Objective 3, Action 1: Require local governments and rural subdivision developers to consider community wells and septic systems, when feasible, as a method to reduce pollution potential and increase groundwater resource management; include educating developers and local government representatives as a part of this action.

Objective 3, Action 3: [To reduce septic tank pollution of groundwater] Develop an information piece to distribute to developers and well and septic contractors.

Objective 3, Action 4: Educate land use authorities about community wells and septic systems (Action 4d)

Objective 4, Action: Assist counties in developing and distributing general well and well sealing information, or distribute existing information pieces, and identify opportunities to make landowners aware of general well information and well sealing programs.

Objective 7: Distribute (and develop or assist in developing, if necessary) educational materials or programs that provide information on groundwater and how land use impacts our drinking water supply.

Objective 7, Action 1: Develop (or assist in developing) and distribute groundwater protection areas information. The VRWJPO will use existing information and modify/create new information only if necessary (Action 8a).

Objective 8: Support and assist in groundwater research, regulation and education.

Objective 8, Action 1: Provide groundwater monitoring data/information and use the data/information to develop targeted educational messages.

Objective 8, Action 2: Work with partners to develop a distribution strategy to get the right information to the right public and private sector groups.

Action 4 – Wetlands

Objective 6: Assist in public education efforts regarding fish and wildlife populations in the Vermillion River watershed.

Objective 6, Action 1: Support signage and other location-specific education practices in public open spaces of the Vermillion River corridor.

Objective 6, Action 2: Distribute (and develop or assist in developing, if necessary) educational materials or programs that provide information on the fish and wildlife resources of the Vermillion River and steps being taken to preserve habitat.

Objective 6, Action 3: Provide support to local communities to continue the Wetland Health Evaluation Program.

Action 5 – Floodplains

Objective 1, Action 7: Assist local governments in developing, if necessary, and distributing educational materials regarding floodplain locations, protection, and floodplain land use and land alteration restrictions.

Action 6 – Land Use Management

Objective 3, Action 4: Assist State and local agencies in the distribution of research data, information and case studies showing how to reduce non-point source pollution from agricultural land by implementing best management practices (BMPs).

Objective 3, Action 10: Work with State and local agencies to educate landowners regarding the potential liabilities associated with continuing to maintain fences across public waters (e.g., Vermillion River and tributaries).

Objective 3, Action 11: Promote participation in local, State and federal conservation programs [e.g., Reinvest in Minnesota (RIM), Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), Environmental Quality Incentives Program (EQIP), Dakota County Farmland & Natural Areas Program, MN Cost Share Program, Conservation Security Program, Wildlife Habitat Incentives Program (WHIP), Farm and Ranch Lands Protection Program.

Action 7 – Open Space and Recreation Areas

Objective 1: Increase public awareness of the Vermillion River and its major tributaries as a valued resource.

Objective 1, Action 1: Implement an education program (e.g., brochures, television public service spots) to educate the public about the River system and its characteristics.

Objective 1, Action 2: Educate the public on the recreational opportunities provided by the Vermillion River through publication of maps and placement of signs denoting River access, etc.

Objective 3, Action 3: Educate recreational users on good stewardship practices to avoid damage to the stream environment or conflicts with riparian landowners.

Objective 4, Action 1: Implement a targeted education program (e.g., brochures, flyers) to educate landowners about liabilities associated with River obstacles located on/originating from private land.

Education Objective 2 – Provide information to the public, and provide opportunities for public involvement and input on Watershed policies and programs.

Action 1 – Use the VRWJPO web page to provide pertinent information about the Watershed.

- Post all agendas, background materials and meeting minutes to web.
- Post all major proposed plans and projects to web and request public comment through published notices and news releases.

Action 2 – Regularly publish VRWJPO newsletters.

Action 3 – Publish articles about the Watershed in other organizations' publications (e.g. the Scott County Scene and Dakota County Update).

Action 4 – Recruit volunteers for monitoring efforts (e.g., stream and lake sampling) and involvement in other VRWJPO programs and projects.

Action 5 – Provide or support formal volunteer training for Watershed projects and programs.

Action 6 – Develop and implement a recognition program for volunteers.

Action 7 – Publish Watershed map and handbook.

General Action – Work with other agencies and groups to develop and implement education programs related to responsible land use practices. Ensure that elected officials have access to this program.

General Action – Work with government, nonprofit and other agencies to provide education programs on watershed issues.

4.8.1 Education

Goal: Offer programs, educational opportunities, and information that facilitate an understanding of watershed principles and objectives.

Education Objective 1																																						
Dakota County Rural Collaborative	Action 1 - Water Quality				Action 2 - Water Quantity				Action 3 - Groundwater								Action 4 - Wetlands				Action 5 -	Action 6 - Land Use Management				Action 7 - Open Space and Recreation Areas												
	Objective 2, Action 2	Objective 2, Action 3	Objective 2, Action 6	Objective 4, Action 4	Objective 1	Objective 2, Action 1	Objective 2, Action 3	Objective 4, Action 2	Objective 2, Action 2	Objective 2, Action 3	Objective 2, Action 4	Objective 2, Action 8	Objective 3, Action 1	Objective 3, Action 3	Objective 3, Action 4	Objective 4	Objective 7	Objective 7, Action 1	Objective 8	Objective 8, Action 1	Objective 8, Action 2	Objective 6	Objective 6, Action 1	Objective 6, Action 2	Objective 6, Action 3	Objective 1, Action 7	Objective 3, Action 4	Objective 3, Action	Objective 3, Action	Objective 1	Objective 1, Action 1	Objective 1, Action 2	Objective 3, Action 3	Objective 4, Action 1				
Castle Rock Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓			
City of Coates	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓		
Douglas Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓		
Empire Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	
Eureka Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	
City of Hampton	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	
Hampton Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	
Marshan Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	
Nininger Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	
Ravenna Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓
City of Vermillion	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓
Vermillion Township	✓	✓	✓	✓	✓	✓	✓	✗	✗	✓	✗	✗	✗	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ Impacts LGU but does not require direct input from LGU ✗ Requires direct action or cooperation of LGU ● Requires direct action of LGU but is not mandatory NA Not Applicable

4.8.1 Education - Continued

Goal: Offer programs, educational opportunities, and information that facilitate an understanding of watershed principles and objectives.

	Education Objective 2								
	Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 7	General	General
Dakota County Rural Collaborative									
Castle Rock Township	✓	✓	✓	✓	✓	✓	✓	✗	✗
City of Coates	✓	✓	✓	✓	✓	✓	✓	✗	✗
Douglas Township	✓	✓	✓	✓	✓	✓	✓	✗	✗
Empire Township	✓	✓	✓	✓	✓	✓	✓	✗	✗
Eureka Township	✓	✓	✓	✓	✓	✓	✓	✗	✗
City of Hampton	✓	✓	✓	✓	✓	✓	✓	✗	✗
Hampton Township	✓	✓	✓	✓	✓	✓	✓	✗	✗
Marshan Township	✓	✓	✓	✓	✓	✓	✓	✗	✗
Nininger Township	✓	✓	✓	✓	✓	✓	✓	✗	✗
Ravenna Township	✓	✓	✓	✓	✓	✓	✓	✗	✗
City of Vermillion	✓	✓	✓	✓	✓	✓	✓	✗	✗
Vermillion Township	✓	✓	✓	✓	✓	✓	✓	✗	✗

- ✓ Impacts LGU but does not require direct input from LGU
- ✗ Requires direct action or cooperation of LGU
- Requires direct action of LGU but is not mandatory
- NA Not Applicable