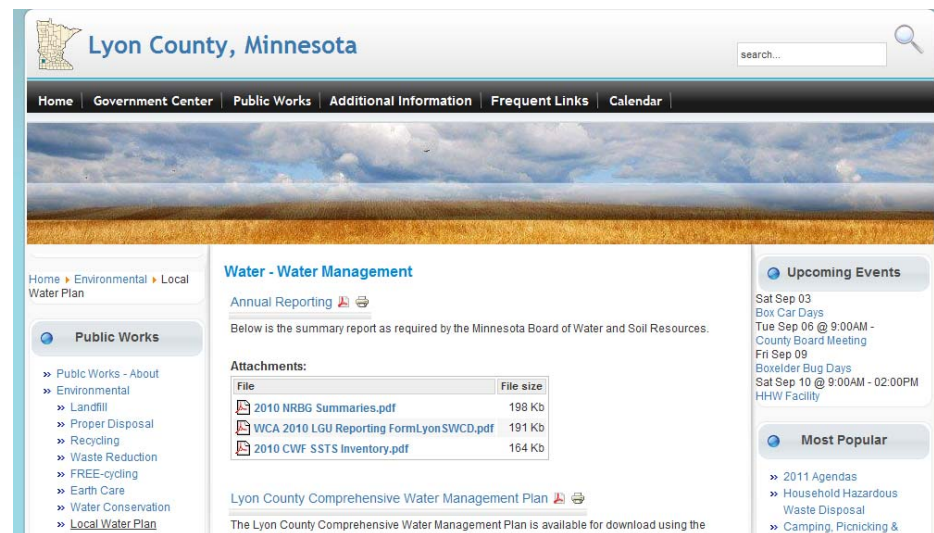


## Section I—EXECUTIVE SUMMARY

### Lyon County Water Plan Website

You can find this amendment of the Lyon County Water Management Plan on the Lyon County, Minnesota website. The main page is <http://www.lyonco.org>. Once there, click on the menu link for “Environmental”. Next, on the new page view that appears, click on the menu link “Local Water Plan”. Here, you will find links to all sections of the approved local water management plan.

For more information, or to ask questions about the plan, please contact the Environmental Office at Lyon County Public Works—(507) 532-8210.



### Lyon County Natural Resource and Recreation Board

The Lyon County Water Plan Board is served by the Lyon County Natural Resource and Recreation Board. This Board is responsible to County Parks, and Trails, the local water management plan, and promoting recreation activities in Lyon County. Members currently include, County Commissioner Mark Goode now, Lyon Soil & Water District Supervisor Otto Nyquist, Yellow Medicine Watershed District Board Member Tim Buysse, and the following Lyon County citizens: Chauncey Muedeking, Betsy Desy, Michelle Schultz, Kevin Henkel, Tom Meulebroeck, Denny Alexander, and Ron Prorock. Lyon County staff members include Roger Schroeder serving as the Water Plan Coordinator, and Suhail Kanwar, Lyon County Public Works Director.

*Continued from front page*

thority to facilitate improvements to existing structures and systems that may have negative impacts on natural (water) resources.

A third opportunity is the staffing, and financial commitment to the Des Moines River Watershed District. (DRWD). Though only a small portion of the Des Moines River watershed exists in Lyon County—about the size of 20 Sections of land area—this portion has been under-emphasized in areas of potential water management improvement. For example, low-interest loan options for septic system improvements were very limited to residents living in this watershed.

In addition to these opportunities, a few notable changes were also anticipated during the writing of this local water plan document. Most notably, the Redwood River Nonpoint Pollution Reduction Project plan was expected to be approved (and was finally approved) in 2010.

For these reasons, the Lyon County Natural Resource and Recreation Board—the governing body of the Lyon County water planning process—agreed that to wait five years for an amendment to the Implementation Section would not be capitalized on opportunities to better shape water planning efforts.

## Section I—EXECUTIVE SUMMARY

### OPPORTUNITY.

In a Word, “Opportunity” best describes the theme for this much-anticipated amendment to the Lyon County Water Management Plan.

The expectation of BWSR was for Implementation Section (Section 3) of this water plan to be amended only once during the approved 10-year comprehensive plan.

At the time of the adoption of this version of the plan, however, several, much-anticipated changes were about to occur.

These changes included potential opportunities of potential benefit to local water management. One anticipated opportunity came in the form of Minnesota voters passing the “Legacy Act” Amendment in November 2008. This has allowed for the potential of additional revenue sources to be accessed for natural resource protection and benefit.

Another opportunity came in April 2009 when the Lyon County Board of Commissioners entered into a delegation agreement with the Minnesota Pollution Control Agency (MPCA) to administer the County Feedlot Program. Local administration of this program allows for the potential access of additional funding sources, and for increased au-

*Continued on back page*



### Amendment to the Lyon County Local Water Management Plan

This Special Amendment to the Lyon County Local Water Management Plan was planned to occur at the end of the third year of the approved 10-year water management plan, which was adopted by the Minnesota Board of Water and Soil Resources (BWSR) in December of 2008. Although the amendment (and the amendment planned for December 2015) exceeds the expectations of BWSR, the reasons for making this amendment now are quite valid, and are explained in the sidebar article on the front and back cover of this document.

As an amendment to the 2008 local water management plan, this document is not intended to supplant the 2008 version, rather, to update two sections of the 2008 document; namely, this Executive Summary, and Section 3—the Implementation Plan. Only these two documents will be revised. The changes to these documents account for recent changes, accomplishments, opportunities, and further comments from State and Local entities with regards to water management issues in Lyon County, Minnesota.

The amendment to these two sections retains language, and content required by BWSR for local water management planning, and updates the focus, objectives, and methods for directing water planning activities in Lyon County.

### Lyon County Local Water Management Plan

This is the first amendment to the 2008 Version Lyon County Water Management Plan. The 2008 plan is the third revision of the original water management plan adopted and enacted in 1988. This update to the water plan adapts



## Section I—EXECUTIVE SUMMARY

### Water Management Plan Purpose

The Lyon County Comprehensive Local Water Plan has two purposes that focus on priority concerns as identified in coordination with other local governments and state agencies (2003 Statutory M.S. 103B.301), and an implementation plan that addresses the priority concerns:

- 1) To identify existing, and potential opportunities for the protection, management and development of water and related land resources.
- 2) To develop objectives and carry out a plan of action to promote sound hydrologic management of water and related land resources and effective environmental protection.

to changes in involvement, expectations, and focus from previous plans, yet does not entirely supplant previous plans. Valuable information is contained especially in the most previous revision of the water plan; specifically **Section III: Description of Features Affecting Water Resources**, **Section IV: Description of Water Resources**, **Section V: Related Land Resources**, **Section VI: Special Land Uses and Conditions**, and the **Associated Maps**.

*The current comprehensive local water plan document for Lyon County was accepted by the Minnesota Board of Water and Soil Resources in December 2008. This amendment is intended to be adopted December 31, 2011 to refresh implementation activities originally outlines in the 10-year water management plan, which covers years 2009-2018.*

In passing the Resolution to update the water plan, the Lyon County Board of Commissioners also voted unanimously to charge water plan administration to the Lyon County Environmental Office; which will continue to serve as the Local Governmental Unit (LGU) responsible for the local water management program as it has since the plan's inception. The County Board further supported a restructuring of the existing Water Plan Task Force for the purpose of this update process. The restructured Water Plan Board will provide oversight of water planning activities.

### Summary of Priority Concerns

The process used to derive priority concerns for Lyon County water resources (outlined completely in the Priority Concerns Scoping Document—Section IV) resulted in four general concern areas that are detailed below.

1. **Impaired Waters:** Several specific surface waters in Lyon County have been analyzed to determine that impairments to aquatic life or human use exist. Total Maximum Daily Load (TMDL) analysis has identified several water bodies/reaches have been impaired as of the date of this document. [AMENDMENT NOTE: This listing changes frequently, therefore, the complete listing has been moved from this section to *APPENDIX E: CLEAN WATER ACT SECTION 303(d) LIST*.

With research completed on these waters we have solid direction for how to best support implementation activities to support recovery efforts of these surface waters. Not all surface waters in Lyon County have been thoroughly analyzed, and it is expected that during the span of this water plan update additions will be made to this list of impaired surface waters.

#### TMDL DEFINED

TMDL is a scientific measure of how much of a certain contaminant can be present in the water without negatively impacting the overall health or usability of that water for recreation or consumption.

## Section I—EXECUTIVE SUMMARY

### 2011 Amendment Priority Rankings

Local water plan projects were ranked by members to help hone in on initiatives that will provide the greatest benefit in consideration of available dollars, partner skills, and project availability for the duration of this water plan amendment.

The method used assigned numerical qualifiers for each of three categories related to potential water plan projects: 1) Potential Beneficial Impact/Coverage, [Imp] 2) Project Availability, [Aval] and 3) Cost. The scales developed assigned values in which the highest value corresponds to the greatest benefit to local water planning with respect to each category. For example, a value of “5” for Potential Impact was used for projects with wide ranging benefits, or cumulative benefits, while a Cost Value of “5” was assigned to projects with the lowest cost. Both high values correspond to the best benefit to local water planning.

Categories were also weighted in accord with the overall importance to local water planning efforts. Potential Impact values were magnified 2 times their initial value, availability of the project was increased by 1.5 times the value, and project cost was kept at the original value. It is felt these factors best reflect Lyon County local water planning decision-making considerations.

TABLE 2: 2011 Amendment Priority Rankings

Rnk	Topic	Area	Imp	Aval	Cost	TOT
1	Youth Water Resource Education	Education	3	4	4	16.0
2	Water Use Conservation	Education	4	2	4	15.0
3	Nutrient Management plan assist.	Nutrient Reduction	3	3	3	13.5
4	Wetland Reclamation	Hydrologic System	4	2	2	13.0
5	Shoreland Stewardship & BMPs	Nutrient Reduction	3	2	4	13.0
6	Adult Water Resource Education	Education	3	2	4	13.0
7	Well Sealing	Groundwater	2	4	3	13.0
8	Tree Removal	Impaired Waters	2	4	2	12.0
9	Assist with small feedlot fixes	Nutrient Reduction	3	3	1	11.5
10	Blind Tile Inlet	Nutrient Reduction	2	3	3	11.5
11	River Cleanup	Impaired Waters	1	3	5	11.5
12	Small Dam Repair	Hydrologic System	2	3	2	10.5
13	Streambank Stabilization	Impaired Waters	3	2	1	10.0
14	Flood Control structures	Hydrologic System	3	2	1	10.0
15	Twin Lakes watershed protection	Nutrient Reduction	2	3	1	9.5
16	Wellhead Protection	Groundwater	2	2	2	9.0
17	Buffer Systems	Nutrient Reduction	2	2	2	9.0
18	SSTS Upgrades	Groundwater	2	2	1	8.0
19	Rain Garden	Nutrient Reduction	1	1	3	6.5
20	Waterless fixture demonstration	Groundwater	1	1	3	6.5



#### CATEGORY VALUE DESCRIPTIONS

**IMPACT:** 5=Wide/Cumulative, 4=Comprehensive, 3=Localized, but Acute, 2=Significant, 1=Marginal

**AVAILABILITY:** 5=Immediate/Regular, 4=Ongoing, 3=Likely, but dependent, 2=Available if Interested, 1=Unscheduled

**COST:** 5=Low, 4=Moderate, 3=High, 2=Partners, 1=Grant



## Section I—EXECUTIVE SUMMARY



### Summary of Accomplishments

As of this writing, water plan partners have accounted for significant accomplishment toward water plan goals addressing water resources in Lyon County. Total dollars spent on water resource protection, reclamation, and protection is very difficult to measure since numerous local, state, and federal entities have programs benefitting Lyon County. That being said, the following chart attempts to summarize dollars and activities spent by water plan partners on programs and projects identified as priorities in the Lyon County Local Water Management Plan. The following table summarizes water plan partner activities between January 1, 2009, and December 31, 2011



**TABLE 1: Water Plan Partners Spending Summary**

Priority Concern Activity	No.	Water Plan Dollars	Partner Dollars	Total Dollars
<b>1. Impaired Waters</b>				
Streambank Stabilization	6	\$ 12,200.00	\$ 272,625.00	\$ 284,825.00
Municipal Storm Sewer Imp.	1	\$ 3,000.00	\$ 347,000.00	\$ 350,000.00
River Cleanup	2	\$ 128.44	\$ 1,450.00	\$ 1,578.44
Grassed Waterways	2.5	\$ -	\$ 34,600.00	\$ 34,600.00
Fallen Tree Removal	3	\$ 11,265.00	\$ 4,200.00	\$ 15,465.00
<b>TOTALS</b>	<b>14.5</b>			<b>\$ 686,468.44</b>
<b>2. Hydrologic System Mgmt.</b>				
Research and Mapping	1	\$ 1,500.00	\$ 1,500.00	\$ 3,000.00
Small Dam Repair	6	\$ 7,000.00	\$ 167,942.00	\$ 174,942.00
Shoreland Administration	1	\$ 9,357.00	\$ 9,357.00	\$ 18,714.00
WCA Administration	3	\$ 30,000.00	\$ 30,000.00	\$ 60,000.00
<b>TOTALS</b>	<b>11</b>			<b>\$ 256,656.00</b>
<b>3. Nutrient Load Reduction</b>				
Tile Intake	51	\$ 3,219.69	\$ 21,870.44	\$ 25,090.13
Feedlot small fixes	2	\$ 750.00	\$ 3,150.00	\$ 3,900.00
Rain Gardens	2	\$ 1,125.00	\$ 1,450.00	\$ 2,575.00
Nutrient Management Plans	12	\$ -	\$ 37,943.00	\$ 37,943.00
SSTS Program Enforcement	3	\$ 29,862.00	\$ -	\$ 29,862.00
Sedimentation Control Basins	18	\$ -	\$ 64,850.00	\$ 64,850.00
Conservation Use Incentive	2	\$ 2,500.00	\$ -	\$ 2,500.00
Feedlot Administration	1	\$ 36,300.00	\$ -	\$ 36,300.00
Ag Waste Facilities	3	\$ -	\$ 160,665.00	\$ 160,665.00
<b>TOTALS</b>	<b>94</b>			<b>\$ 363,685.13</b>
<b>4. Groundwater Protection</b>				
Education & Research Intern	1	\$ 2,000.00	\$ 2,000.00	\$ 4,000.00
Well Sealing	38	\$ 5,682.00	\$ 12,045.50	\$ 17,727.50
SSTS Loan Upgrades	27	\$ 248,809.00	\$ 2,250.00	\$ 251,059.00
WHP Water Analysis	1	\$ 2,688.00	\$ 5,000.00	\$ 7,688.00
<b>TOTALS</b>	<b>67</b>			<b>\$ 280,474.50</b>
<b>5. Education</b>				
4-H Day Camps	6	\$ 2,076.00	\$ 500.00	\$ 2,576.00
Environmental Fair	3	\$ 1,250.00	\$ 13,500.00	\$ 14,750.00
SWCD Women's Ag. Day	1	\$ 600.00	\$ 4,760.00	\$ 5,360.00
River Ecology Education	6	\$ 5,052.00	\$ 975.00	\$ 6,027.00
<b>TOTALS</b>	<b>16</b>			<b>\$ 28,713.00</b>

**TABLE NOTES:** The column "No." is the number of projects completed. Partner Dollars refer to financial contributions to the projects from water plan partners. "Attending" is used to note participation numbers at events open to the public.

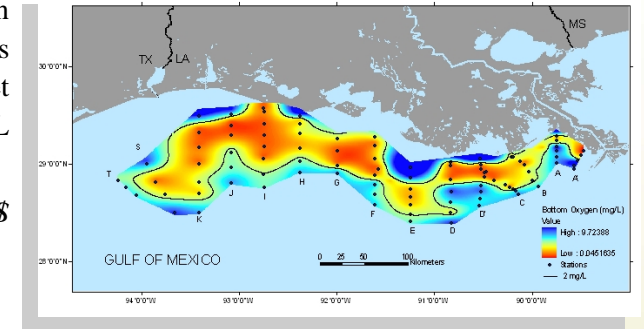
## Section I—EXECUTIVE SUMMARY

### GOALS, ACTION, AND PROJECTED COST

TMDL plans already in place are administered by entities other than Lyon County. However, the County Water Plan has two areas of focus:

- 1) Provide administrative support to approved TMDL plan implementation efforts.
- 2) Focus financial allocation toward activities in the County that provide county-wide benefits (e.g. abandoned well sealing), or that target water sources not currently covered by TMDL plans (e.g. the Twin Lakes sub-watershed).

**4-Year Amendment Estimated Funding Needs: \$ 308,650**



2. **Hydrologic System Management:** The altered Southwest Minnesota landscape from its native, pre-settlement state has transformed the flow, retention, and replenishment of the hydrologic cycle. Pattern tiling, ditching, wetland removal, development, stormwater drainage, excessive groundwater use, etc. have resulted in the cumulative effect of rapidly transporting a greater amount of water to major rivers and streams, and away from groundwater recharge potential. Some impacts of this human-induced activity can already be seen, such as the impaired list of waters previously discussed.

Slowing this rapid export of water is in need of greater attention through comprehensive study and continual implementation of beneficial projects. Incorporating proven, practical measures—such as conservation drainage—would provide benefits to water quality without negatively impacting existing land management practices. Important to this issue is maintenance of existing infrastructure—e.g. flood retention structures—related to hydrologic systems.

Although a targeted approach to incorporating additional flood control measures would be prudent, it is generally believed that any additional wetland acres, flood control measures, and bank stabilization efforts would provide lasting cumulative benefits.

### GOALS, ACTION, AND PROJECTED COST

Water Plan Partners are committed to identifying, and prioritizing potential projects, and are looking for additional ways to improve water resource quality through hydrologic system management. In this amendment of the Lyon County Water Management Plan, additional effort will be directed toward securing funding for priority projects, supporting educational/informational workshops on conservation drainage, and wetland reclama-

*"Till taught by pain, Men really know not what good water's worth"*  
- Lord Byron

### Plan Adoption and Amendment Process

- The current Lyon County Local Comprehensive Water Plan will guide water management priority concerns through the year 2018.
- This amendment of the plan focuses on activities between 2012-2015.
- The next planned review and update of the Implementation plan will be conducted in 2015, and will continue through the 10-year plan expiration in December 2018.
- Annual activities are recommended by the Lyon County Natural Resource & Recreation Board, and the Lyon County Board of Commissioners.

## Section I—EXECUTIVE SUMMARY

### Our Future through the Eyes of Our Past

Minnesota is in need of engaging in greater efforts to promote opportunities to establish deeper commitments to natural resource sustainability, and to better engage in land and water conservation and protection practices.

Excessive dollars have been spent to correct problems that were created by our haste to develop land for our own purposes. Make no mistake, I acknowledge the benefits received by the entire country from the efforts made in the areas of food production, rail expansion, and community settlement in Southwest Minnesota. And make no mistake, I acknowledge the level of insight we now have of looking at past actions through the lenses of hindsight. Yet here in Minnesota in 2012 we still paying for the haste of excessive drainage, a greed for production output, and selfish over-development from the last 50-100 years.

Have we learned from the outcomes of our recent past? To me, the resounding answer appears to be 'not quite'.

Even as we are in the process of paying for the haste of our predecessors (through taxpayer-supported conservation programs), Minnesota's governance, and its people continue to engage in hasty decisions, and live lifestyles that limit true sustainability.

In my opinion, this region of Min-

*Continued next sidebar*

tion, and securing funding for large-scale projects that would distribute great benefit to water resources.

**4-Year Amendment Estimated Funding Needs: \$ 236,700**

- 3. Nutrient Loading Reduction:** Nutrient loads into surface waters is a primary culprit for the degradation of water quality in Southwest Minnesota. Although some impaired waters have already been identified through TMDL studies, many surface waters have yet to be comprehensively evaluated to ascertain if impairments exist. For this reason, limiting excessive nutrients from reaching surface waters is of primary consideration. Buffers to ditches, rivers and lakes are of primary consideration to receive funding, and project support from the water plan.

#### GOALS, ACTION, AND PROJECTED COST

Nutrient Reduction priorities for this segment of the water plan center on water bodies that are currently not covered by a TMDL plan, and activities that have county-wide benefit (by targeting non-point source inputs). Replacing agricultural field tile intakes with "blind inlets" has been a prominent feature of local water planning, and will continue, as will subsurface sewage treatment system (SSTS) enforcement and improvements.

New activities to this amendment of the local water plan include efforts toward completion of a Level III Feddlot Inventory to assess pollution runoff potential. Anticipation completion date is December, 2011. After completion, Lyon County anticipates continuing with regular feedlot administration, and assistance—which allows for enforcement and funding of small dollar fixes to small feedlot operations—and conservation drainage incentives—whereby land managers are provided incentive to install controls and features to better manage agricultural land drainage.

**4-Year Amendment Estimated Funding Needs: \$250,500**

- 4. Public Drinking Water Supply Protection:** Extensive concern has been expressed with regards to drinking water quality, quantity, and availability. Wellhead protection through land use best management practices in well recharge areas has been specifically highlighted as a top priority; not only for existing well recharge areas, but also for developing future well sites.

The availability of groundwater for future use is a concern for some industry professionals that has not receive adequate attention. Conducting research to assess the availability of water resources might provide many long-range planning benefits.

There are not any scheduled wellhead protection plan developments during this phase of the local water plan, therefore, total cost, and project goals

## Section I—EXECUTIVE SUMMARY

are reduced from previous years. However, technical and financial services will be made available when requested.

#### GOALS, ACTION, AND PROJECTED COST

These activities primarily include an education focus, especially focusing on water conservation, and wellhead protection. Activities across the County include abandon/unused well sealing, while targeted activities concentrate on wellhead protection, and land use controls—especially for those communities that do not currently have a wellhead protection plan.

**4-Year Amendment Estimated Funding Needs: \$ 190,200**

- 5. Education:** Education—especially youth education—has been a prominent feature of Lyon County local water planning for the last decade. Many collaborative efforts persist to provide ecological education opportunities for schools strapped by annual budget cuts. One-time education events focus on topics primarily for adults that focus on land use best management practices. Though educational components are already covered throughout each Priority Concern Area, educational efforts play such a significant role to Lyon County water planning, that additional emphasis is warranted.

#### GOALS, ACTION, AND PROJECTED COST

Water resources education opportunities will continue to be supported for school science programs—primarily reaching grades 5-8. Adult education efforts will increase during this amendment coverage period, with workshop and seminar opportunities reaching local communities in Lyon County. Most partners also engage in educational activities—the Lyon Soil & Water Conservation office engaging both youth and adults in many ways.

**4-Year Amendment Estimated Funding Needs: \$ 14,235**

### Closing Remarks

The environment (including water management concerns) does not always rate high on the minds of residents of this state when compared to transportation, education, employment, and safe communities. Local water management efforts—in a way—are trying to assure that water quality makes it to the top of the list of concerns for Minnesotans, for we know that if this does not happen, communities in this State would avoid numerous future problems.

As water management plan partners we need to continue to do good work to make certain that water quality, and water quantity never become urgent concerns. This process of good work is invigorated by updating water management plans in the manner in which we have proceeded. The challenge now is to maintain this momentum throughout the duration of this local water management plan.

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nesota is leaning slightly toward the exploitation of our groundwater resources, the exploitation of our crop producing land, and a general ambivalence toward concerns fro protecting surface water and groundwater resources.

The lack of attention to the breadth of opportunities for individuals to engage in energy conservation, inefficiency in the form of calories per acre food production, and the State's rapid trend toward investments into the Ethanol Industry are but a few examples of practices that do not lend themselves toward promoting sustainability, and ones in which—if continued—may require future generations to pay for current haste.

**Conservation**, in the form of changing our human behaviors, is the BEST solution for reducing our dependence on traditional energy sources, and will be the BEST effort we can make toward the establishing a sustainable way of life that will promote natural resource conservation, and preservation.

I acknowledge that this is a complicated situation, that we are in complicated times. Yet we were in such complicated times 50 and 100 years ago as well. Complication is no longer a suitable excuse, nor is it a justification to put off lifestyle changes that are necessary to truly protect and preserve a sustainable future in our region of the nation.

- Roger Schroeder