APPENDIX A—Selected Definitions

Abandoned well: Well once used to withdraw ground water now unused.

Aquifer: An underground bed or layer of earth, gravel or porous stone that contains water.

Conservation practices: The protection, improvement, and use of natural resources according to principles that will assure their highest economic or social benefits.

Cretaceous bedrock: The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Erosion: The wearing away of land surface by water or wind; occurs naturally from weather or runoff, but is often intensified by human activities.

Eutrophication: The aging process by which lakes are fertilized with nutrients. Natural eutrophication will very gradually change the character of a lake. Cultural eutrophication is the accelerated aging of a lake as a result of human activities.

Fecal Coliform Bacteria: Bacteria prolific in the intestines of warm-blooded animals. Used as an indicator of fecal waste pollution.

Groundwater: The supply of fresh water under the earth's surface found in pores, cracks and fractures of subsurface rocks or between the particles in sand and gravel deposits.

High Priority Erosion Problems: "Erosion from wind and/or water occurring on Class I-IV soils in excess of 2T per acre/per year on any soil within 300 feet of a stream or 1000 feet of a water basin designated as a protected water or wetland eroding in excess of T tons per acre/per year."

High Priority Sedimentation Problems: "All areas within 300 feet of a stream or 1000 feet of a lake where the erosion rate exceeds 3 tons per acre/per year and areas where the District can show that sediment delivery occurs from a watershed or direct conveyance structure such as a storm sewer unpaved outlet cannel discharging to these waters. The water basin, wetland, or water course must be classified by the Department of Natural Resources as protected water."

High Priority Feedlots: "Feedlots where the pollution potential reassign from the feedlot model is greater than or equal to one and which are discharging pollutants to Department of Natural Resources designated protected waters or to a sinkhole or shallow soils overlying fractured or cavernous bedrock or within 100 feet of a water well."

High Priority Water Quality Problems: "Areas where sediment, nutrients, chemicals, or other pollutants discharge to Department of Natural Resources designated protected waters or to any high priority waters as identified in the local comprehensive water plan and the State Impaired Waters listing. The pollutant delivery rate to the water source is in amounts that will impair the quality or usefulness of the water resource."

Hydrologic cycle: Water reaches the aquifer through a process call the hydrologic cycle. Water is continually exchanged between the atmosphere, the surface of the earth, and those underground areas. Water evaporates from our rivers, lakes, streams and plants. The evaporated water rises into the atmosphere and forms clouds. Water returns to the earth as dew, rain, sleet, hail and snow. Water that soaks through the soil layers and reaches the water table is said to have recharged the ground water.

Nonpoint Source Pollution: A contributing factor to water pollution that cannot be traced to a specific spot, such as agricultural fertilizer runoff or construction site sediment.

Nutrient: Elements or compounds essential to growth and development of living things (e.g., nitrogen, potassium phosphorus).

Point Source Pollution: A stationary location where pollutants are discharged such as industrial or municipal waste discharge.

Recharge area: Location where replenishment of aquifer or movement of surface water to groundwater occurs.

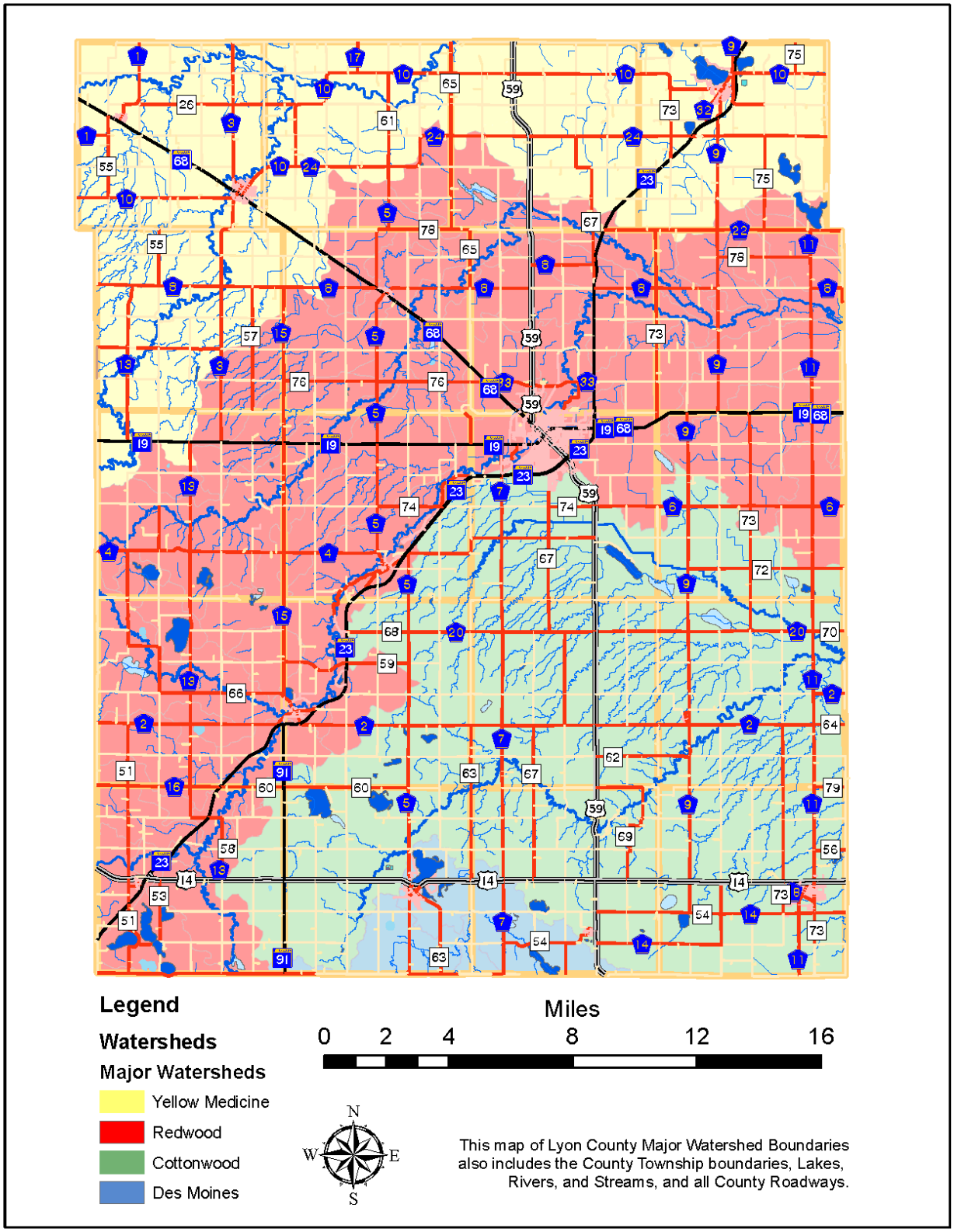
Runoff: Water from rain, snow melt, or irrigation that flows over the ground and returns to streams. It can collect pollutants from air or land and carry them to the receiving waters.

Sediment: Material deposited by water, wind or glaciers.

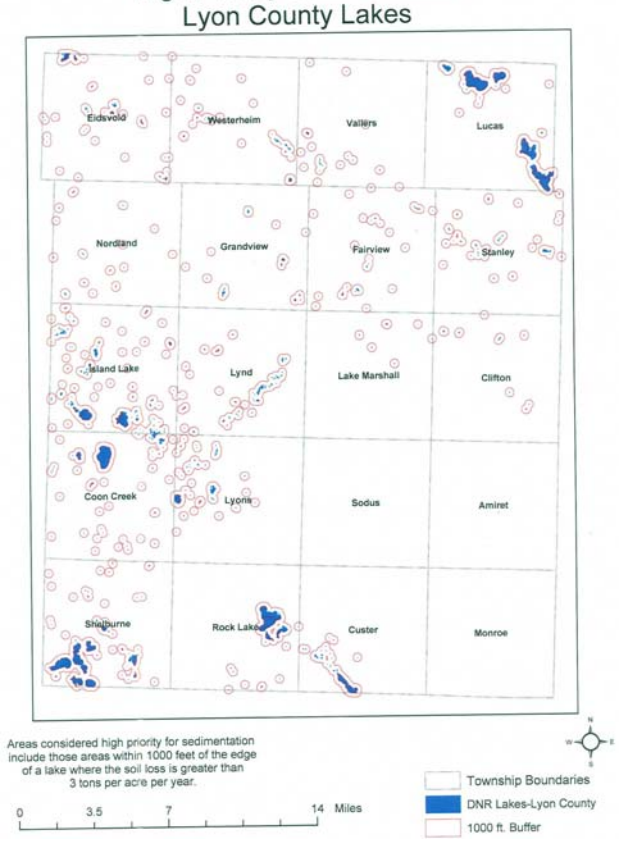
Suspended solids: Small particles that hand in the water column and create turbid or cloudy conditions.

Water table: The upper surface of an aquifer or saturated zone.

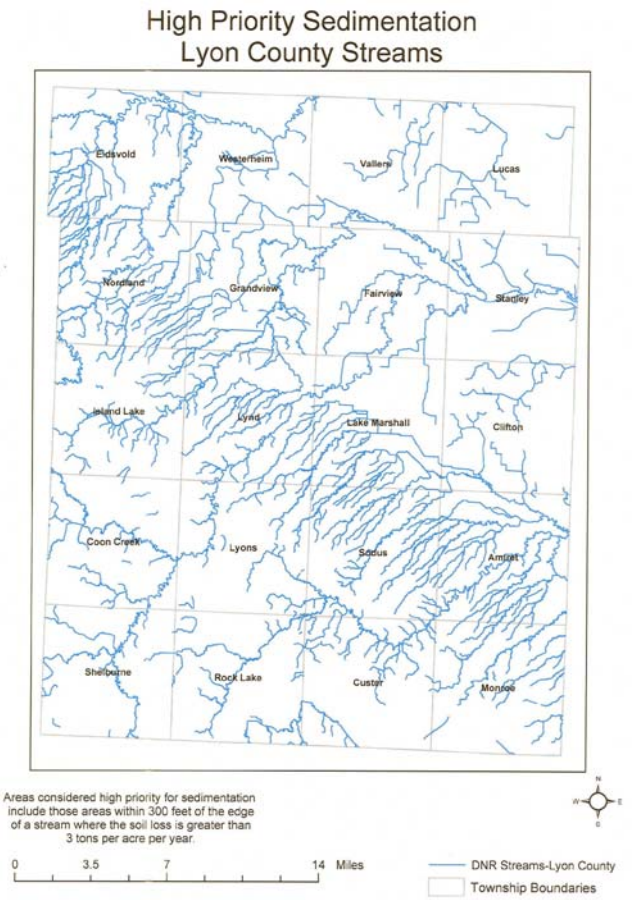
Lyon County Watershed Map



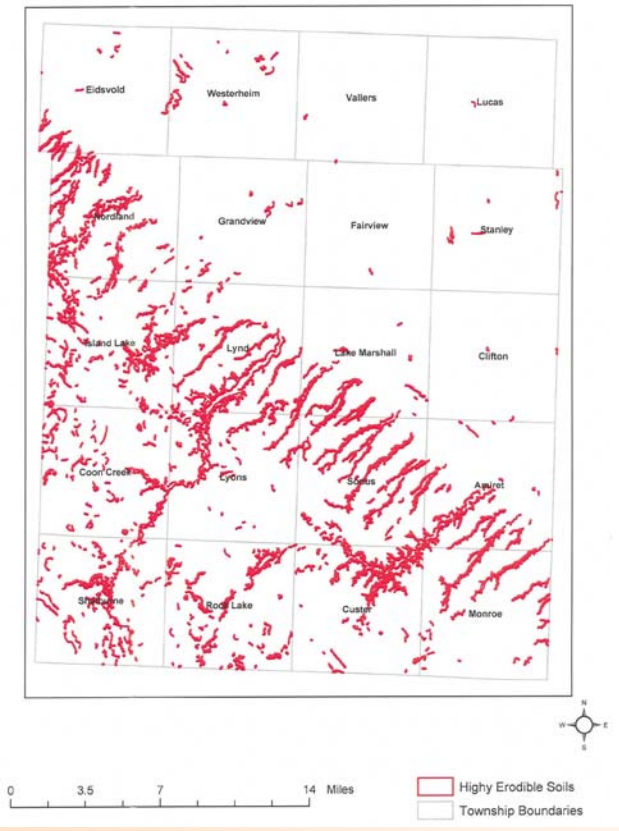
High Priority Sedimentation Lyon County Lakes



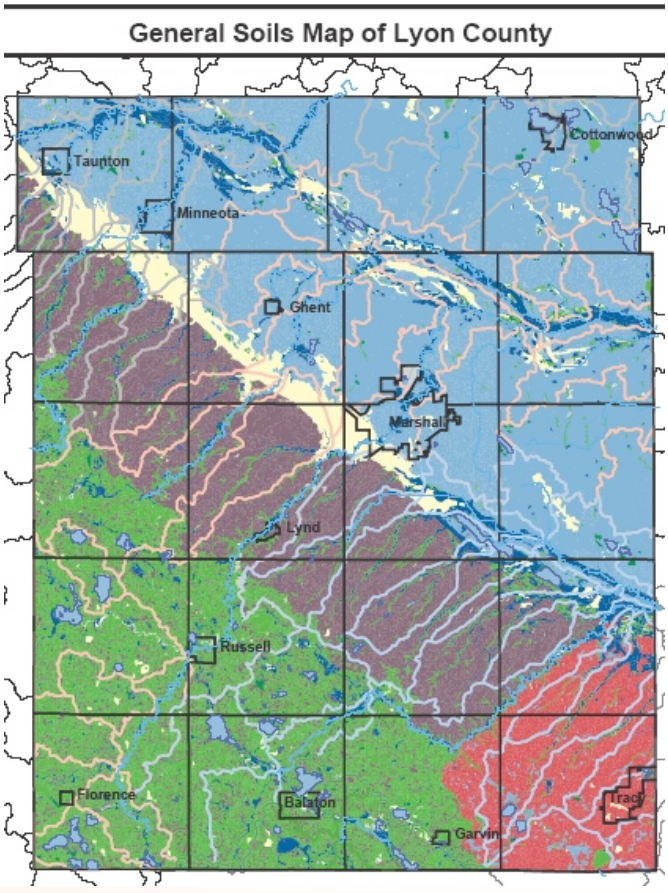
High Priority Sedimentation Lyon County Streams



Lyon County Highly Erodible Soils

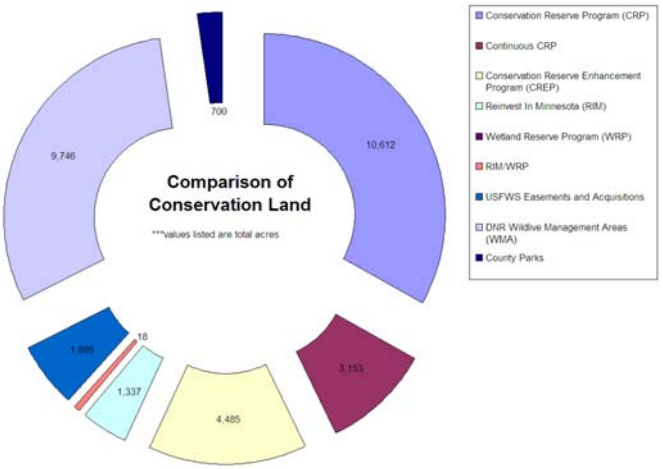


General Soils Map of Lyon County



Comparison of Lyon County Land Use

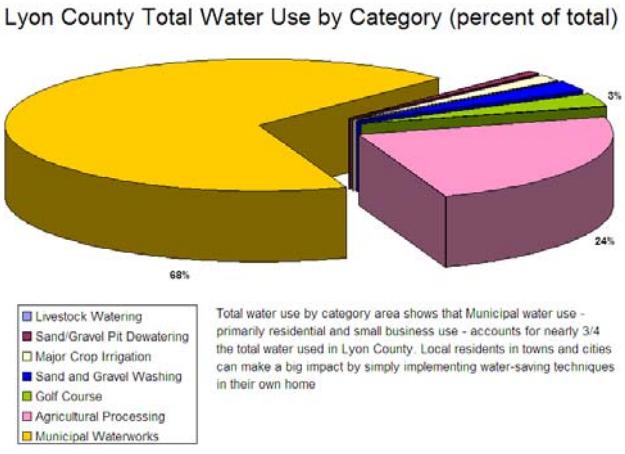
Conservation Types	Acres	% Total
Conservation Reserve Program (CRP)	10,612	2%
Continuous CRP	3,153	1%
Conservation Reserve Enhancement Program (CREP)	4,485	1%
Reinvest In Minnesota (RIM)	1,337	0%
Wetland Reserve Program (WRP)	18	0%
RIM/WRP	164	0%
USFWS Easements and Acquisitions	1,889	0%
DNR Wildlive Management Areas (WMA)	9,746	2%
County Parks	700	0%
Natural Land areas (lakes, shoreland area, pasture, etc.)	30,051	7%
TOTAL CONSERVATION ACRES	**62,156**	**13%**
MUNICIPALITIES	12,984	3%
CROPLAND	385,950	84%
Total County Acres	462,067	100%

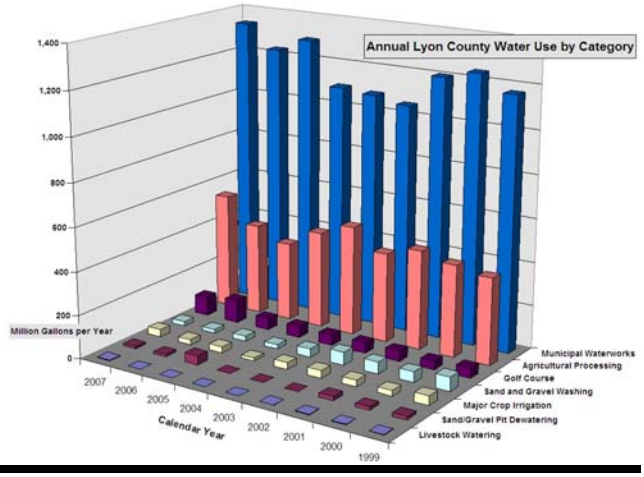


Lyon County Permitted Groundwater Use

Type of Groundwater Use	Gallons	2007	2006	2005	2004	2003	2002	2001
Livestock Watering	13.61	2.40	0.00	0.00	0.00	0.43	2.23	2.27
Sand/Gravel Pit Dewatering	132.26	10.00	11.80	42.84	0.00	0.00	0.00	18.41
Major Crop Irrigation	299.62	36.00	25.00	28.24	14.12	31.77	35.23	31.71
Sand and Gravel Washing	440.04	20.82	19.27	23.52	21.46	38.42	61.28	54.67
Golf Course	592.07	89.91	106.83	53.57	51.07	47.52	47.46	47.53
Agricultural Processing	4,203.41	538.41	422.10	365.52	448.40	506.96	412.13	457.68
Municipal Waterworks	12,168.91	1,335.74	1,229.62	1,291.09	1,093.93	1,081.25	1,053.90	1,202.72
TOTAL	**17,849.92**	**2,033.28**	**1,814.61**	**1,804.78**	**1,628.98**	**1,706.35**	**1,612.24**	**1,815.00**

***All values are in millions of gallons per year (mgy)**





NOTE: In an effort to reduce excessive paper use we have included a few representative maps, data tables, and charts in this section, rather than including a vast assortment of data. For additional access to useful water resources, we direct you to the Water Planning Section of the Lyon County Internet site: **http://www.lyonco.org** (*click on Water Planning*).

United Stated Environmental Protection Agency List of Impaired Waters—2010

Reach Description ['from' - 'to']	Yr placed in impairment Inventory	Affected designated use	Pollutant or stressor	TMDL Target start	TMDL Target complete	EPA Cate-gory
Lk Benton to Redwood R	2004	Aquatic life	Fish bioassessments	2016	2022	5A
Lk Benton to Redwood R	2008	Aquatic recreation	Fecal Coliform	2007	2012	5A
Coon Cr to T110 R42W S20, north line	2008	Aquatic recreation	Fecal Coliform	2007	2010	5B
T111 R42W S33, west line to Threemile Cr	2008	Aquatic life	Chloride	2016	2022	5B
T111 R42W S33, west line to Threemile Cr	2004	Aquatic recreation	Fecal Coliform	2007	2010	5B
T111 R42W S33, west line to Threemile Cr	2002	Aquatic life	Fish bioassessments	2012	2015	5B
T111 R42W S33, west line to Threemile Cr	2002	Aquatic life	Turbidity	2008	2011	5B
Threemile Cr to Clear Cr	2002	Aquatic life	Fish bioassessments	2016	2022	5B
Threemile Cr to Clear Cr	2010	Aquatic Life	Turbidity	2008	2011	5B
Headwaters to Redwood R	2006	Aquatic recreation	Fecal Coliform	2009	2011	5A
Headwaters to Redwood R	2004	Aquatic life	Turbidity	2006	2011	5A
Unnamed cr to S Br Yellow Medicine R	2006	Aquatic recreation	Fecal Coliform	2010	2016	5C
S Br Yellow Medicine R to Spring Cr	2008	Aquatic life	Turbidity	2010	2016	5C
Headwaters to Yellow Medicine R	2002	Aquatic life	Turbidity	2010	2016	5B
Cottonwood Lake	2010	Aquatic recreation	Nutrient/Eutrophication Biological Indicators	2010	2016	5C
Goose Lake	2010	Aquatic recreation	Nutrient/Eutrophication Biological Indicators	2016	2022	5C
Pochardt Slough	2010	Aquatic Life	Aquatic macroinvertebrate bioassessments	2016	2022	5C
Rock Lake	2010	Aquatic recreation	Nutrient/Eutrophication Biological Indicators	2013	2019	5C
School Grove Lake	2010	Aquatic recreation	Nutrient/Eutrophication Biological Indicators	2016	2022	5C
Weltz Slough	2010	Aquatic Life	Aquatic macroinvertebrate bioassessments	2016	2022	5A
Weltz Slough	2010	Aquatic Life	Aquatic Plant Bioassess-ments	2016	2022	5A
Lake Yankton	2010	Aquatic recreation	Nutrient/Eutrophication Biological Indicators	2014	2021	5C

List of TMDL Projects from the MPCA Internet Site

Project Name	Status
South Branch Yellow Medicine River Fecal Coliform TMDL	COMPLETED
Redwood River Fecal Coliform TMDL	IN PROGRESS
Redwood River Major Watershed	FUTURE START
Redwood River Turbidity TMDL Project	IN PROGRESS
Cottonwood River Major Watershed	FUTURE START
Cottonwood River Turbidity TMDL Project	IN PROGRESS
Cottonwood River Watershed Fecal Coliform TMDL	IN PROGRESS
Development of TMDLs For the West Fork Des Moines River Watershed	COMPLETED