V. APPENDIX

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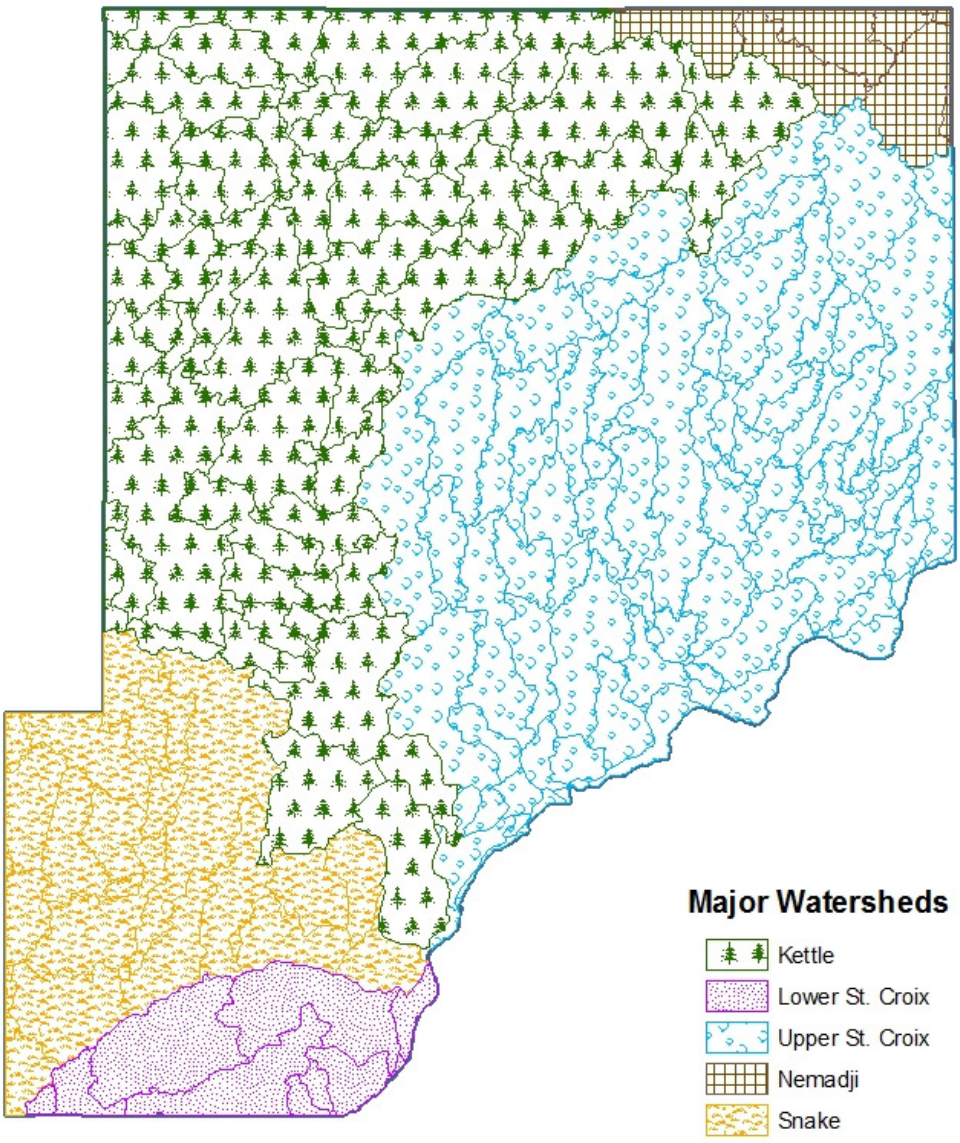
Major Watersheds in Pine County



The watershed layers were provided by the Minnesota Department of Natural Resources

Pine County contributing area and baseline phosphorus loading by subwatershed.

Areas (ac) (Within St. Croix Basin)

County	Total	By landuse (1992 NLCD) Ag	Forest	Grassland	Shrubland	Urban	Water
Pine	884,545	59,344	558,833	156,161	3,007	5,960	101,239
Subwatersheds	100%	7%	63%	18%	0%	1%	11%
Bear Creek	43,381	1,952	26,927	8,530	96	173	5,703
Crooked Creek	72,574	7,400	57,747	3,824	217	164	3,221
Kettle River	354,737	14,619	224,205	69,249	1,637	2,973	42,055
Lower Tamarack River	125,739	5,198	113,105	1,444	90	248	5,652
Redhorse Creek	12,012	24	7,879	138	68	3	3,901
Rock Creek	44,264	9,249	11,078	18,669	30	423	4,816
Rush Creek	3,756	688	915	1,641	1	20	490
Sand Creek	89,483	7,518	64,242	9,206	828	48	7,643
Snake River	131,810	12,157	46,952	43,204	39	1,864	27,595
Upper Tamarack River	6,787	539	5,782	255	2	45	164

Loading (lb/yr)

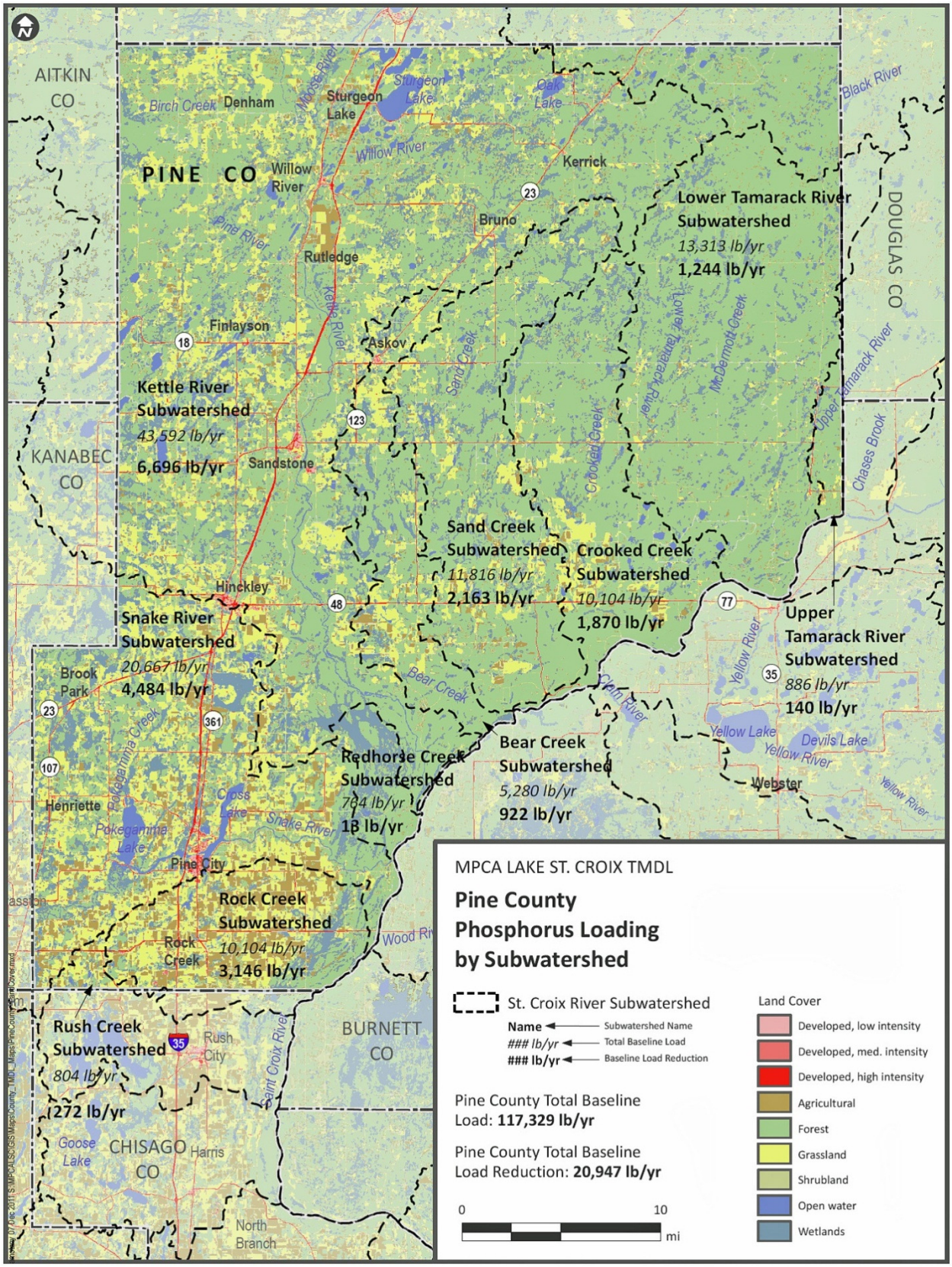
County	Total	By Landuse (1992 NLCD) Ag	Forest	Grassland	Shrubland	Urban	Water	TMDL Load Reduction
Pine	117,329	33,272	49,070	30,751	264	3,341	630	20,947
Subwatershed	100%	28%	42%	26%	0%	3%	1%	18%
Bear Creek	5,280	1,095	2,364	1,680	8	97	36	922
Crooked Creek	10,104	4,149	5,071	753	19	92	20	1,870
Kettle River	43,592	8,196	19,687	13,637	144	1,667	262	6,696
Lower Tamarack River	13,313	2,914	9,932	284	8	139	35	1,244
Redhorse Creek	764	13	692	27	6	2	24	13
Rock Creek	10,104	5,186	973	3,676	3	237	30	3,146
Rush Creek	804	386	80	323	0	11	3	272
Sand Creek	11,816	4,215	5,641	1,813	73	27	48	2,163
Snake River	20,667	6,816	4,123	8,508	3	1,045	172	4,484
Upper Tamarack River	886	302	508	50	0	25	1	140

NOTES:

*Landuse areas derived from GIS based 1992 NLCD dataset

*TMDL load reduction= [(lanuse area*P export coefficient)/total subwatershed load]*(total subwatershed reduction) ---> i.e., required reduction is proportional to load contribution per unit area.
*Load= landuse area * given TMDL phosphorus export coefficient

Pine County tributary, land cover and phosphorus loading.



DRAFT 2014 MPCA IMPAIRED WATERS LIST
FOR PINE COUNTY

Reach	Assessment Unit ID #	Affected Use	Pollutant/ Stressor
Grindstone R Grindstone Reservoir To Kettle R	07030003-501	AQL, AQR	Fish IBI, Fecal Coliforn
Kettle R Grindstone R to St Croix R	07030003-502	AQC	Mercury
Kettle R Willow R to Pine R	07030003-503	AQC	Mercury
Kettle R Moose Horn R to Willow R	07030003-505	AQC	Mercury
Kettle R Birch Cr to Moose Horn R	07030003-506	AQC	Mercury
Kettle R Carlton/Pine County Line To Birch Cr	07030003-552	AQC	Mercury
Kettle R Skunk Cr to Grindstone R	07030003-517	AQC	Mercury
Kettle R Former Dam (at Sandstone) To Skunk Cr	07030003-519	AQC	Mercury
Kettle R Pine R to Former Dam (at Sandstone)	07030003-528	AQC	Mercury
Grindstone R, North Branch Headwaters to Grindstone Lake	07030003-541	AQR	E. coli
Grindstone R Grindstone Reservoir to Kettle R	07030003-501	AQR	Fecal Coliform
Grindstone R Grindstone Reservoir to Kettle R	07030003-501	AQL/Fish	Bioassessments
Grindstone R, South Branch Headwaters to Grindstone R	07030003-516	AQR	Fecal Coliform
Grindstone R, South Branch Headwaters to Grindstone R	07030003-516	AQL/Fish	Bioassessments

Grindstone R, North Branch T42N R21W S33, north line to Grindstone R	07030003-544	AQR	Fecal Coliform
Snake R Mud Cr to Mission Cr	07030004-503	AQC	Mercury
Snake R Mission Cr to Cross Lk	07030004-586	AQC	Mercury
Snake R Cross Lk to St Croix R	07030004-587	AQC	Mercury
Pokegama Creek East Pokegama Creek to Unnamed Creek	07030004-532	AQL	Aquatic macroinvertebrate bioassessments
Mission Creek Unnamed Lake (58-0173-00) to T39N R21W S31, west line	07030004-547	AQL	Aquatic macroinvertebrate
Mission Creek Unnamed Lake (58-0173-00) to T39N R21W S31, west line	07030004-547	AQL	Fish Bioassessments
Mission Creek Unnamed Lake (58-0173-00) to T39N R21W S31, west line	07030004-0547	AQL	Oxygen, Dissolved
Mission Creek T39N R22W S36, east line to Snake R	07030004-547	AQL	Fish Bioassessments
Mission Creek T39N R22W S36, east line to Snake R	07030004-547	AQL	Oxygen, Dissolved
Mud Creek (Cty Ditch 10) Mud Lake(Quamba Lk 33-0015-00) to Snake R	07030004-567	AQR	Fecal Coliform
Unnamed creek Headwaters to Cross Lake	07030004-577	AQL	Fish Bioassessments
Unnamed creek Headwaters to Cross Lake	07030004-577	AQR	E. coli
Mission Creek Unnamed Lake (58-0173-00) to T39N R21W S31, west line	07030004-547	AQL	Dissolved Oxygen
Unnamed creek Unnamed creek to Rock Creek	07030005-555	AQL	Aquatic macroinvertebrate bioassessments
Rock Creek Rock Lake to St Croix R	07030005-584	AQL	Aquatic macroinvertebrates bioassessments
Rock Creek	07030005-584	AQL	Fish Bioassessments

Rock Lake to St Croix R			
Rock Creek Rock Lake to St. Croix R	07030005-584	AQR	E. coli
Bear Creek Headwaters to Snake R	07030004-514	AQR	E. coli

Lakes	**Assessment Unit ID#**	**Affected Use**	**Pollutant/ Stressor**
Cross	58-0119-00	AQR	Nutrient/Eutrophication Biological Indicators
Pokegama	58-0142-00	AQR	Nutrient/Eutrophication Biological Indicators
Net Lake	58-0038-00	AQR	Nutrient/Eutrophication Biological Indicators
Bass Lake	58-0128-00	AQC	Mercury
Big Pine Lake	58-0138-00	AQC	Mercury
Cross Lake	58-0119-00	AQC	Mercury
Grindstone Lake	58-0123-00	AQC	Mercury
Long Lake	58-0107-00	AQC	Mercury
Oak Lake	58-0048-00	AQC	Mercury
Pokegama Lake	58-0142-00	AQC	Mercury
Sand Lake	58-0081-00	AQC	Mercury
Sturgeon Lake	58-0067-00	AQC	Mercury
Tamarack Lake	58-0024-00	AQC	Mercury
Upper Pine Lake	58-0130-00	AQC	Mercury

According to the current data, the following lakes do not meet aquatic recreation use; however, no formal assessment has been made and they are not on the impaired waters list

Rhine Lake	58-0136-00	AQR	Nutrient/Eutrophication Biological Indicators
Rock Lake	58-0117-00	AQR	Nutrient/Eutrophication Biological Indicators

Oak Lake	58-0048-00	AQR	Nutrient/Eutrophication Biological Indicators
Big Pine Lake	58-0138	AQR	Nutrient/Eutrophication Biological Indicators

AQL = *Aquatic Life*
AQR = *Aquatic Recreation*
AQC = *Aquatic Consumption*

Besides, improving impaired waters, maintaining unimpaired waters is very important. The following is a list of the **MPCA's 40 Special Waters in Pine County** including Grindstone Lake which is an Outstanding Resource Value Water.

County Waterbody Designation, Township-Range-Section
Bang's Brook Trout Stream and Tributaries 41-17-15, 20, 21, 22, 29
Barnes Spring Trout Stream and Tributaries 41-1-81, 12
Bjork Creek Trout Stream and Tributaries 42-16-2, 9, 10, 11
Cons Creek Trout Stream and Tributaries 41-17-15, 16, 22
Crooked Creek Trout Stream and Tributaries 41-17-6, 7, 18, 19, 20, 29, 30
Crooked Creek Trout Stream and Tributaries 41-18-11, 12, 13
Crooked Creek Trout Stream and Tributaries 42-17-31
Crooked Creek, W. Fk. Trout Stream and Tributaries 41-18-11, 12
Crooked Creek, W. Fk. Trout Stream and Tributaries 42-18-3, 4, 9, 10, 16
Crooked Creek, W. Fk. Trout Stream and Tributaries 43-18-27, 34
Crystal Creek Trout Stream and Tributaries 41-16-9, 10, 15
Grindstone River Trout Stream and Tributaries 42-21-20, 21, 28, 29
Hay Creek Trout Stream and Tributaries 40-18-6, 7, 8, 18, 19
Hay Creek Trout Stream and Tributaries 41-18-10, 15, 20, 21, 22, 29, 32, 33
Hay Creek, Little Trout Stream and Tributaries 40-18-8, 9
Larson Creek Trout Stream and Tributaries 44-17-5
Larson Creek Trout Stream and Tributaries 45-17-29, 32
Lost Creek Trout Stream and Tributaries 40-19-9, 10, 15
McCullen Creek Trout Stream and Tributaries 42-16-28, 33
Mission Creek Trout Stream and Tributaries 40-21-1, 2
Mission Creek Trout Stream and Tributaries 41-20-31
Mission Creek Trout Stream and Tributaries 41-21-36
Net River (Carlton) Trout Stream and Tributaries 45-16-6
Net River (Carlton) Trout Stream and Tributaries 45-17-1
Pelkey Creek Trout Stream and Tributaries 41-20-33, 34, 35
Sand River Trout Stream and Tributaries 43-18-4, 5, 7, 8, 18, 19
Sand River Trout Stream and Tributaries 43-19-24
Sand River Trout Stream and Tributaries 44-18-33, 34
Spring Brook Trout Stream and Tributaries 41-20-16, 17, 18, 21
Unnamed Creek Trout Stream and Tributaries 43-18-2, 3
Unnamed Creek Trout Stream and Tributaries 44-18-35
Wilbur Brook Trout Stream and Tributaries 41-18-23, 25, 26
Wolf Creek Trout Stream and Tributaries 42-18-4, 9, 16
Wolf Creek Trout Stream and Tributaries 43-18-32, 33
Kettle River Scientific & Natural 41N-20-15, 22, 23,

Black Lake Bog Scientific & Natural
Kettle River Wild River Segment Former dam at Sandstone to confluence with Saint Croix River
Grindstone (123) Lake Trout Lakes
Saint Croix River Scenic/Rec River
Kettle River Scenic/Rec River Northern Pine county line to former dam at Sandstone

Listed below are the unimpaired waters in Pine County, with the township/range numbers in which they occur. Most of these waters have not been tested to the extent necessary to determine if they are impaired.

Number and Name	Section	Township	Range	Area Acres
58-1 : Black Lake	19	45	15	11
58-2 : Unnamed	31	45	15	10

Number and Name	Section	Township	Range	Area Acres
58-3 : Billy's Lake	6,7	41	16	13
58-4 : Mallard Lake	16,17	41	16	22
58-5 : Hay Creek Flowage	20,29,30	42	16	66
58-6 : Unnamed	20	45	16	11
58-7 : Rock Lake	6,7,12	41	16,17	81
58-8 : Cranberry Lake	6,1	45	16,17	43
58-9 : Stevens Lake	2	41	17	18
58-10 : Razor Lake	3,4	41	17	110
58-12 : McGowan Lake	8,17	41	17	28
58-15 : Keene Lake	11,14	41	17	10
58-16 : Churchill Lake	12,13	41	17	36
58-17 : Sutton Lake	14	41	17	10
58-19 : Kenney Lake	17	41	17	20
58-24 : Tamarack Lake	4,33	41,42	17	80
58-26 : Crooked Lake	18,19	42	17	94
58-28 : Little Tamarack Lake	33	42	17	58
58-29 : Grace Lake	36	42	17	48
58-31 : Pickerel Lake	1,12	45	17	57
58-34 : Delong Lake	9,10	45	17	41
58-35 : Little Mud Lake	11	45	17	10
58-36 : Wolf Lake	17	45	17	22
58-37 : Walthausen Lake	30,31	45	17	10
58-38 : Net Lake	1,2,35,36	45,46	17	142
58-39 : Headquarters Lake	16	40	18	11
58-40 : Clayton Lake	18,19	40	18	16
58-48 : Oak Lake	10,11,14,15	45	18	444
58-49 : Little Oak Lake	10,15,16	45	18	58
58-50 : Unnamed	16	45	18	25
58-51 : Margaret Lake	26,35	45	18	34
58-52 : Hicks Lake	34	45	18	39
58-54 : Wallace Lake	10	41	19	28
58-58 : McCormick Lake	6,7	44	19	58

Number and Name	Section	Township	Range	Area Acres
58-59 : Stevens Lake	28,33	44	19	53
58-60 : Willow Lake	2,35	44,45	19	24
58-62 : Island Lake	3,4,8,9	45	19	582
58-67 : Sturgeon Lake	9,10,15-17,20,21	45	19	1456
48-68 : Eleven Lake	11	45	19	114
58-69 : Twelve Lake	12	45	19	61
58-73 : Dago Lake	19,30	45	19	107
58-74 : Johnson Lake	21	45	19	37
58-76 : Passenger Lake	28,29,32,33	45	19	75
58-77 : Big Slough Lake	28,33	45	19	59
58-78 : Rush Lake	28,29	45	19	88
58-80 : Unnamed	29,30	45	19	29
58-81 : Sand Lake	4,5,6,31,32	45,46	19	575
58-82 : Unnamed	30,31,25,36	39	19,20	22
58-83 : Second Lake	7,12	44	19,20	42
58-85 : Unnamed	23,26	38	20	10
58-86 : Long Meadows Lake	23,26,27	38	20	82
58-98 : Wolf Lake	27	43	20	30
58-99 : First Lake	1,11,12	44	20	78
58-102: Fox Lake	8	44	20	104
58-103: Mud Lake	9,16	44	20	30
58-104: Clear Lake	9,16	44	20	25
58-106: Little Mud Lake	15,16,21	44	20	19
58-107: Long Lake	15,21,22	44	20	89
58-108: Clear Lake	17	44	20	14
58-109: Rutledge Lake	19	44	20	10
58-111: Stanton Lake	1,2,35	44,45	20	84
58-113: Logan Lake	13	45	20	24
58-115: Mud Lake	18,13	43	20,21	18
58-122: Hinckley Pond	24	41	21	19
58-123: Grindstone Lake	8,9,16,17,21	42	21	520
58-125: Grass Lake	3,26,27,34,35	42,43	21	97
58-126: Elbow Lake	3,4,33,34	42,43	21	108
58-128: Bass Lake	10,11	43	21	32
58-129: Little Pine Lake	10,15	43	21	82
58-130: Upper Pine Lake	20,21,28,29	43	21	216
58-131: Fish Lake	23,24	43	21	82
58-132: Indian Lake	24,25	43	21	72
58-135: Miller Lake	35,36	43	21	75
58-136: Rhine Lake	31,32	44	21	114
58-137: Bass Lake	6,1,31	42,43	21,22	206
58-138: Big Pine Lake	7,8,18,19,13,24	43	21,22	398
58-150: Unnamed	25	42	17	16
58-151: Unnamed	21,22	42	17	12
58-152: Unnamed	12,13	43	17	13.5
58-156: Unnamed	16	43	19	10
58-170: Unnamed	13,24	39	20	70
58-176: Unnamed	14,23	40	19	16
58-194: Unnamed	25,36	42	19	16
58-197: Unnamed	27	42	20	12

58-201: Unnamed	8	44	16	19
58-203: Unnamed	8,9	44	17	20
58-211: Unnamed	25	45	17	33
58-212: Unnamed	15	45	16	12
58-227: Unnamed	9	44	20	10

The following natural and altered natural watercourses are protected waters:

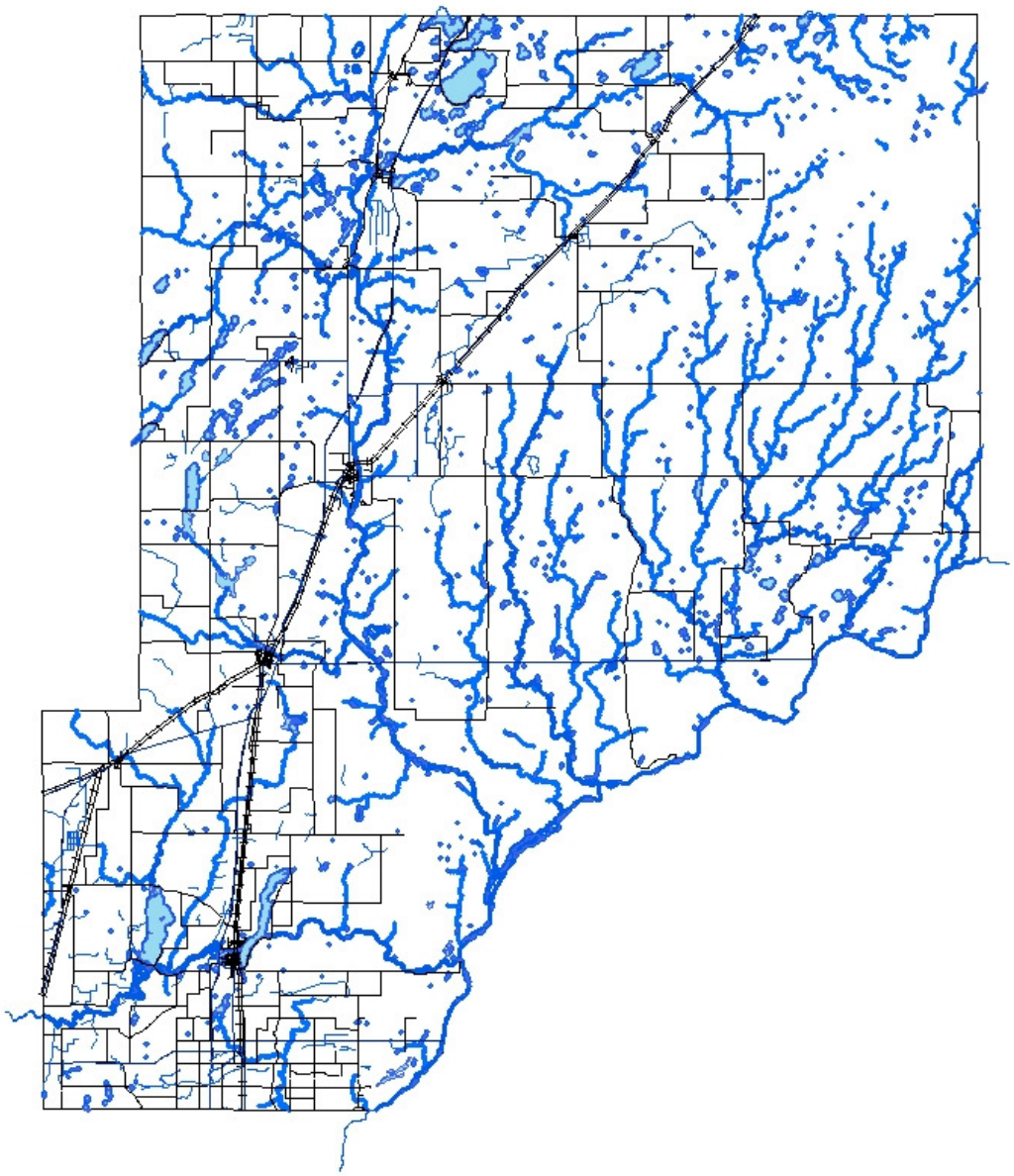
	From			To		
Name	Section	Township	Range	Section	Township	Range
St. Croix River (SCR	31	42	15	33	38	20
Upper Tamarack River	6	42	15	36	42	16
Crystal Creek	9(S.F.R.)	41	16	15	41	16
Lower Tamarack River (LTR)	1	44	17	18	41	16
Albrechts Creek	28	42	16	33	42	16
Hay Creek (HC)	18	44	15	31	42	16
Bjorks Creek	2	42	16	9	42	16
Unnamed to Hay Creek	2	43	16	11	43	16
Unnamed to Hay Creek	10	43	16	11	43	16
McDermott Creek (MC)	27	44	16	27	42	17
Squib Creek	28	43	16	12	42	17
Unnamed to MC	20	44	16	4	43	16
Little McDermott Creek	8	43	16	20	43	16
Keene Creek	30	44	16	16	42	17
Ox Creek	35	43	17	34	43	17
Little Ox Creek	4	42	17	9	42	17
Unnamed to LTR	3	43	17	3	43	17
Johnson Creek	16	43	17	21	43	17
Unnamed to LTR	2(Basin 9)	41	17	36	42	17
Crooked Creek	12	41	18	32	41	17
Bangs Brook (BB)	11(Basin15)	41	17	29	41	17
Unnamed to Bangs Brook	16	41	17	22	41	17
Kenney Brook	5	41	17	19	41	17
East Fork Crooked Creek (EFCC)	6	43	17	12	41	18
Unnamed to EFCC	17(Basin25)	42	17	19	42	17
West Fork Crooked Creek (WFCC)	14	43	18	12	41	18
Unnamed to WFCC	1	41	18	12	41	18
Thunder Creek	14	42	18	2	41	18
Strawberry Creek	3	42	18	3	42	18
Wolf Creek	28	43	18	16	42	18
Wilbur Creek	24	41	18	30	41	17
Sand Creek (SC)	19	43	18	19	40	18
Clover Creek	10	41	18	19	40	18
Little Hay Creek	9	40	18	8	40	18
Little Sand Creek	19	42	18	12	40	19
Hay Creek	7	42	18	31	42	18
Unnamed to SC	35	44	18	34	44	18
Partridge Creek	26	43	19	27	42	19
Bear Creek	30	42	19	35	40	19
Lost Creek	9	40	19	22	40	19

Name	From Section	From Township	From Range	To Section	To Township	To Range
Little Bear Creek	33	42	19	9	41	19
Bear Paw Creek	35	40	19	34	40	19
Kettle River (KR)	4	45	20	20	39	19
Kettle River Slough	3	39	19	8	39	19
Kennedy Brook	33	40	19	33	40	19
Fox Brook	2	41	20	9	41	20
Unnamed to KR	12	42	20	15	42	20
Log Drive Creek	12	43	20	14	43	20
Cane Creek	6	43	19	11	43	20
Unnamed to KR	25	44	20	34	44	20
Unnamed to KR	6(Basin58)	44	19	3	44	20
Willow River (WR)	22	45	17	3	44	20
Little Willow River (LWR)	2	44	18	35	45	19
Unnamed to LWR	19	44	18	7	44	18
Unnamed to WR	31(Basin37)	45	17	30	45	17
Larsons Creek (LC)	8	44	17	29	45	17
Unnamed to LC	4	44	17	5	44	17
Hay Creek	5	45	18	25	45	19
Unnamed to WR	22	45	19	33	45	19
Unnamed to Sand Lake	8(Basin62)	45	19	5 (Basin 81)	45	19
Moose River	1	45	20	23	45	20
Birch Creek (BC)	18	45	21	21	45	20
Unnamed to Birch Creek	18	45	20	20	45	20
Pine River (PR)	8(basin 138)	43	21	34	44	20
Unnamed to Pine River	5	44	20	24	44	21
Unnamed tributary	1	44	21	13	44	21
Burman Creek	19	44	21	22	44	21
Little Burman Creek	31	45	21	20	44	21
Rhine Creek	6	43	21	34	44	21
Little Pine Creek	31(Basin 137)	43	21	3	43	21
Unnamed to LPC	31	43	21	31	43	21
Unnamed to Pine River	36	44	21	19	44	20
O'Mix Creek	8	43	20	33	44	20
Wolf Creek	27(Basin98)	43	20	3	42	20
Unnamed to Kettle River	7(Co.Road)	42	20	22	42	20
Deer Creek	5	41	20	9	41	20
Spring Creek	18(R.R)	41	20	21	41	20
Unnamed to Grindstone Lake	8(Co. Road)	42	21	9(Basin 123)	42	21
Pelkey Creek	33	41	20	35	41	20
Cedar Creek (CC)	30(Basin90)	40	20	14	40	20
Unnamed to Cedar Creek	28(Basin89)	40	20	28	40	20
Redhorse Creek	7	39	19	30	39	19
Snake River	7	38	22	31	39	19
Unnamed to EPC	33	41	21	20	40	21
Unnamed to Pokegama Creek	14	40	22	24	40	22
Unnamed to Pokegama Creek	2	39	22	1	39	22
Unnamed to Pokegama Creek	4(Co.Rd 126)	39	22	11	39	22
Unnamed to St. Croix River	15	38	20	26	38	20
Unnamed to unnamed	14	38	20	23	38	20
Stevens Creek	32	38	20	33	38	20

Unnamed to Rock Creek	12	38	21	23	38	21
Unnamed to Rush Lake	34(Basin141)	38	22	34	38	22
Nemadji River	9(Basin33)	45	17	4	45	17
Net River	18	45	16	1	45	17
	1	45	17	6	45	16
Unnamed to Net River	8	45	16	5	45	16

Name	From Section	From Township	From Range	To Section	To Township	To Range
Little Net River	3	45	16	3	45	16

Pine County Lakes and Streams



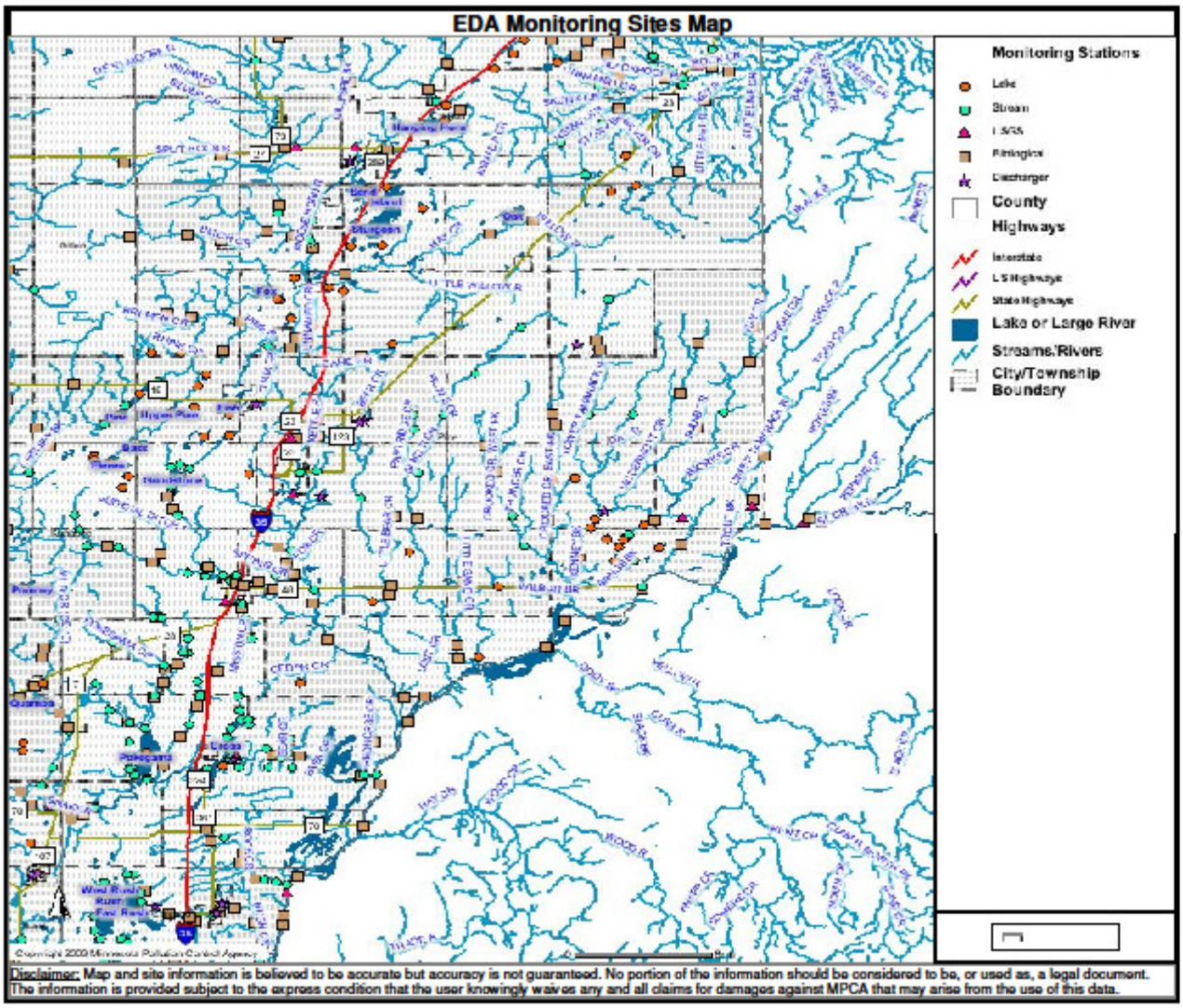
Pine County Major and Minor Watersheds		
Major Watershed	Minor Watershed	# Square Miles
Kettle River (564.5 sq. mi.)		
	Birch Creek	34.4
	Upper Kettle River	7.1
	Middle Kettle River	89.3
	Lower Kettle River	80.7
	Moose River	24.6
	Willow River	128
	Grindstone River	57.9
	Bear Creek	34.5
	Pine River	108
Lake Superior (35.6 sq. mi)		
	North Fork Nemadji	11.8
	South Fork Nemadji	23.8
St. Croix (563.7 sq. mi.)		
	St. Croix River Direct	22.1
	Crooked Creek Watershed	110.7
	Sand River	135.4
	Red Horse Creek	18.4
	Rock Creek Watershed	46.6
	Rush Creek	7.1
	Lower Tamarack River	184
	Spruce River	14.6
	Black River	11.2
	St. Croix River Direct	13.6
Snake River (205.3 sq. mi.)		
	Mission Creek	35.5
	Pokegama Creek	70.3
	Mud Creek	13.3
	Lower Snake River	86.2

Summary of Data Needed for Water Quality Assurance

Pollutant Category	**Parameters (or steps)**	**Period of Record**	**Minimum Number of Years**
Pollutants with toxicity-based standards	Un-ionized ammonia (total ammonia, pH & temperature), chloride	Most recent 10 years	5, within a 3-yr. period
Conventional pollutants and water quality characteristics	Dissolved oxygen, pH, turbidity (including total suspended solids and transparency tube), temperature	Most recent 10 years	20 (over at least 2 years for turbidity, suspended solids and transparency tube)
Swimming safety indicator bacteria	Escherichia coli bacteria[5] impairment determination via monthly geometric mean or individual max. values	Most recent 10 years	5 per month (to calculate mean); at least 3 months
Eutrophication of lakes (effects of excess nutrients)	Total phosphorus (TP), chlorophyll *a*, Secchi disk transparency	Measurements collected from June to Sept. over the most recent 10-year period	At least one TP, Secchi disk or chlorophyll *a* measurement
		Measurements collected from June to Sept. over the most recent 10-year period	At least 8 measurements (8 separate sampling dates) for each of TP, Secchi disk & chlorophyll *a*
Impairment of the biological community	Index of Biological Integrity	Most recent 10 years	Can be based on a single biological monitoring event on a given reach
Supporting water quality data	TSS, total Kjeldahl nitrogen, nitrite-nitrate nitrogen, conductivity, 5-day biochemical oxygen demand, alkalinity, stream TP	Most recent 10 years	As available; These measurements provide supporting information for determining assessments

The guidance for assessments can be found at: http://wwwpca.state.mn.us/water/tmdl/tmdl-waterquality.html

Map Output



Environmental Data Access System

The water quality section of MPCA's Environmental Data Access System allows visitors to find and download data from surface water monitoring sites located throughout the state. Where available, conditions of lakes, rivers, and streams that have been accessed can be viewed. We encourage the citizens to visit this site for water quality monitoring data which may be useful with future water management efforts: www.pca.state.mn.us/data/edaWater/index.cfm

How to Access Water Quality Test Site Information

Information on Pine County Lakes, Rivers, and Streams can be obtained from the Minnesota Pollution Control Agency website.

Step 1. www.pca.state.mn.us/water/storet.html

Step 2. Click on ENVIRONMENTAL DATA ACCESS

Step 3. Click on SURFACE WATER

Step 4. Click on LAKES & STREAMS

Step 5. Enter Data/Water Body Name

Each site has an identification number in the database.

Example: Grindstone Lake is an Outstanding Resource Value Water, Station ID 58-0123
Example: Pine County Ditch One Station ID S005-325

Additional information on tested sites can be obtained from staff at the Pine County Soil & Water Conservation District office, located in Sandstone.

Pine Soil & Water Conservation District
1602 Hwy 23 N
Sandstone, MN 55072
Ph: 320-216-4240
Fx: 320-216-4244

WETLANDS - The following are protected wetlands:

Number and Name	Section	Township	Range	Area Acres
58-11 : Lake Five	5	41	17	29
58-13 : Greigs Lake	10	41	17	58
58-14 : Mud Lake	10	41	17	18
58-18 : Lena Lake	15	41	17	50
58-20 : West Kramer Lake	18	41	17	21
58-21 : East Kramer Lake	18	41	17	24
58-22 : Bullhead Lake	21	41	17	32
58-23 : Lake Alma	28,33	41	17	37
Number and Name	Section	Township	Range	Area Acres
58-25 : Dollar Lake	17	42	17	20
58-30 : Mack Lake	7	44	17	12
58-32 : Headquarters Lake	3	45	17	14
58-33 : Maheu Lake	9	45	17	36
58-41 : West Chain Lake	13	41	18	14
58-42 : North Chain Lake	13	41	18	10
58-43 : South Chain Lake	13,24	41	18	14
58-44 : Olive Lake	21	41	18	12
58-45 : Wilbur Lake	23	41	18	47
58-47 : Bartels Lake	21,22	44	18	11
58-61 : East Island	3	45	19	34
58-63 : Lords Lake	6,7,8	45	19	36
58-64 : Unnamed	7	45	19	18
58-65 : Unnamed	8	45	19	14
58-66 : Little North Sturgeon Lake	8,17	45	19	20
58-70 : Lake Thirteen	13	45	19	21
58-71 : Close Lake	18	45	19	34
59-72 : Unnamed	19,20	45	19	16
58-75 : Willow Lake	26,34,35	45	19	64
58-79 : Turtle Lake	29	45	19	33
58-84 : Unnamed	22,23	38	20	11
58-88 : Unnamed	9	40	20	10
58-89 : Cedar Lake	28,29,32,33	40	20	71
58-90 : Mud Lake	30	40	20	12
58-93 : Unnamed	14,15	41	20	100
58-94 : Unnamed	7	42	20	11
58-95 : Unnamed	7,18	42	20	13
58-96 : Unnamed	18	43	20	33
58-97 : Finn lake	18,19	43	20	14
58-100: Unnamed	3	44	20	19
58-101: Shoemaker Lake	3,10	44	20	16
58-105: Unnamed	13	44	20	20
59-110: Cemetery Lake	28	44	20	34
58-112: Zalesky Lake	2,35	44,45	20	12
58-114: Unnamed	28	45	20	10
58-116: Unnamed	18,13	43	20,21	25
58-118: Devils Lake	4,33	38,39	21	19

Number and Name	Section	Township	Range	Area Acres
58-120: Unnamed	32	39	21	10
58-127: Little Bass Lake	10	43	21	18
58-133: Unnamed	25,26	43	21	10
59-134: Unnamed	34	43	21	11
58-139: Unnamed	11,14,15	38	22	17
58-140: Silberg Lake	33	38	22	16
58-141: Stutz Lake	33,34	38	22	23
58-143: Unnamed	35	41	19	18
58-146: Unnamed	4	38	21	8
58-148: Unnamed	23	43	16	12
58-153: Unnamed	34	45	17	10
58-155: Unnamed	20	43	19	13
58-157: Unnamed	29	45	19	50
58-158: Little Lake	31	43	21	25
58-160: Unnamed	12	38	22	10
58-161: Unnamed	33	38	22	10
58-162: Unnamed	1	38	20	16
58-163: Unnamed	14	38	20	11
58-164: Unnamed	23	38	20	16
58-165: Unnamed	32	39	21	11
58-166: Unnamed	7	39	20	27
58-169: Unnamed	17	39	20	30
58-172: Unnamed	33	40	22	10
58-174: Unnamed	3, 10	40	20	18
58-177: Unnamed	34	40	19	19
58-178: Unnamed	5	41	21	21
58-179: Unnamed	35	41	21	10
58-180: Unnamed	11	41	20	16
58-181: Unnamed	21	41	20	11
58-185: Unnamed	36	41	19	11
58-186: Unnamed	3	41	18	13
58-187: Unnamed	5	41	18	25
58-189: Unnamed	4,9	41	18	13
58-190: Unnamed	2	41	17	10
58-191: Unnamed	9	41	17	14
58-193: Unnamed	11	42	18	11
58-195: Unnamed	35,36	42	19	43
58-196: Unnamed	2,35	42,43	21	16
58-198: Unnamed	22	43	21	21
58-199: Unnamed	6	43	20	12
58-202: Unnamed	3	44	17	11
58-204: Unnamed	30	44	17	30
58-205: Unnamed	32	44	17	33
58-206: Unnamed	34	44	18	10
58-207: Unnamed	19,24	44	20,21	12
58-208: Unnamed	24	44	21	23
58-209: Unnamed	23,26	45	20	19
58-210: Unnamed	35	45	19	11
58-213: Unnamed	23	41	20	15
58-214: Unnamed	19,24	41	18,19	154.8

58-216: Unnamed	28	44	20	4
58-217: Unnamed	33	39	21	4
58-218: Unnamed	32	39	21	9
58-221: Unnamed	10	44	20	5
58-222: Unnamed	19	43	20	3
58-223: Unnamed	19	43	20	5
58-224: Unnamed	29	43	19	6
58-225: Unnamed	33	44	20	4
58-226: Unnamed	13	43	19	52
58-229: Unnamed	13	43	21	13.5
59-230: Unnamed	7,18	41	17	17
58-231: Unnamed	1,12	40	20	20
13-90 : Unnamed	4,5,32,33	37,38	22	

Major Accomplishments of the 2002 Local Water Management Plan

- Applied for and received Minnesota Pollution Control Agency (MPCA) Surface Water Assessment Grant for ten lakes and nine streams
- Applied for and received Legislative Citizen Commission on Minnesota's Resources(LCCMR) Grant for a county wide soil survey
- Applied for and received Clean Water Legacy Grant for three projects in the Snake River Watershed
- Applied for and received Feedlot Water Quality Grants
- Applied for and received Drought Disaster Assistance Grant
- Applied for and received Beaver Damage Control Grant
- Held Geologic Atlas Workshop and Tour
- Published and sent out a Sinkhole Newsletter to approximately 1,700 landowners in the sinkhole area
- Set up and held shoreline restoration design and planting workshops
- Set up and held rain garden design and planting workshops
- Worked with Extension Service on Community Waste Water Workshops
- Held free nitrate testing clinics at various locations throughout the county every 2 years
- Two staff are presenters at the Freshwater Festival for Pine County Schools
- Conducted stream monitoring on the Grindstone River for baseline data for a TMDL Plan
- Worked with Extension Service on extensive revision of Guide to Rural Living Handbook
- Assisted Wenck and Associates in putting together a TMDL for the Pokegama and Cross Lake Watersheds
- Submitted applications and received funding for monitoring to the Snake River Watershed Management Board for the Pokegama and Cross Lake Associations
- Submitted applications and received funding for projects in the Snake River Watershed to the Snake River Watershed Management Board
- Have used new natural shoreline restoration techniques on shoreland projects
- Worked with Hinckley-Finlayson High School on macroinvertebrate sampling on the Grindstone River
- Gave presentations on natural shoreline restoration and rain gardens

Acronyms

ACE or ACOE - Army Corps of Engineers (federal)

ATV – All Terrain Vehicle

BMP – Best Management Practice

BWSR – Board of Water and Soil Resources

FEMA - Federal Emergency Management Agency (federal)

GIS – Geographic Information System

LCCMR – Legislative Citizen Commission on Minnesota's Resources

LGU - Local Governmental Unit (local)

LID – Low Impact Development

MDH – Minnesota Department of Health

MDNR or DNR - Minnesota Department of Natural Resources (state)

MPCA or PCA - Minnesota Pollution Control Agency (state)

NEMO – Nonpoint Source Education for Municipal Officials

NPDES/SDS – National Pollutant Discharge Elimination System/State Disposal System

NRCS - Natural Resources Conservation Service, USDA (federal)

PHASE – Pine Habilitation and Supported Employment

RC&D - Resource Conservation & Development, USDA (federal)

SSTS – Subsurface Sewage Treatment Systems

SWA Grant– Surface Water Assessment Grant

SWCD - Soil and Water Conservation District (local)

TMDL – Total Maximum Daily Load

TP – Total Phosphorus

TSS – Total Suspended Solids

UM Ext - University of Minnesota Extension Service (state)

WCA – Wetland Conservation Act

USDA - U.S. Department of Agriculture

USF&WS - U.S. Fish & Wildlife Service (federal)

USGS - U.S. Geological Survey (federal)