

CARNELIAN-MARINE-ST. CROIX WATERSHED DISTRICT



2008 ANNUAL REPORT





**CARNELIAN-MARINE-ST CROIX WATERSHED DISTRICT
WASHINGTON COUNTY, MINNESOTA
2008 ANNUAL REPORT
FOR THE PERIOD JANUARY 1 – DECEMBER 31, 2008**

Pursuant to Minnesota Statutes, 103D.351 and 103D.355 and Minnesota Rules Chapter 8410, Metropolitan Area Local Water Management we hereby submit the Annual Report of the Carnelian-Marine-St. Croix Watershed District (CMSCWD) for the year ending December 31, 2008. For more information, contact:

Carnelian-Marine-St. Croix Watershed District
P.O. Box 188 Scandia Place II
21150 Ozark Avenue
Scandia Minnesota 55073
jimshaver@cmswd.org
651-433-2150

LETTER FROM THE PRESIDENT

It has been a busy year for the Watershed District. We have assimilated the Marine on Saint Croix Watershed Management Organization (MWMO) and the northeast section of Scandia under a new name, Carnelian-Marine-St. Croix Watershed District (CMSCWD). The Board of Managers hired its first Administrator. We prepared a Strategic Plan and started our Comprehensive Ten-Year Watershed Management Plan. In September, the District co-hosted the Healthy Waters and Heritage Fair at William O'Brien State Park.

Our local papers reported on many of these activities and have provided a forum for our residents to voice their opinions about our decisions and activities as they should. Some have been supportive, some not. There is some irony in that our District, more than any other in the County, has followed the suggestions put forth in the Washington County Governance Study. We have consolidated water management organizations and insured that all of the county is now covered by a water management organization. One of the reasons the county called for consolidation was the potential for savings of scale. The merger of CMSCWD and MWMO has resulted in savings of approximately \$250,000 to the taxpayers and also achieved a more equitable method of assessing the cost of its activities.

Another action suggested by the Governance Study was hiring an administrator. The District now has one point of contact for all its activities — someone who is out in the community and available to District residents all the time. We have listened to the public in our budget meetings and lowered both our budget and our levy for 2009 and it remains the lowest of all Watershed Districts in Washington County. We are achieving even more transparency with our website, cmscwd.org, where we are posting our budgets, plans and a listing of our meeting minutes and agendas.

We the Board of Managers firmly believe in local control of our water resources and working with our local governments and our residents to protect and improve our lakes, streams, rivers and wetlands. We are your neighbors and welcome you to attend our meetings the first Monday of every month at 6:30 PM at the Scandia Community Center. The Board of Managers will give time to anyone and listen to everyone.

Sincerely,

Steve Kronmiller
President

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CARNELIAN-MARINE-ST. CROIX WATERSHED DISTRICT OFFICERS

The Carnelian-Marine-St. Croix Watershed District (CMSCWD) conducts its business at its monthly meetings, which take place on the first Monday of the month at the Scandia Community Center at 6:30 PM. The annual meeting was held September 8, 2008. The 2009 budget was set and the Nominating Committee report was adopted including eliminating the vice president position and combining the secretary and treasurer positions. In the absence of the president the managers will convene meetings on a rotating basis starting and continuing alphabetically. The following list includes the officers that were elected, as well as the other managers:

Steven Kronmiller, President
13450 188th St. N.
Marine, MN 55047 651-433-4042
Term expires: 6/21/2009

Richard S. Caldecott
33 Moonlight Bay
Stillwater, MN 55082 651-439-7385
Term expires: 6/21/2011

Victoria Dupre, Secretary/Treasurer
13510 Norell Ave. N.
Stillwater, MN 55082 651-439-8266
Term expires: 6/21/2011

Jason Husveth
17085 Olinda Trail N
Marine on St. Croix, MN 55047
Term expires: 6/21/2010

John T. Bower
12405 Otchipwe Ave. N.
Stillwater, MN 55082 651-430-2793
Term expires: 6/21/2010

John Lennes
16720 Norell Ave N
Marine on St. Croix, MN 55047
Term expires: 6/21/2010

Thomas Polasik
14420 94th Street N
Stillwater, MN 55082
Term expires: 6/21/2010

ADMINISTRATOR

James Shaver
21150 Ozark Ave. N
P.O. Box 188
Scandia, MN 55073
651-433-2150

CONTRACTORS

- Attorney, Raymond O. Marshall, of Lawson, Marshall, McDonald & Galowitz, 3880 Laverne Ave. N., Lake Elmo, MN 55042, 651-777-6960
- Engineer, Dan Fabian of Emmons & Oliver Resources, 3825 Lake Elmo Ave., Lake Elmo, MN 55042, 651-770-8448, ext. 235
- Accountant, David McCord, Ltd. 1940 Greeley St. S., Suite 101, Stillwater MN 55082, 651-430-9424
- Support and Communication services, Debbie Meister and Sarah Clark of MMC Associates, 1312 Portland Avenue, Saint Paul, MN 55104, 651-647-6816
- Newspaper, St. Croix Valley Press is the legal newspaper for the District. Notices are also published in the Country Messenger.

CITIZEN ADVISORY COMMITTEE

Scott Alexander
14141 Paris Ave. N.
Stillwater, MN 55083

Harold Johnson
18599 Layton Ave. N.
Marine, MN 55047

Jessica Parcheta
11252 Norell Ave. N.
Stillwater, MN 55082

Kate Carlsen
10611 Mendell Ave. N.
Stillwater, MN 55082

Larry Kennedy
13997 St. Croix Trl. N.
Stillwater, MN 55082

Pete and Elsie Riehle
11080 Norell Ave. N.
Stillwater, MN 55082

Rex Ewert
19650 Orwell Ave. N.
Marine MN 55047

Sally Leider
23229 St. Croix Trl. N.
Scandia, MN 55073

Diane Rohan
16980 Northridge Ave. N.
Marine, MN 55047

Burt Fisher
19490 Orwell St. N.
Scandia, MN 55407

Kris Levine
9880 Stonebridge Trl.
Stillwater, MN 55082

Jim Schoeller
14211 St. Croix Trl. N.
Stillwater, MN 55082

Mark Forliti
19710 Orwell Ave.
Scandia, MN 55047

Dave and Lynn Linder
18980 Olinda Ave.
Marine, MN 55047

Bruce Swensen
22161 Oldfield Ave.
Scandia, MN 55073

Maurice Grogan
11425 155th St. N.
Marine, MN 55047

Fran and Ann Michaud
12080 Lakamaga Trl.
Marine on St. Croix, MN
55047

Dean Tharp
14089 Oakhill Rd.
Stillwater, MN 55082

Stephen Huberty
19323 Orwell Ave. N.
Marine, MN 55047

Gary Orlich
14777 197th St. N.
Marine, MN 55047

Dana Vogen
21621 Oldfield Ave. N.
Scandia, MN 55073

Dave Hume
14939 Old Marine Trl. N.
Marine, MN 55047

Jack Parcheta
11345 Neal Ave. N.
Stillwater, MN 55082

Larry Whitaker
625 Pine Cone Trl.
Marine, MN 55047

Bob Iverson
14463 Oldfield Rd.
Stillwater, MN 55082

Mike White
13310 188th St. N.
Marine, MN 55047

WETLANDS TECHNICAL EVALUATION PANEL

Jyneen Thatcher, Washington Conservation District; Ken Powell, Board of Water and Soil Resources; Jim Shaver, District Administrator

TECHNICAL ADVISORS

- Craig Wills, Minnesota Department of Natural Resources Area Hydrologist
- Amy Carolan, Washington Conservation District Natural Resource Specialist
- Jay Riggs, Washington Conservation District Manager
- Erik Anderson, Washington Conservation District Water Resource Specialist

- Melissa Lewis, Board of Water and Soil Resources Board Conservationist
- Debbie Meister, Amy Middleton, Sarah Clark, MMC Associates (education, outreach)
- Melissa Arikian, Emmons & Olivier Resources, Natural Resource Specialist
- Dan Fabian, Emmons & Olivier Resources, Engineer

FINANCIAL INFORMATION

The Watershed District's assets include checking accounts and a certificate of deposit. The monetary assets are comprised of the following funds: Administrative Fund, Maintenance Fund, Survey and Data Fund and General Fixed Assets Fund. The District owns real property, easements and office and water monitoring equipment. The accountant keeps the records in a computer ledger and in paper form, which is subject to inspection at any time. The records are kept at the District office and at the accountant's office.

The District contracted Peggy Ahola Ltd., CPA to audit the District's financial activities and to advise on accounting procedures and practices. The District kept its assets in the Security State Bank of Marine. Deposits in excess of \$250,000 are secured by the bank's pledging of qualified government securities. The assets of the District were invested in interest bearing checking, a surety and a gravity pipe reserve account.

The District's financial activities are audited once a year as required by law with audit copies sent to the following:

- Minnesota Department of Natural Resources Commissioner
- Minnesota Department of Natural Resources Director of Division of Waters
- Board Conservationist, Minnesota Board of Water and Soil Resources
- Minnesota State Auditor
- Washington County Board of Commissioners

The District's budget for 2008 was set at the August 27, 2007 public meeting and was \$550,000. The District's budget for 2009 was set at the November 3, 2008 regular meeting and was \$595,450. The approved budgets and levy requirements are forwarded to the Washington County Auditor to be collected from the residents of the District.

The District had a beginning cash balance of \$401,210 on January 1, 2008.

The District had an ending cash balance of \$437,642 on December 31, 2008.

The cash balances consist of the Checking account \$303,305

Surety account \$64,900

Gravity Pipe Reserve account \$69,437

Please refer to the 2008 audit report available on our website (www.cmscw.org) for more specific financial information.

Carnelian-Marine-St. Croix Watershed District
2008 Budget

Approved at the August 27, 2008 Annual Meeting

<u>Budget Item</u>	<u>From Prior Years</u>	<u>Interest, Grants, Fees</u>	<u>Tax Levy</u>	<u>Total Budget</u>
Engineering			40,000	40,000
Administrator			80,000	80,000
Manager Per Diem			15,000	15,000
Operations			33,000	33,000
Professional Fees			<u>10,000</u>	<u>10,000</u>
Total Operating Budget			178,000	178,000
Carnelian Creek			10,000	10,000
Silver Creek			10,000	10,000
Channel Maintenance			10,000	10,000
Met Council Outlet		4,000	6,000	10,000
Wetlands Management			15,000	15,000
Lake Mgmt/Implementation Projects			80,000	80,000
Water Monitoring			70,000	70,000
BMP Program			70,000	70,000
Conservation Easements			10,000	10,000
Education/Outreach			31,000	31,000
Interest		1,000		1,000
Rules Update			10,000	10,000
<u>Plan Amendment</u>	<u>25,000</u>		<u>20,000</u>	<u>45,000</u>
Total Projects Budget	25,000	5,000	342,000	372,000
Total Budget	25,000	5,000	520,000	550,000

Carnelian-Marine-St. Croix Watershed District
2009 Budget

Approved at the November 3, 2008 Regular Meeting

<u>Budget Item</u>	<u>From Prior Years</u>	<u>Interest, Grants, Fees</u>	<u>Tax Levy</u>	<u>Total Budget</u>
Engineering		5,000	45,000	50,000
Administrator			70,000	70,000
Taxes, Benefits, Expenses			31,700	31,700
Manager Per Diem			11,500	11,500
Operations	(20,400)		65,900	45,500
Professional Fees			<u>16,100</u>	<u>16,100</u>
Total Operating Budget	(20,400)	5,000	240,200	224,800
Channel Maintenance			4,000	4,000
Met Council Outlet		6,150		6,150
Wetlands Management			5,000	5,000
Lake Mgmt/Implementation Projects		26,000	28,000	54,000
Water Monitoring			71,000	71,000
BMP Program		5,000	54,500	59,500
Conservation Easements			5,000	5,000
TMDL	(30,000)	41,000		11,000
Strategic Plan Activities			25,000	25,000
Education/Outreach			48,000	48,000
Interest			-	-
Rules Update	2,000		2,000	2,000
<u>Plan Amendment</u>	<u>72,000</u>		<u>8,000</u>	<u>80,000</u>
Total Projects Budget	42,000	78,150	342,000	370,650
Total Budget	23,600	83,150	488,700	595,450

WATERSHED GOVERNANCE

With the expansion of the District in 2007, the Managers concluded that hiring an administrator would provide a contact and visibility for the District, save money by allowing the engineer and other consultants to focus on what they do best and free managers to address policy. The change would also allow the District to be proactive — to address issues not problems, to communicate in an effective and timely manner and to provide financial and program oversight. Consultant Sarah Noah worked with a subcommittee to define needs and advertize the position. After an extensive search and interview process, Jim Shaver was hired as the District's first administrator.

Consultant Steve Hobbs was hired to lead two workshops to focus on establishing a long-term vision for the District, identifying priority projects, clarifying roles and responsibilities of the administrator and board and setting five-year goals and strategies. In December, the Managers approved the strategic plan.



Consultant Steve Hobbs led the Board in development of a Strategic Plan.

Water Consortium: Administrator Shaver continued to represent the District on the Consortium, a county-wide committee of local water units, cities and townships, state and local natural resource agencies and County Departments to work on surface and groundwater issues that cross local water unit boundaries.

Groundwater Advisory Committee: Manager Caldecott serves on the Groundwater Advisory Committee, which makes recommendations to the Washington County Commissioners on groundwater issues. He was reappointed by the County Board in 2007.

2008 ACTIVITY REPORT AND PROJECT UPDATE

2010 Plan: The Board held several workshops to develop a process for writing the 2010 Plan. In September, and again in December, residents were invited to provide input at kick-off meetings.

Watershed Rules: In 2007, the District began the process of revising rules. The Board held a series of 12 workshops and six Citizen Advisory Committee and Technical Advisory Committee meetings to gather input and identify areas of concern. The Board elected to concentrate on the following areas: 1) Stormwater Management; 2) Erosion Control; 3) Lake, River, Stream and Wetland Buffer

Requirements; 4) Shoreline and Streambank Alterations; 5) Watercourse and Basin Crossings; 6) Floodplain and Drainage Alterations; and 7) Wetland Management.

The first draft of the new, revised rules was distributed for formal review in January 2008. Based on initial comments, the District drafted rule modifications and sought comments from agencies and local government units (LGUs). Following a second public hearing in July, the Board decided to hire a consultant to work with Emmons & Olivier Resources on further revisions to address the concerns of LGUs.

Marine Watershed Management

Organization Plan Amendment: Prior to the enlargement of the District, Marine Watershed Management Organization (MWMO) drafted a Plan Amendment and distributed it for public review. The Board of Water and Soil Resources, as a condition of approving the merger of the two districts, required a public hearing on the plan amendment. In June a public hearing was held. The MWMO plan was incorporated into the current District plan in July.

Mapping Drainage Easements: The District contracted with Washington County to map all drainage and public easements in the enlarged District and contracted with an abstractor to conduct a title search of the easements.

Channel Maintenance: With the help of local contractors, Board members continued to monitor water levels and clear debris and beaver dams from both the Big Marine/Carnelian Creek and the Silver Creek subwatershed drainage areas. They

monitored the weir at Turtle Lake to further reduce the possibility of flooding and to try to maintain adequate downstream water levels.

Fairy Pond / Silver Creek Restoration

Project: Another phase of work on Silver Creek was completed with a planting by Great River Greening (GRG) and the installation of rock veins to prevent streambank erosion. Additional work will continue under the Silver Creek Stream Corridor Management Plan.

Carnelian Creek / Ozark Trail Projects:

A project to improve Ozark Trail and mitigate stormwater from the road has been ongoing. In May, May Township paved the road. With funding from the District, Washington Conservation District installed native plants and contractor Roger Rydeen conducted restoration work along the culvert. Funding from GRG and the Minnesota Department of Natural Resources will go toward stabilization, eradication of invasives and native plantings.

OUTREACH AND EDUCATION ACTIVITIES

Newsletter: MMC Associates produced and mailed spring and fall issues of *Watershed Update*, the District's newsletter that keeps residents informed of the District's activities. The newsletters included information about lake water quality trends, what a watershed district does, how revenues are raised and spent, the BMP Program, watershed events, volunteer opportunities and watershed tips.

Watershed Wisdom: The District conducted education of local middle school students through the Watershed Wisdom Program, which is directed by educator Sally Leider. The program uses an education model, developed by Ms. Leider, linking youth (Marine and Scandia schools fifth graders), with educators, scientists, artists and steward mentors in an intergenerational program to promote St. Croix River

Watershed stewardship. Through the program, students learned the geography of the watershed and their place within it (their watershed address), learned about native and exotic species in the watershed and explored ways our actions on the land affect the quality of our surface and ground water.



Mill Stream Day with Watershed Wisdom.



The Arcola Stream Team in action.

Volunteer Stream Monitoring: By studying benthic macroinvertebrates— small bottom-dwelling animal organisms that live all or part of their lives in streams and rivers — volunteers can help determine baseline stream health, monitor long-term trends and detect changes in the stream that may be attributed to changes in the watershed. Seventh- and eighth-grade students, teachers and other volunteers from Crosswinds Middle School in Woodbury have been monitoring Silver Creek since the fall of 2002. A Clean Water Legacy Water Assistance Grant in 2007 provided funding to recruit volunteers for transparency monitoring at three locations—Carnelian Creek at May Ave. and Ozark Trail and Silver Creek at Hwy 95.

In April, the District Administrator met with members of Arcola Mills who were interested in forming a group to monitor the five spring-fed creeks on the property. He conducted an in-stream training session to teach proper sampling techniques followed

by a lab session for invertebrate identification. In addition, the District will provide equipment and testing kits for future work on the streams.

Invasive Species Education Grant: The District received a grant from the Minnesota Department of Natural Resources (DNR) for educating boaters about invasive species. The DNR provided signs and, for a cash match from the District, provided DNR staff to talk to boaters at three locations on the St. Croix River. The District posted signs at Big Marine and Square lakes.

Heritage and Clean Water Festival: In late September, the District partnered with GRG and William O’Brien State Park to present the Heritage and Clean Water Festival celebrating the 40th anniversary of the Wild and Scenic River Act. Sited on the St. Croix River, the event included environmental exhibits from local and regional groups, a re-creation of a Voyageurs encampment and bluegrass music. It culminated with a canoe race pitting participants from Wisconsin and Minnesota representing their states in a fun competition.



Festival canoe race participants.



KEY PROGRAMS • BEST MANAGEMENT PRACTICES (BMP)

The Carnelian-Marine-St. Croix Watershed District Best Management Practices (BMP) Program provides technical support and maintenance assistance for BMP projects. The program provides a three-tiered funding approach: plant grants of up to \$500, individual assistance with a cost share of 50% and a maximum grant of \$5,000 and local government units grants for organizations and municipalities to address resource issues with no set cost-share limit. The District continued to give special emphasis to raising awareness of the program in the areas new to the District. The 2008 BMP program focused on the following projects:

Plant Grants

- Prairie planting on Parkview Lane in Scandia
- Shoreline planting on Square Lake

Individual Assistance Cost Share

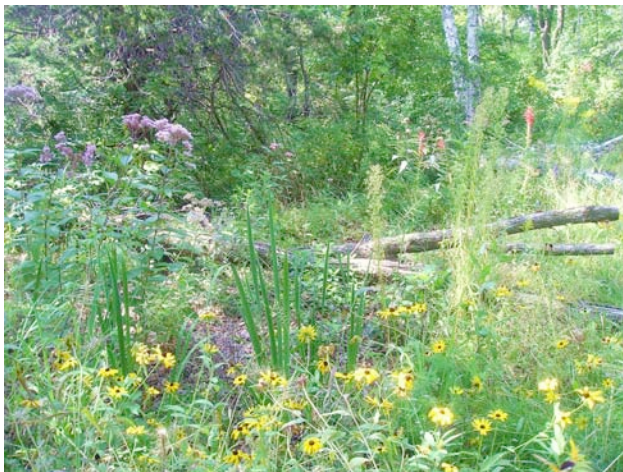
- Rain gardens on Big Marine Lake
- Rain gardens on 202nd St. in Scandia
- Shoreline stabilization on Big Carnelian Lake
- Prairie restoration on Keystone in Hugo
- Rain gardens on Square Lake

Local Government Unit Cost Share

- Carnelian Hills/130th Street infiltration basin with native plantings
- Ozark Avenue, May Township stabilization, culvert addition and rain gardens



130th Street Project infiltration area



202nd Street rain garden



Ozark Avenue stormwater/rain garden project



KEY PROGRAMS • PERMIT PROGRAM

The District continued to implement its permit and review program. The permit program primarily prevents future problems that would require large expenditures of District funds to correct. The fee schedule adopted in November 2005 remained the same in 2008. The District continued to coordinate its review and permit program with the other state, county and local government agencies. It is not the intent of the CMSCWD to add an additional layer of government to the resident application process and the District works with these agencies in an attempt to streamline the process. The CMSCWD permits all subdivisions and land disturbing activities within 100 feet of its lakes, streams and wetlands that may impact those resources. In 2008 much of the permit activity was carried out by District engineer Dan Fabian, with assistance and oversight from District managers. A description of each District Comment and Permit is included below.

District Comments:

- **Comment 07-015:** Project involves a wetlands excavation violation, near Otchippwe Trail and 100th St., in the Silver Creek Watershed Management Area. Jyneen Thatcher of the Washington Conservation District (WCD) is following through with owner and contractor on voluntary restoration requirements so project meets exemption for wildlife improvements. Restoration efforts were completed and exemption granted by Ms Thatcher, on behalf of WCA authority for Stillwater Township.
- **Comment 07-018:** Old Marine Estates Minor Sub-division on Big Marine Lake. District provided comments to Scandia on proposed sub-division. District permit required.
- **Comment 07-019:** BTG (permit application 02-041) and BTG-II (permit application 02-049) five-year mining permit renewal of conditional use permit by Washington County. County and Township approved with condition that Watershed District permit be obtained. Owner's representative provided funds as an initial deposit to cover District review fees. District Engineer met with owner's representative, went through the submittal briefly, and provided additional information required for the application to be considered complete. District had previously received incomplete permit application submittals (including insufficient fees) for both of these pits in 2002. During that time the applicant made some improvements to the property and was working for a while with the US Natural Resources Conservation Services field representative to improve agricultural practices. District concerns were discussed in more detail in the Emmons & Olivier Resources (EOR) comment letter to the County dated September 24, 2007. Since it had been several years since District received any information from developer on these projects, Managers took action to officially close the old permit applications and proceed with the new application received January 25, 2008.
- **Comment 08-001:** Tiller Corporation Scandia Mining Operation, German Lake Subwatershed Management Area. Provided comments on additional information needed to be considered complete for District permit application submittal. A complete District permit application was eventually received and acted on by District.
- **Comment 08-002:** Dresel contracting Scandia Mining Operation, German Lake Subwatershed Management Area. This operation is adjacent to and connected with the Tiller Corp. Mining Operation. Provided comments on additional information needed to be

considered complete for District permit application submittal. A complete District permit application was eventually received and acted on by District.

- **Comment 08-003:** Bracht Brothers Scandia Mining Operation, located in former Marine Watershed Management Area (MWMO). Provided comments on additional information needed to be considered complete for District permit application submittal. A complete District permit application was eventually received and acted on by District.
- **Comment 08-004:** Marine Landing Marina on St. Croix River. Existing marina requires MN Department of Natural Resources (DNR) permit for replacement of existing docks. Provided comments and District Natural Resource Inventory (NRI) information to DNR. Project does not require a District permit.
- **Comment 08-005:** Scandia Lilleskogen Park Draft Restoration Plan. Provided comments and District NRI and wetlands inventory information.
- **Comment 08-007:** Property located on Big Marine Lake. District provided comment to DNR on proposed dredging project to create a navigable channel to open water. This project had been proposed several years ago and board felt request was reasonable. Project is needed due to the placement of a fill strip (many years ago) by neighbor who impacted lake access. Since all work proposed is below the ordinary high water level and away from the shoreline, it is in DNR jurisdiction. A separate Watershed District permit was not required.
- **Comment 08-008:** Big Marine Regional Park Reserve on Big Marine Lake. County Parks Department proposed maintenance work on Lomond Trail from the Park boat access to the old DNR access on the east side of the bay. Lomond Trail is an existing May Township Road right-of-way that has been turned over to the County. The road has been in disrepair since at least the early 1980s due to flooding. Portions of the road appear to have reverted to wetlands. District attended a site meeting with the Wetlands Technical Evaluation Panel (TEP) to view the site and get more information on County's plans for short-term maintenance and long-term park trail maintenance. In addition to probable wetland issues, the District is interested in the road continuing to be available from each end, for maintenance of the channel that was cut through the road as part of the District's outlet project in 1984. Short-term plans by County to fill a small portion of the existing roadbed were determined to only impact incidental wetland. Project needed for emergency, maintenance vehicle and trail access to area. This short-term project work did not require a District permit since it is allowed under WCA and is less than 1,000 square feet of disturbed area.
- **Comment 08-009:** Frattalone proposed Mining Operation in May Township along the corridor of Carnelian Creek. District provided comment to May Township on proposed new mining operation. District provided information on the parcel and identified need for a District permit if the landuse authorities (May Township and Washington County) grant the conditional use permit needed for the mining operation. May board chairman discussed this proposed project with the Managers at the September board meeting and identified a discrepancy between Township and County zoning maps for the shoreland district. District Engineer offered opinion in support of the Township's shoreland district delineation.
- **Comment 08-010:** Project property located on Big Carnelian Lake. District provided comments to May Township and Washington County on proposed shoreland variance to construct deck on top of existing concrete patio. A District permit was not required as no land disturbance nor increase in impervious surface is proposed. District comments noted that the existing impervious coverage appears to exceed 25 percent and suggested that County attach a stipulation to any variance granted requiring the applicant to provide some stormwater quality treatment practices.
- **Comment 08-011:** Project property is 2nd tier lot on Big Marine Lake. Owner filled in a stream/ditch on property and installed a culvert extension that connects to City storm sewer to pick-up flows. All work to date done without any permits from any agencies. No District or City permits were issued for this project. The owner was provided with a permit application

form by District Administrator. Application lacks the additional design information needed for review and is considered incomplete. Owner attended the December District board meeting to explain his situation. Managers directed Engineer to put together an estimate for a hydrologic model of existing and proposed conditions.

Permits:

- **Permit 03-044:** Big Marine Store Development, located in the Big Marine Lake Subwatershed Management Area. No new information has been received on this project. Current permit status is open. District is still waiting for the plans to provide permanent solutions to problem and as-built drawings to finalize existing permit.
- **Permit 06-002:** Millbrook Development on South Twin Lake, (former Palmer Property). Joint inspections with Brown's Creek Watershed District are continuing. District received notice that developer's on-site person for erosion and sediment control inspections was laid off (due to economy) and another person has been assigned those responsibilities.
- **Permit 06-016:** Project included tear down of three existing cabins and construction of new home on Big Carnelian Lake. Administrator received a request from applicant for return of the \$400 surety.
- **Permit 06-019:** Tii Gavo - Major Subdivision on Big Marine Lake. Project road and facility construction continued in 2008. No home construction occurred. District received correspondence from developer's engineer looking into a request for reduction in letter-of-credit, which was not granted. District holds a cash surety on this project and is not likely to reduce it until the site is built out. District Administrator provides site observation when needed.
- **Permit 07-006:** Old Marine Estates Minor Sub-division on Big Marine Lake. Received complete permit application on Thursday, March 13, 2008. Completed review with recommendation of approval with stipulations. Copy of review provided to Scandia for its April 1, 2008 consideration in determining approval of final plat for project (part of District effort to coordinate reviews with City). Project is a minor subdivision and Managers have previously delegated staff approval of this type of permit, if it is non-controversial. Applicant's engineer has indicated that client may take exception to District requiring recorded title declarations for stormwater facilities and buffer locations and maintenance and operation plans for long-term effectiveness of facilities.
- **Permit 07-010:** Project property located on Big Marine Lake. Owner was grading in the shoreland and bluff areas and constructing a retaining wall without any permits. Scandia is taking the lead on this issue. District received a permit application, which was incomplete.
- **Permit 07-012:** Project for construction of a new home on Square Lake. Proposed project included removal of existing structure and new construction. Shoreland ordinance variance required as entire lot is located in the bluff area. New structure set back to meet the 100-foot lake setback requirement and significant infiltration practices, such as pervious pavement driveway and several raingardens, are proposed for control of stormwater runoff. District issued permit.
- **Permit 07-014:** Greshowak Minor Subdivision of parcel into two total lots. Issued permit with stipulations for some revisions to plan sheet. Received copy of revised plan sheets with changes requested.
- **Permit 08-001:** BTG and BTG-II May Township Mining Operation renewal of conditional use permit by County. No additional submittal information on this development was received. Currently waiting for remaining materials to complete permit application. Refer to Comment 07-019 for additional information.
- **Permit 08-002:** May Township 2008 Street Improvements. Project included coordination with District Ozark Trail BMP project construction.

- **Permit 08-003:** Tiller Corporation Scandia Mining Operation, German Lake Subwatershed Management Area. Issued permit with remaining issues added as permit stipulations.
- **Permit 08-004:** Dresel contracting Scandia Mining Operation, German Lake Subwatershed Management Area. Project site is adjacent to the Tiller Corporation Mining Operation. Issued permit with remaining issues added as permit stipulations.
- **Permit 08-005:** Bracht Brothers Scandia Mining Operation, located in former MMWMO. Issued permit with remaining issues added as permit stipulations.
- **Permit 08-006:** Old Marine Estates Minor Subdivision on Big Marine Lake. Permit issued and construction completed. Administrator received request for final site inspection and return of surety from owner. Final site inspection was completed. Administrator is verifying filing of protective covenants prior to final recommendation for release of surety.
- **Permit 08-007:** Project for driveway improvements on Big Carnelian Lake. Provided location maps to Administrator. Administrator coordinated with Washington County and WCD. Permit was issued. Administrator expects a request for return of surety in the near future as disturbed areas appear to have been restored.
- **Permit 08-008:** New Home on Big Carnelian Lake. This project required a variance from the County Shoreland Ordinance. District provided comments under Comment 07-025. Administrator received a permit application (currently considered incomplete per EOR review). Currently waiting to receive information needed to complete the permit application so review can be completed. All correspondence is now going through District and applicant's attorneys. Managers instructed staff to bring completed application with recommendations to the board for a final decision on permit issuance.
- **Permit 08-009:** Project for retaining wall adjacent to landlocked wetland. District received application. District currently waiting for additional information from applicant.
- **Permit 08-010:** Riprap repair project on Big Marine Lake. District received application and issued permit.
- **Permit 08-011:** Project to install field road culvert between two wetlands in May Township. District received permit application. Provided culvert sizing computations and recommendations as requested. Applicant to reimburse District for expenses related to computations. This site also has a previous wetland issue from 2000, which will be completed at this time. District coordinated with Township and Jyneen Thatcher. Permit was issued, project completed and surety applied to District costs.
- **Permit 08-012:** Project for removal of annual ice ridge on Square Lake residential property. District received permit application and issued permit.
- **Permit 08-013:** Project for construction of retaining wall at toe of existing slope by isolated wetland. Property located on Big Marine Lake. (Wetland is not adjacent to lake.) District is coordinating with Jyneen Thatcher on wetland issues. Permit issued with stipulations for erosion control, protection of wetland and restoration with native vegetation. Noted use of one time de-minis exemption.
- **Permit 08-014:** Grading and drainage project for property on Square Lake. Final site inspection was completed by Administrator and surety returned.
- **Permit 08-015:** Big Marine Lake property. District received permit application for repair of existing riprap. Permit was issued.
- **Permit 08-016:** Big Marine Lake property. District received permit application for repair of existing riprap. Permit was issued.
- **Permit 08-018:** Big Carnelian Lake project. Proposed project to replace existing garage with new garage that includes living space. Project will not require a variance from shoreland ordinances, but does require a District permit due to area of disturbance. Received completed permit application. Project did not propose any increase in impervious area so main permit stipulation was for erosion and control plan meeting WCD recommendations.

- **Permit 08-017:** Pine Cone Trail Sanitary Sewer Extension in Marine on St. Croix. District received permit application and supporting documentation from City engineer. Sewer lines will be installed with directional boring so there should be minimal disturbance. Permit is required because removal of two mound systems exceeds District 1,000 square-foot disturbance threshold. Permit was issued.
- **Permit 08-018:** Project at residence on Big Carnelian Lake. Received request for information on permit requirements from architect/surveyor for proposed garage replacement and driveway improvements. Provided information and informal comments. Project will not require a variance from shoreland ordinances, but does require a District permit due to area of disturbance.
- **Permit 08-019:** Driveway wetland fill on Big Marine Lake. This project required an after-the-fact permit and significant coordination between District, Scandia and WCD. Applicant's engineer revised the plans to include a 24-inch stream culvert, two 18-inch culverts and a 15-inch culvert spread out along the road crossing of the wetland. Design also called for installation of a 100-foot rock overflow weir at elevation 945.0. District Administrator received a complete permit application and agreed on fees. Construction was completed the week of December 1, 2008. Project was observed by District Administrator, City staff, and Wetlands TEP including Jyneen Thatcher (WCD) and Melissa Arikian (EOR). TEP reported that wetland conditions in road were as expected. Record drawing as-builts of project were submitted by developer's engineer. A review of those drawings show that the overflow weir was constructed at only 40-feet long instead of the 100-feet long weir called for in the design. Developer's engineer notes this was done due to contractor concerns about the soft silty gray sands encountered and concern about road stability. Developer's engineer also noted that additional review may be needed in the spring. District is withholding return of surety until project is evaluated this spring for compliance with permit conditions.
- **Permit 08-020:** Project property located on Hay Lake. Project involved grading and erosion control related to establishment of a new lawn. Final site inspection was completed by Administrator and surety returned.
- **Permit 08-021:** Washington County Square Lake Regional Park proposed entrance road reconstruction and widening. District received additional information completing permit application for grading, erosion and sediment control associated with reconstruction of the road. Permit was issued.



KEY PROGRAMS: WATER QUALITY MONITORING

Twelve of the District's 30 lakes have been classified as impaired by the Minnesota Pollution Control Agency (MPCA). With funding from the MPCA, the District, through a contract with the Washington Conservation District (WCD), began monitoring ten lakes for three biological factors. (Three physical factors will continue to be monitored through the District's regular Water Monitoring Program.) Monitoring data will be used to develop a Total Maximum Daily Load (TMDL) plan for each lake. Administrator Shaver has begun organizing meetings with lake associations to begin engaging residents in issues around their impaired lakes. Additional public input will be solicited through Technical Advisory Committee, Citizen Advisory Committee and public meetings and other avenues.

The District monitored 28 lakes, six perennial streams and one lake outlet in their 2008 water quality monitoring program. Five lakes/wetlands that were monitored in 2007 were not monitored during the 2008 season (205th St. Wetland, Cty. Rd. 7 Wetland, Loon Wetland, Mud and Maple Marsh Lakes). Water quality data collected over the past year provides some observations concerning the status of the lakes and streams monitored in the CMSCWD.

The number of lakes in 2008 receiving A lake grades (nine total) increased by five, including Twin which was not monitored in 2007, and Clear and Mays which were monitored by a volunteer; B lake grades (six total) decreased by two; C lake grades (nine total) increased by one; D lake grades (three total) decreased by one; and F lake grades (one total) stayed the same when compared to 2007. In 2008, Loon remained at the bottom of the grade scale (F), holding the same grade from 2006 and 2007. Lakes near the bottom of the grade scale have heavy summer algal blooms and dense macrophyte beds near shore. A change in land use practices in the watershed may stabilize water quality although it may not be enough to provide short-term noticeable improvements. Chemical treatment such as alum would most likely show the most promise for short-term noticeable improvement. This is the case because the water quality in a lake depends on a number of different variables such as size of the contributing watershed, depth of the lake, and the current amount of nutrients available and periodically released from the lake bottom.

Once again in 2008 the WCD conducted Kendall Tau statistical trend tests on all lakes monitored within the county. For CMSCWD, thirteen lakes had either an increasing or decreasing trend. Little Carnelian, Big Carnelian, West Boot, Long (May Township), Jellum's Bay, Long (City of Scandia), Hay and Fish Lakes all had an increasing Secchi disk (SD) transparency readings. This trend points to improving water quality. Square, Louise and Loon Lakes had decreasing Secchi disk transparency trends, indicating declining water quality. Of the eleven lakes mentioned above, only four had a corresponding total phosphorous (TP) trend. Long (May Township), Long (City of Scandia) and Hay Lakes had decreasing TP (improving trend), indicative of the increasing SD trend and improving water quality. Loon Lake once again had increasing TP (declining trend), correlating to the SD decreasing trend and declining water quality. Bass Lake had decreasing TP, but no SD trend was apparent. Silver Lake also had decreasing TP, but no trend for SD can be determined due to the shallowness of the lake. Carol, German, North Twin and Turtle are also considered shallow lakes and therefore have no trend for SD. Twin, Clear and Mays Lakes were monitored for the first time this year so there is not enough data to create a trend. Some lakes

within the watershed that may appear to show a strong trend do so because of the limited number of years they have been monitored. Among the lakes in the watershed that have five to ten years of monitoring records, there appears to be a cycle of increasing and decreasing water quality. These short-term cycles should not be assumed to necessarily represent a long-term trend. Results of the 2008 lake monitoring data are summarized in Table A below.

Table A: 2008 Overall Lake Grades and Trophic Status

2008 Ranking	Lake	2006 Lake Grade	2007 Lake Grade	2007 Trophic Status	2008 Lake Grade	2008 Trophic Status
1	Little Carnelian	A	A	Oligotrophic	A	Oligotrophic
2	Big Carnelian	B+	A	Mesotrophic	A	Oligotrophic
3	Square	A	A	Mesotrophic	A	Oligotrophic
4	Clear	NA	NA	NA	A	Oligotrophic
5	Mays	NA	NA	NA	A	Oligotrophic
6	West Boot	A	A-	Mesotrophic	A	Mesotrophic
7	Terrapin	B+	B+	Mesotrophic	A	Mesotrophic
8	Big Marine	B-	B	Mesotrophic	A	Mesotrophic
9	Twin	NA	NA	NA	A	Mesotrophic
10	Staples	B	B	Mesotrophic	B	Mesotrophic
11	North Twin	B	B-	Mesotrophic	B	Mesotrophic
12	Long (May Township)	B-	B-	Eutrophic	B	Mesotrophic
13	Bass	C+	C+	Eutrophic	B	Mesotrophic
14	Long	C	C	Hypereutrophic	B	Mesotrophic
15	East Boot	C	C+	Eutrophic	B-	Eutrophic
16	German	B-	B	Mesotrophic	C	Mesotrophic
17	Turtle	C	B	Mesotrophic	C	Eutrophic
18	Carol	B-	B-	Mesotrophic	C	Eutrophic
19	Hay	C-	C-	Hypereutrophic	C	Eutrophic
20	Sand	C+	C+	Hypereutrophic	C	Eutrophic
21	Silver	C-	C	Eutrophic	C	Eutrophic
22	Goose	C-	C-	Hypereutrophic	C	Hypereutrophic
23	Jellum's	D+	C	Eutrophic	C-	Hypereutrophic
24	Fish	D	D	Hypereutrophic	C-	Hypereutrophic
25	Louise	D	D	Hypereutrophic	D+	Hypereutrophic
26	South Twin	D+	D+	Hypereutrophic	D+	Hypereutrophic
27	Barker	C	D	Eutrophic	D	Hypereutrophic
28	Loon	F	F	Hypereutrophic	F	Hypereutrophic

Stream Monitoring in CMSCWD is continuing to produce valuable baseline water-quality information. This information will be a helpful tool in determining a healthy balance of resources as the watershed district continues to experience growth and changes in land use. The total phosphorus load in Silver Creek Watershed for 2008 was 0.05 kg/ha/yr. The total phosphorus load at the Little Carnelian Lake Outlet, the Carnelian Creek Watershed discharge to the St. Croix River, was 0.002 kg/ha/yr. The total phosphorus load at Ozark Trail, the first station upstream from Little Carnelian Lake, was 0.06 kg/ha/yr. The total phosphorus load in Gilbertson's Creek watershed was 1.30 kg/ha/yr. The total phosphorus load in Swedish Flag Creek Watershed was 0.07 kg/ha/yr. The total phosphorus load in Mill Stream Watershed was 0.01 kg/ha/yr. The total phosphorus load in Willow Brook Watershed was 0.03 kg/ha/yr. This data shows the loading for these streams is less than all the categories within the "phosphorus export coefficients estimate range by land use". The spikes in total phosphorus and total suspended solids are correlated with storm events and increased spring runoff. It is unclear whether a particular, identifiable source contributes to these increased levels or if the levels are simply part of the stream's chemistry cycle.

The climate that occurred in 2008 was one of below normal precipitation. This caused many lake elevations to decline through much of the summer. Water flowed at all stream monitoring sites for the entire monitoring season except Little Carnelian Outlet, which quit flowing in early August and remained dry for the rest of the monitoring season. Water quality samples were collected at all stream monitoring stations throughout the entire monitoring season. The Ozark Trail site remains vital in understanding the water quality of Carnelian Creek, Big Carnelian Lake and Little Carnelian Lake.

General Stream Site Recommendations

- Continue to monitor Carnelian Creek, Silver Creek, Gilbertson's Creek, Swedish Flag Creek, Mill Stream and Willow Brook to help determine potential water quality trends and water quality standard exceedances.
- Maintain and improve stream-rating curves with in-stream flow measurements.
- Initiate BMP projects on stream reaches where TSS and TP loadings are highest and especially higher during storm events and assess the effectiveness of those projects.
- Provide scheduled channel maintenance in order to better regulate flows, prevent possible flooding and allow more accurate data collection.
- Sample for heavy metals and hardness at all sites to determine if possible deposition is occurring through anthropogenic loading from nearby discharge sources.

Carnelian Creek

At Ozark Trail – Continuous Monitoring

Total phosphorus loading for this site was below the forest landuse. This monitoring point receives water primarily from all points north of Big Carnelian Lake, including Bass Lake, Turtle Lake, Big Marine Lake and associated wetlands. Continued monitoring in conjunction with in-lake monitoring of Big Carnelian Lake will provide for a better understanding of Carnelian Creek. At this point Big and Little Carnelian Lakes are the primary water bodies receiving runoff from Carnelian Creek and settle out many nutrients previous to the outlet of the watershed at Little Carnelian Lake. The streambank restoration BMP implemented by the District in 2006 encompassing this location provides additional bank stabilization, better habitat for fish and macroinvertebrates and will further reduce loadings. The paving of Ozark Trail and directing road runoff into a raingarden before entering the creek will reduce road washout and also help to alleviate additional loads in the future. Monitoring should continue at the Ozark Trail site to assess the effectiveness of these BMP projects.

At Outlet of Little Carnelian Lake – Watershed Outlet Monitoring Program (WOMP) Station – Continuous Monitoring

Total phosphorus loading for this site was below the forest landuse category. There was flow past the outlet from the end of April through the beginning of August so grab samples were able to be collected and loads calculated. In recent years, the lake outlet has been dry for part of the season and it should be reassessed whether this is a suitable location for a WOMP station for future monitoring. No water bodies receive runoff from Carnelian Creek downstream of this location other than the St. Croix River.

Silver Creek

At Highway 95 – WOMP Station – Continuous Monitoring

Total phosphorus loading for this site was below the forest landuse (overall lowest landuse load). No water bodies receive runoff from Silver Creek at this point other than the St. Croix River. There are large amounts of groundwater that discharge from the bedrock after Silver Creek drops into the ravine downstream of Fairy Falls. As in past years, 2008 precipitation amounts varied

greatly through the monitoring season and groundwater was the main water contribution during many periods. Groundwater was the only water source at the Highway 95 site indicated by no water flowing where the creek crosses County Road 11.

Gilbertson's Creek

At Quinnell Ave – Continuous Monitoring

2008 was the first monitoring season for Gilbertson's Creek since 2003, when only stage and discharge data was collected. Total phosphorus loading here was above all the landuse categories, which can be attributed to the fact that the watershed is only 84 acres in size and only three storm samples could be collected. No other water bodies receive runoff from Gilbertson's Creek other than the St. Croix River. This is a flashy stream, with the level of the stream staying relatively steady throughout the season, only rising slightly during storm events and quickly returning to base flow. Further monitoring is recommended on Gilbertson's Creek to develop water quality trends and to better assess any impacts this stream has on the St. Croix River.

Swedish Flag Creek

At the intersection of Highway 95 and Quinnell Ave – Continuous Monitoring

2008 was the first monitoring season for Swedish Flag Creek since 2003, when only stage and discharge data was collected. Total phosphorus loading for this site was below the forest landuse category and no other water bodies receive runoff from Swedish Flag Creek other than the St. Croix River. This site had relatively low flow throughout the water monitoring season and transparency was always quite low. Further monitoring is recommended on Swedish Flag Creek in order to develop water quality trends and to better assess any impacts this stream has on the St. Croix River.

Mill Stream

In Marine on St. Croix, Upstream from Judd St. – Continuous Monitoring

2008 was the first year Mill Stream was monitored by the WCD; the St. Croix Watershed Research Station had monitored previous years. Total phosphorus loading for this site was below the forest landuse category. This site was continuously monitored with a Campbell Datalogger for stage, conductivity and temperature and water quality grab samples were collected. Mill Stream is a designated trout stream and no other water bodies receive runoff from this stream other than the St. Croix River. Further monitoring is recommended on Mill Stream to develop water quality trends and to better assess any impacts this stream has on the St. Croix River.

Willow Brook

In the Croixside Neighborhood Along Highway 95 – Continuous Monitoring

2008 was the first year that the WCD ran a monitoring station on Willow Brook. Total phosphorus loading here was below the forest landuse category. Willow Brook was continuously monitored with a Campbell Datalogger for stage, conductivity and temperature. Water quality grab samples were also collected. Willow Brook is a designated trout stream and no other water bodies receive runoff from this stream other than the St. Croix River. This is a flashy stream with the level only rising slightly during storm events and staying relatively steady throughout the rest of the season. Further monitoring is recommended on Willow Brook in order to develop water quality trends and to better assess any impacts this stream has on the St. Croix River.

For additional information on water monitoring work, or for a copy of any Lake Newsletter—a one-page snapshot of each lake's characteristics and its current and past water quality— contact the District office at 651-433-2150 or download the report at www.cmscw.org.