377-5785 **Shell Rock River Watershed District**

Annual Report for the Shell Rock River Watershed District

Annual Meeting at 7 p.m. on Thursday, March 10, in the Freeborn County Board Room

Established:
June 25, 2003
By Citizen Petition

Address:
c/o Freeborn County
Government Center
411 S. Broadway / P.O. Box 1147
Albert Lea, MN 56007

Telephone: 507-377-5785

Fax: 507-377-4494

Email:
shellrockwatershed@co.freeborn.mn.us

Included counties:
Freeborn

Watershed Quick Facts

District Size: 246 Square Miles — **Number of Staff:** 5

Major Lakes: Pickerel, White (Chapeau), Fountain, Albert Lea, Upper and Lower Twin

Watershed Drains to: Shell Rock River, then to the Cedar River, the Iowa River, and finally the Mississippi River

Impaired Waters: State and federal governments list 9.8 miles of the Shell Rock River as impaired for fecal coliform bacteria and turbidity. Albert Lea, Fountain and Pickerel Lakes were put on the impaired waters list for excessive nutrients in 2008.

Regular Meeting: 8:30 a.m. the second Tuesday of each month, Albert Lea City Council Chambers (broadcast on ALTV)

Board of Managers

Name	Position	Address	Telephone
Gary Pestorious	Chairperson	20770 707th Avenue, Albert Lea, MN 56007	507-373-6758
Bruce Haugsdal	Vice Chairperson	2117 Kenneth Drive, Albert Lea, MN 56007	507-373-2743
Clayton Petersen	Treasurer	22108 720th Avenue, Albert Lea, MN 56007	507-373-0061
Art Ludtke	Secretary	1114 Wood Park Ln, Albert Lea, MN 56007	507-377-1522
Alan Bakken	Manager	16691 740th Avenue, Albert Lea, MN 56007	507-373-6686
Roger L. Peterson	Manager	25619 750th Avenue, Clarks Grove, MN 56016	507-826-3229
Brett Richards	Manager	662 Meadow Lane, Albert Lea, MN 56007	507-256-7580

Board Appointments:

Under Minnesota Statute 103D, the Freeborn County Board appoints the Board of Managers for the Watershed District. Each manager serves a 3-year term.

Annual Meeting:

7 p.m. Thursday, March 10, in the Freeborn County Board Room, 411 S. Broadway Ave. The meeting will air on Charter Communications Channel 16.

District Administrator:

Brett Behnke
507-402-4806
Office located in the historic Freeborn County Courthouse

Future Projects

Phosphorous Budgeting Study (U of M)
Dredging - Wedge Creek
Continue Water Monitoring
Rural Subwatershed Projects
Precision Conservation
206 Ecosystem Restoration Project
Shell Rock River Headwaters Restoration

Pickerel Lake Reclamation Project Comes Full-circle

Water Quality Update

Historically Pickerel Lake, which sits atop the Shell Rock River Watershed District, has had very poor water quality. Water clarity in the summer is generally less than 6" and does not allow for any aquatic vegetation to grow. Algae blooms are common and occur throughout the summer. The nutrient-rich algae laden water, which flows directly into Fountain Lake, was degrading downstream lakes.

This last summer (2010), water samples were taken from Pickerel Lake on a bi-weekly basis, starting in April and ending in October. The samples were sent to the Minnesota Department of Health Laboratory in St. Paul and analyzed for several different parameters. These parameters give us a good idea of how healthy the lake is. The Minnesota Pollution Control Agency has set up some water quality standards. By comparing the water quality results from Pickerel Lake to the MPCA shallow lake standards we can determine if it is indeed still impaired.

The first parameter that has shown a huge improvement since the lake reclamation is total phosphorus. Phosphorus is a nutrient required by all organisms for the basic processes of life. Phosphorus enters the water either externally, from runoff or ground water, or internally, from the nutrient rich sediments on the bottom of the lake. Excess phosphorus may come from many sources, including fertilizers applied to agricultural fields, lawn fertilizers, municipal and industrial waste, urban runoff, and wind-eroded sediments. Phosphorus is a very important parameter to measure because it directly affects algae blooms in our lakes. An excessive amount of phosphorus leads to an excess of algae. Figure 1 shows the amount of total phosphorus in Pickerel Lake from 2005 thru 2010. As you can see, pre-reclamation (2005-2009) the amount of total phosphorus was very high, most years, greater than 4 times MN PCA's standard for Southern Minnesota shallow lakes (.09 mg/l). In 2010, the amount of total phosphorus decreased greatly, nearly reaching the MN PCA standard.

Another parameter sampled in Pickerel Lake is Chlorophyll A. Chlorophyll A sampling gives us a good idea of how much algae is present in the lake. Just like phosphorus, excessive amounts of algae are unhealthy for the lake. Excessive amounts of algae prohibit light from reaching the bottom of the lake and deter native aquatic vegetation from growing. Aquatic vegetation is important because it uses phosphorus to grow, leaving less for algae to feed off of. Similar to total phosphorus, Chlorophyll A was also greatly decreased by the lake reclamation project. As you can see in Figure 2, the amount of Chlorophyll A present in Pickerel Lake in 2007 was ten times that of 2010. More importantly, Pickerel Lake is now meeting the MN PCA's standard for Chlorophyll A, indicating a much more healthy lake.

The last parameter taken from Pickerel Lake is a secchi disk reading. This is done by lowering a white disk into the water until it disappears and then recording that depth. A secchi disk reading is another way to measure the lake's water clarity. As you can see in Figure 3, Pickerel Lake's water clarity has improved tremendously. During the 2010 sampling season, the majority of readings were taken with the white disk lying on the bottom of the lake, being clearly seen. The MN PCA shallow lakes standard of 2.3 feet for a secchi disk reading was met and exceeded.

While the effort of eliminating Common Carp from Pickerel Lake was a large task, we are now seeing the benefits in the improvement of water quality in Pickerel, Mud, and Fountain Lake. Pickerel and Mud Lake flow directly into Fountain Lake via Schoff Creek, which is now contributing water that is clean and clear instead of water contaminated with high amounts of Phosphorus and Algae.

Figure 1

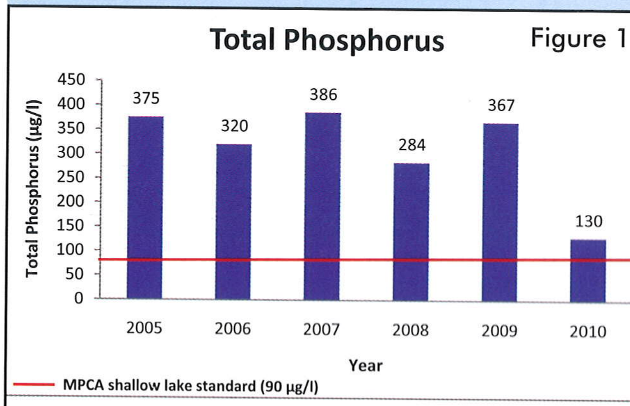


Figure 2

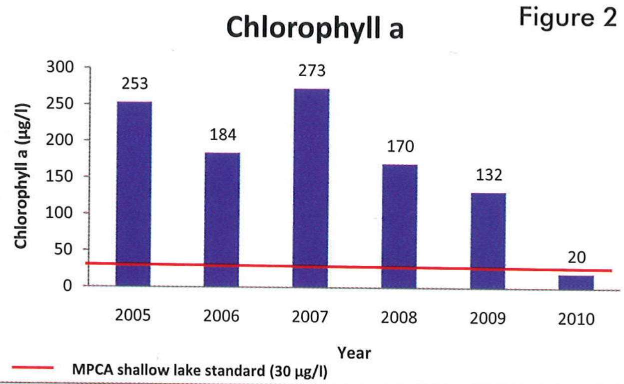
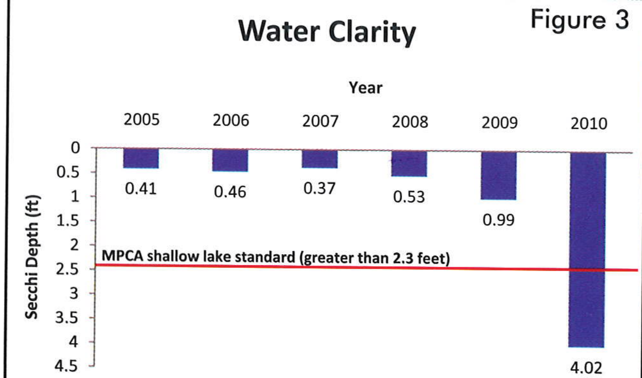


Figure 3



2010 Administrative Fund

Administrative Fund Revenue	
Administrative Levy	$250,716.50
Interest Income	$31.18
Reimbursements	$664.76
Subtotal	**$251,412.44**
Carried forward from 2010	$41,001.94
Total	**$292,414.38**

Administrative Fund Expenses	
Personnel	$148,117.41
Travel and Training	$21,541.42
Office	$32,063.50
Professional Services	$43,252.92
Projects	$3,359.61
Subtotal	**$248,344.86**
Carry forward to 2011	$44,079.52
Total	**$292,414.38**

2010 Non-Property Tax Fund

Non-Property Tax Revenue	
Local option sales tax	$1,302,895.99
Grant Reimbursement	$142,708.99
Investment Income	$1,859.54
Carried forward from 2009	$740,752.52
Total	**$2,188,217.0**

Non-Property Tax Expenses	
Erosion and Water Control	$37,109.92
Albert Lea Lake Dam	$3,636.00
City Stormwater Management	$138,800.82
Subwatershed Projects	$433,577.09
Dredging Elements	$34,784.24
Water Monitoring	$96,483.51
Rural Sewage Management	$74,114.56
Subtotal	**$818,506.14**
Carryover to 2011 Projects	$1,369,710.90
Total	**$2,188,217.04**

2010 Citizen Advisory Committee

Mike Lee, Chair
Don Flatness, Secretary
Larry Anderson
Jim Nelson
Roger M Nelson
Kyle Skov
Dave Villarreal
Nick Kruse