ADDRESS
To
THE MANITOBA CLEAN ENVIRONMENT COMMISSION
By
Whitemouth-Reynolds Soil and Water Conservation Association
April 10, 2007 - Whitemouth Manitoba

1. Mr. Chairman, Distinguished members of the Commission, my name is David Young and I appear to present to you a report on water quality in the Whitemouth River watershed on behalf of the Whitemouth-Reynolds Soil and Water Conservation Association.

2. The Whitemouth-Reynolds Soil and Water Conservation Association is an unincorporated syndicate of persons interested in soil and water conservation in the municipalities of Reynolds and Whitemouth. The Association includes members of the Councils of both municipalities and is supported by the Municipalities. The Association is supported by Manitoba Agriculture, Food, and Rural Initiatives, and has also received support and advice from other agencies of the government of Manitoba and from PFRA. Financial support is provided by the Municipalities and, from time to time, by several agencies of the Government of Manitoba.

3. We are presenting to you today a report which summarizes the results of six years of methodical testing of water quality in the Whitemouth River. The report shows that nutrient levels in water discharged from this watershed are within provincial water quality guidelines. It also shows that the levels of concentration of phosphorus and nitrogen in the Whitemouth River do not increase as the river flows through the agricultural and residential areas of the watershed, and the levels of concentration have not increased during the last six years. In brief, the report shows that agriculture and other human activities in this watershed are not contributing to increased levels of nutrient in Lake Winnipeg or other downstream waters.

4. The report which we are submitting to you today includes and summarizes the results of three hundred and one (301) sets of water quality tests. As we are presenting you with a complete record of these tests, I shall, with your approval, Sir, confine myself to a brief summary of some of the salient results, and concentrate my presentation on the rationale for the collection of this information and on the methodology of the testing process.

5. Most of the population of the municipalities of Reynolds and Whitemouth live in the Whitemouth River watershed, and almost all of the farmyards are located in this watershed, often near the rivers. (A small area of land and a few farms are in

the Brokenhead watershed, and another small area drains directly into the Winnipeg River.) We use river water for recreation, for stock watering, and sometimes, after treatment, for household use. Water quality is vitally important to all of us.

6. We recognize and understand the widespread concern for the extent to which Lake Winnipeg is being contaminated by excessive nutrients (nitrogen and phosphorous), and recognize that agriculture is sometimes blamed for contributing to this problem by allowing excess runoff from fertilized fields or for contamination of rivers with manure.

7. To discover and report the extent to which we might be affected by contamination of water in our rivers, and to learn to what extent we might be contributing to contamination of downstream lakes or rivers, the Whitemouth-Reynolds Soil and Water Conservation Association decided in 2001 to begin monitoring water quality in our rivers. We have received financial and technical assistance in this undertaking from both municipalities, from Manitoba Agriculture, Food and Rural Initiatives, from the Sustainable Development fund, from P.F.R.A., and from Manitoba Water Stewardship. All laboratory tests have been conducted by Enviro-Test Laboratories

8. Test protocols were established in consultation with, and under the advice of, officers of the Manitoba water management agency now known as the Department of Water Stewardship. Eleven parameters are measured from each set of samples. We concentrate on Total Phosphorus, Total Kjeldahl Nitrogen, Fecal Coliform and *E. coli.* We are advised that these protocols are in harmony with those used by the Province.

9. During the first year, 2001, sample sets were collected at four sites on the Whitemouth River. In the second year a collection site was established on a tributary known as Kellner Creek, and in the third year an additional site was established on the Whitemouth. Since that time, samples have been collected at five sites on the Whitemouth and one on Kellner Creek.

10. Site 1 is located a few kilometers upstream, i.e., south, of Highway 1, south and east of Hadashville. The point was established to measure the quality of water draining from the lake, forests and bogs upstream of virtually all residences and farms. Site 2 is located several kilometers downstream, on P.T.H. 506 to measure any changes which might occur as a result of drainage of the Hadashville-Medika areas. Site 3 is located on Highway 44, a few kilometers east of Whitemouth. The Boggy-Birch River, which drains more than one quarter of the watershed, joins the river in this reach, and Site 3 was established to measure any changes which might be attributable to that source, or to the fairly extensive agricultural area surrounding Elma. Any changes in quality attributable to the intermittent flow of Kellner Creek would also be reflected in differences between sites 2 and 3. Site 4 is located downstream of Whitemouth in order to measure any changes

attributable to this community. The final site, site 5, is located close to the confluence of the Whitemouth and the Winnipeg Rivers and measures the quality of water discharged from the watershed.

11. In 2001 we collected thirteen sets of samples at each of four locations for a total of fifty two sets. Eleven sets were collected between mid April and late October; the other two were collected in winter. In 2002, thirteen sets were collected at the same points on the river, and 6 sets were collected at Kellner Creek for a total of fifty eight sets. In 2003, an additional collection point was established and the frequency of sampling was reduced. A total of sixty sets of samples were collected. Fifty four sets were collected in 2004. The frequency of collection was reduced again in 2005 and thirty nine sets of samples were collected. And in 2006, thirty eight sets were collected. In total three hundred and one sets were collected during the six year period. Results of all of these tests are appended to the report which we are submitting to you today.

12. Our analysis of the data derived from laboratory analysis of the 301 sets of samples has focused on three parameters: the concentration of "Total Phosphorus", "Total Kjeldahl Nitrogen" and *E. coli.*

13. During the six year period the geometric mean level of "Total Phosphorous" measured at site 1 was .0408 ppm. This measurement point is upstream of the agricultural area in the watershed, and upstream of almost all permanent residences. It reflects the quality of water draining from Whitemouth Lake and a region of forest and bog located south of Highway One. The highest mean annual level at this point was recorded in 2001 at .049 ppm; the lowest annual mean was .0286 in 2005.

14. The six year mean level of phosphorus measured at Seven Sisters was .0394 or slightly lower than the levels measured at the highest upstream point. A review of the detailed report will reveal that this contrast represents a consistent pattern throughout the six year period. The levels at both points fluctuated over a narrow range throughout the period, and the level of concentration of phosphorus was consistently lower at Seven Sisters than at the upstream point where there is no opportunity for the level to be influenced by agricultural activity. Levels at intermediate points varied slightly from those at the upstream and downstream measuring stations. The highest six year mean level was at a point downstream of Hadashville. At this location a mean level of .0440 was recorded.

15. We note that North-South Consultants, in a report to The Lake Winnipeg Consortium, reports a mean level of Phosphorus in the south Basin of Lake Winnipeg in 2005 at slightly more than .16 ppm., some four times the level of concentration in water discharged from the Whitemouth River.

16. The concentration of nitrogen in the waters of the Whitemouth River as measured at Site 1, the upstream site, fluctuated around one part per million during the six year period. The six year mean level was .9229 ppm at this point. The comparable level of Nitrogen at Seven Sisters was .8698. A review of the documents which we are submitting today will show that this pattern is consistent over the six year period, and throughout the watershed. Levels of concentration vary within a fairly narrow range from point to point and from time to time, but remain at levels which we consider satisfactory.

17. The Whitemouth-Reynolds Soil and Water Conservation Association wishes to express to you, Mr. Chairman, and to the Members of your Commission, our gratitude for this opportunity to present this information to you. We are submitting for your consideration our Water Quality Report for the 2001-2006 period, and we are appending reports of the analysis of the 301 sets of samples collected during the six year period.