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An update from the Lake Winnipeg Community-Based Monitoring Network's annual gathering

News

LWF

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As the 2017 open-water season draws to a close, participants and supporters of the Lake Winnipeg Community-Based Monitoring Network (LWCBMN) met in Winnipeg to discuss progress, share lessons learned and plan next steps.

Co-ordinated by the Lake Winnipeg Foundation (LWF) and supported by LWF's Science Advisory Council, the LWCBMN is engaging citizen volunteers in the collection of water samples. These samples are then analyzed in a lab to measure phosphorus concentration and calculate the amount of phosphorus being exported off our landscapes.

Citizen-generated data can be used to pinpoint phosphorus hotspots across the watershed. The more data we have, the better we can focus our energy and invest our resources wisely to improve the health of our lakes and rivers.

Highlights from the gathering

Stakeholders at the two-day October gathering included Manitoba conservation districts, government representatives, funders and citizen volunteers. The event also attracted national attention, with representatives from WWF-Canada, the Canadian Freshwater Alliance, the Gordon Foundation and CBM practitioners from across Canada in attendance.

First convened in 2015, the LWCBMN:

- Engages citizen scientists as champions for water health
- Identifies phosphorus hotspots in the sub-watersheds of Manitoba
- Ensures for a comprehensive, credible data set informs research and policy priorities

Currently in its second year, LWCBMN partners use sampling protocols that produce robust, credible data compatible with those of existing water-monitoring programs conducted by federal and provincial governments.

Network growth in 2017 has been considerable, with 1,200 samples collected at 75 sites, up from 200 samples collected from 12 sites in 2016.



The LWCBMN is yielding some interesting findings, such as higher phosphorus exports than have ever previously been reported for Manitoba, and considerable differences between different sites. A phosphorus export is the amount of phosphorus exported each year from each hectare of land upstream of the sample location (noted as kg P/ha/y). Exports are calculated using the phosphorus concentration (i.e., the amount of phosphorus in a given volume of water) as well the rate of water flow at a sample site.

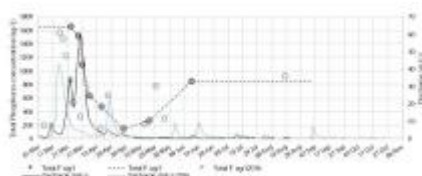
High-water events - such as spring snow melt or heavy rain storms - are also high-phosphorus events. This information confirms just how important

timing is when conducting water monitoring. If you miss the spring melt, for example, you miss most of the phosphorus coming off the landscape.

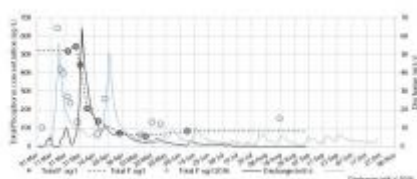
A sneak peek at 2017 data

LWCBMN Co-ordinator Chelsea Lobson shared preliminary 2017 water-quality data from two sampling sites, both located in southeast Manitoba: the Manning Canal, which drains an area with intense agricultural activity and a growing urban centre (Steinbach), and the Upper Seine, which drains a largely forested, less-developed area.

Phosphorus export from the Manning Canal sampling site increased to 1.63 kg P/ha/y from 2016's 1.1 kg P/ha/y – possibly due to the amount of water flowing past this site also increasing. In 2017, 97 per cent of phosphorus loading occurred during the spring – up from 85 per cent in 2016.



Phosphorus export from the Upper Seine sampling site decreased to 0.29 kg P/ha/y from 2016's 0.48 kg P/ha/y, while the amount of water flowing past this site also decreased from the previous year. In 2017, 98 per cent of phosphorus loading occurred during the spring – up from 82 per cent in 2016.



Many years of data are needed to ensure we are not being misled by annual variation. Still, these findings suggest that there's potentially something interesting happening in certain areas of Manitoba – and we should try to learn more.

Next steps for the LWCBMN

Over the coming months, Chelsea will complete lab testing and work with LWF science advisors to analyse the rest of the 2017 samples. Contextualized reports will be created for all regions and shared back to LWCBMN partners. LWF will also share 2017 findings online.

Future plans include creating an app that will give citizen scientists the ability to input water-quality information from the field, and improving data accessibility online. LWF continues to liaise with national partners to ensure LWCBMN data contributes to a better understanding of the health of Canada's waters.

Pinpointing phosphorus hotspots in the watershed will help us focus our energy and invest our resources wisely to improve water quality. The Lake Winnipeg Community-Based Monitoring Network is creating opportunities for citizens to roll up their sleeves and get meaningfully involved in a hands-on way.

To learn more about the LWCBMN and see findings from 2016, click [here](#).

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