

ADVENTURER EXPLORER TRAILBLAZER REBEL PIONEER CREATOR DEFENDER ADVENTURER EXPLORER TRAILBLAZER  
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# Community Based Monitoring & CKAN



UNIVERSITY  
OF MANITOBA



# Goals

- Network
- Inform
- Defensible Data
- Communication

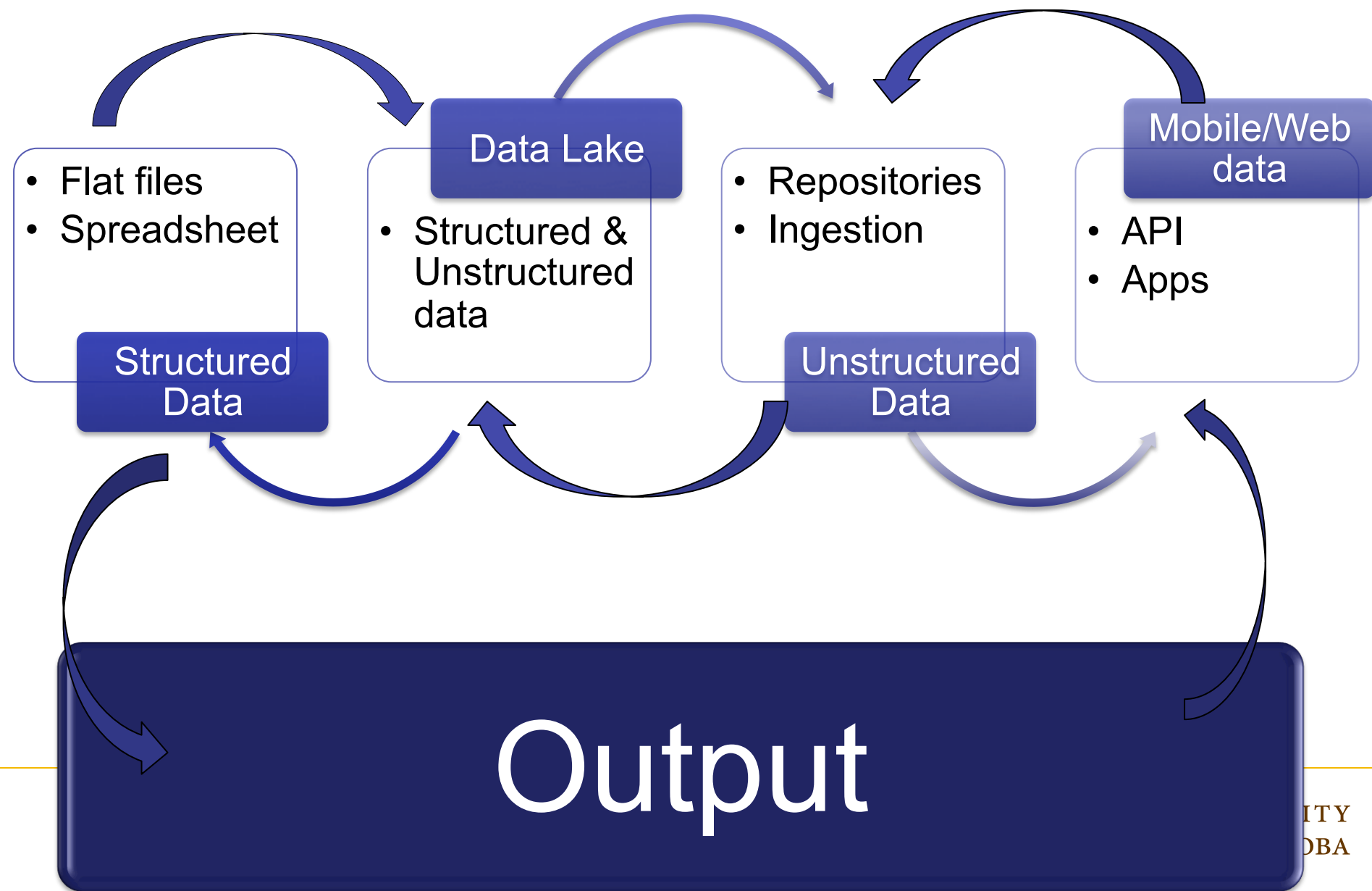




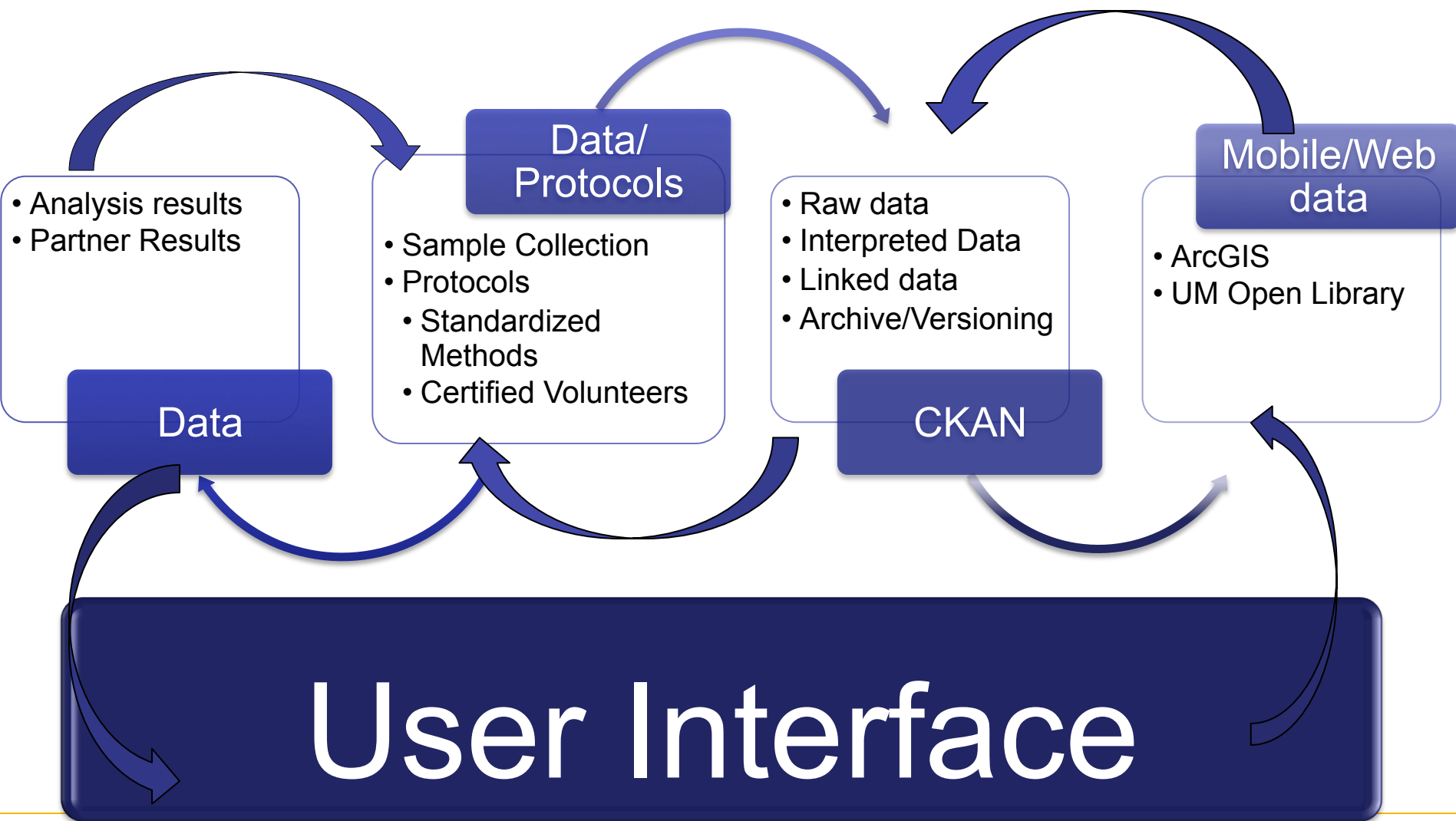
# Challenges

- **Data Lifecycle (DMP)**
  - Sample collection to visualization
- **Interface**
  - Easy to use
  - Interactive
- **Cost**
  - Website development
  - User interface & Interoperability development











# User Interface

Raw Data

Visualization

Mapping

Mobile/Web  
Media

Tables

Graphs

Dashboards

Plain  
Language

Static

Interactive

Social

Newsletter



- **LWF Citizen Science Sampling**

In 2016 the Lake Winnipeg Foundation began a pilot project on a citizen science sampling project to analyze Phosphorous in watersheds around Manitoba

- **LWF Citizen Science Phosphorous Sampling**  
2016 Sampling for Phosphorous
- **Sampling sites from Seine-Rat River Conservation District**  
Sampled by Chris Randall 2016
- **Site Locations**

## Progress 2015 – 2016

Together with partners at the University of Manitoba, LWF has provided strong leadership over the past year with the goal of creating a cohesive CBM network in Manitoba. LWF has coordinated the following action:

- Planned and executed a day-long workshop to discuss common challenges and opportunities for a CBM network in the province. Thirty-five people, representing 14 organizations, were engaged through this process.
- Researched and interviewed those involved in other successful CBM networks in Canada to learn about best practices and opportunities for improvement.
- Established a Manitoba CBM network Steering Committee, and met three times to plan the pilot field season, recruit and inform partners.
- Developed draft sampling protocols and training methods that will guide the work of CBM groups across Manitoba.
- Consulted with scientists at the University of Manitoba, Department of Fisheries, Oceans and the Canadian Coast Guard and the Lake Winnipeg Basin Information Network (LWBIN) to plan the pilot field season.
- Launched the pilot field season with four key partners in the field (LaSalle Redboine Conservation District, South-Central Eco-Institute, Seine Rat River Conservation District, and Sergeant Tommy Prince School in Brokenhead Ojibway Nation).
- Analyzed over 100 water samples collected by community partners
- Initiated development of an online user-friendly interface for the LWBIN for ease of use of future CBM participants.
- Shared our initial findings and methods through national water stewardship networks.
- Strengthened existing relationships and developed new relationships with partners on the landscape. This includes soliciting interest from First Nations who are part of the Lake Winnipeg Indigenous Collective.
- Linked CBM network partners with Netley-Libau Marsh restoration initiatives, which aim to restore the water filtering capacity of the marsh and to sequester carbon as a means to help Manitoba meet its climate change objectives.



OF MANITOBA



# CANWIN

The data management centre for the Nelson River and Lake Winnipeg Basins

Datasets Organisations Groups Showcases About

## Search data

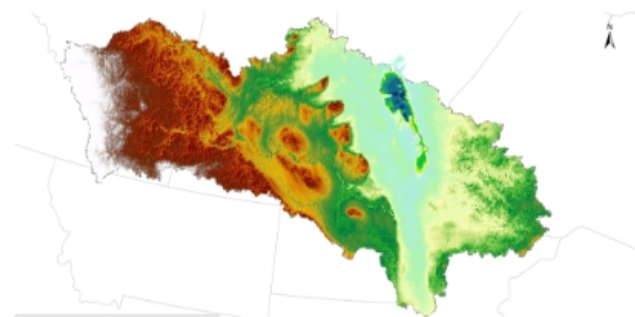
### Popular tags

- Lake Winnipeg
- Canada
- Watershed

## CANWIN statistics

|          |               |        |           |
|----------|---------------|--------|-----------|
| 49       | 23            | 11     | 2         |
| datasets | organizations | groups | showcases |

Explore, visualize and download datasets about the Lake Winnipeg Watershed.



You can find more information about the LWWIN on the main website at [Lake Winnipeg Basin Information Network](#).

View searchable Geospatial datasets at the [LWWIN GIS Explorer](#).

Please see the [About Page](#) for information about this service including the Background, Terms of Use and Privacy Statement.

## Agriculture and Agri-Food Canada

The Department of Agriculture and Agri-Food...

### Canada and Lake Winnipeg Watershed Basemap Layers

Basemap layer for the Lake Winnipeg Basin. Includes Ecozones, Ecoregions, Ecoprovinces, Ecodistricts, Ecoatlans and...

### Agriculture and Agri-Food Canada Geospatial Products

This dataset has no description.



## Water Quality

### LWF Citizen Science Sampling

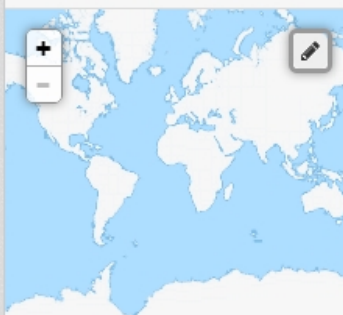
In 2016 the Lake Winnipeg Foundation began a pilot project on a citizen science sampling project to analyze...

### Lake Winnipeg Chemistry, 1994-2012

Lake Winnipeg Chemistry taken from the Namao. Analyzed at the



## Home / Datasets

Filter by location [Clear](#)Maps © Thunderforest, Data ©  
OpenStreetMap contributors

## Organisations

CEOS (32)

Agriculture and Agr... (4)

Lake Winnipeg Found... (3)

Fisheries and Ocean... (3)

Environment Canada (3)

Natural Resources C... (1)

National Snow and I... (1)

CoCoRaHS (1)

City of Winnipeg Wa... (1)

## Groups

Search datasets...



## 49 datasets found

Order by: Relevance



## USGS - Zebra Mussel Distribution Map

includes data for parts of Canada

HTML

## Devils Lake - Red River Basin Fish Parasite and Pathogen Project

These files contain information related to: DEVILS LAKE – RED RIVER BASIN FISH PARASITE AND PATHOGEN PROJECT QUALITATIVE RISK ASSESSMENT Prepared by the Aquatic Ecosystem...

PDF

XLS

CSV

ZIP

## 2009 &amp; 2010 Environment Canada Benthic Invertebrate Sampling

Benthos data (Kick netting and Ekman dredge) from lake sampling locations across the littoral zone of Lake Winnipeg.

CSV

XLS

XML

## LWF Citizen Science Sampling

In 2016 the Lake Winnipeg Foundation began a pilot project on a citizen science sampling project to analyze Phosphorous in watersheds around Manitoba

CSV

GeoJSON

XLSX



🏠 / Organizations / Lake Winnipeg Foundation / LWF Citizen Science Sampling /  
LWF Citizen Science ...

## LWF Citizen Science Phosphorous Sampling

[Download](#)[Data API](#)

URL: <http://130.179.67.140/dataset/d346e3de-796e-4cf1-9c38-bb54f4762d35/resource/aba45056-2a9b-4045-8fff-f4fb49befe33/download...>

2016 Sampling for Phosphorous

| Grid | Graph        | Map          | 100 records |           | «        | 0            | –        | 100     | »         | Q        | Search data ... | Go » | Filters |
|------|--------------|--------------|-------------|-----------|----------|--------------|----------|---------|-----------|----------|-----------------|------|---------|
| _id  | Analytica... | Station_ID   | Station_... | Longitude | Latitude | Date         | Time     | Sampler | SRP_PO... | TDP_ug_I |                 |      |         |
| 1    | CM99         | Brokenhe...  | BH_DC       |           |          | 2016-03-2... | 10:18:00 |         | 133       | 162      |                 |      |         |
| 2    | CM100        | Brokenhe...  | BH_BH       |           |          | 2016-03-2... | 12:03:00 |         | 120       | 141      |                 |      |         |
| 3    | CM45         | LaSalle R... | LaS_E       | -97.767   | 49.887   | 2016-03-1... | 15:40:00 |         | 779       | 814      |                 |      |         |
| 4    | CM47         | LaSalle R... | LaS_E       | -97.767   | 49.887   | 2016-03-1... | 16:45:00 |         | 642       | 665      |                 |      |         |
| 5    | CM50         | LaSalle R... | LaS_E       | -97.767   | 49.887   | 2016-03-2... | 11:37:00 |         | 675       | 696      |                 |      |         |
| 6    | CM53         | LaSalle R... | LaS_E       | -97.767   | 49.887   | 2016-03-2... | 14:08:00 |         | 498       | 539      |                 |      |         |
| 7    | CM56         | LaSalle R... | LaS_E       | -97.767   | 49.887   | 2016-04-0... | 08:06:00 |         | 408       | 447      |                 |      |         |
| 8    | CM59         | LaSalle R... | LaS_E       | -97.767   | 49.887   | 2016-04-0... | 12:29:00 |         | 326       | 366      |                 |      |         |
| 9    | CM62         | LaSalle R... | LaS_E       | -97.767   | 49.887   | 2016-04-0... | 10:00:00 |         | 199       | 231      |                 |      |         |
| 10   | CM48         | LaSalle R... | LaS_EC      | -97.983   | 49.813   | 2016-03-1... | 16:30:00 |         | 474       | 486      |                 |      |         |
| 11   | CM51         | LaSalle R... | LaS_EC      | -97.983   | 49.813   | 2016-03-2... | 11:22:00 |         | 349       | 377      |                 |      |         |
| 12   | CM54         | LaSalle R... | LaS_EC      | -97.983   | 49.813   | 2016-03-2... | 14:32:00 |         | 151       | 176      |                 |      |         |
| 13   | CM57         | LaSalle R... | LaS_EC      | -97.983   | 49.813   | 2016-04-0... | 08:35:00 |         | 133       | 159      |                 |      |         |
| 14   | CM60         | LaSalle R... | LaS_EC      | -97.983   | 49.813   | 2016-04-0... | 12:47:00 |         | 77        | 102      |                 |      |         |
| 15   | CM63         | LaSalle R... | LaS_EC      | -97.983   | 49.813   | 2016-04-0... | 09:49:00 |         | 53        | 65       |                 |      |         |
| 16   | CM46         | LaSalle R... | LaS_S       |           |          | 2016-03-1... | 17:10:00 |         | 535       | 568      |                 |      |         |
| 17   | CM49         | LaSalle R... | LaS_S       |           |          | 2016-03-1... | 17:20:00 |         | 516       | 529      |                 |      |         |
| 18   | CM52         | LaSalle R... | LaS_S       |           |          | 2016-03-2... | 12:14:00 |         | 445       | 477      |                 |      |         |
| 19   | CM55         | LaSalle R... | LaS_S       |           |          | 2016-03-2... | 15:13:00 |         | 504       | 532      |                 |      |         |
| 20   | CM58         | LaSalle R... | LaS_S       |           |          | 2016-04-0... | 09:26:00 |         | 456       | 495      |                 |      |         |







## Site Locations

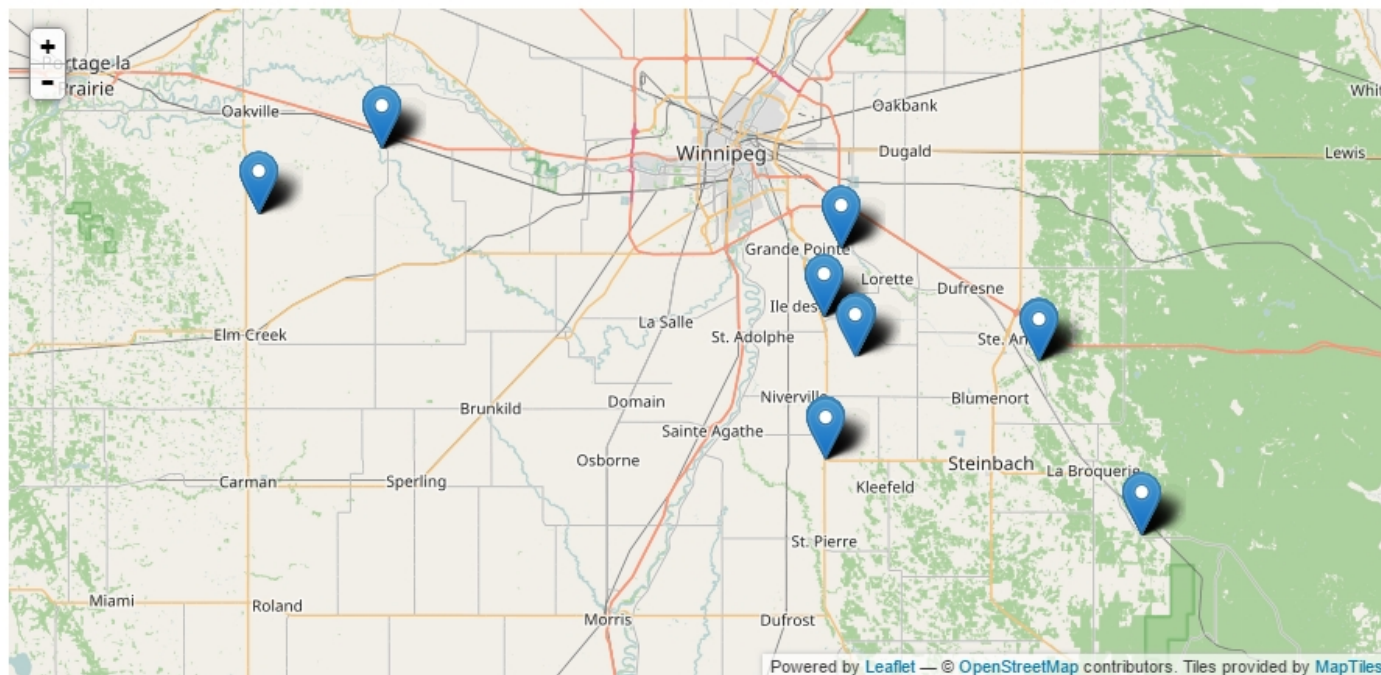
[Download](#)

URL: <http://130.179.67.140/dataset/d346e3de-796e-4cf1-9c38-bb54f4762d35/resource/092bd294-cd45-46de-9fee-968f5381128b/download>

### From the dataset abstract

In 2016 the Lake Winnipeg Foundation began a pilot project on a citizen science sampling project to analyze Phosphorous in watersheds around Manitoba

Source: [LWF Citizen Science Sampling](#)





# LIMS



[Logout](#) | Welcome, Claire Herbert ( Super Administrator )

 ☒ 

Powered by **LabCollector**

HOME MODULES & ADD-ONS TOOLS ADMIN HELP **ALERTS 1**

Language: **en**

## Modules



Reagents & Supplies  
19



Samples  
40



Sample Locations  
26



Equipment  
80



Chemical Structures  
1



Documents  
26



Address Book  
13

## Add-Ons



Samples Batch Tools



ELN



LSM - Lab Service Management



Query Builder



Scheduler



Simple Test Lab



Photo Bank



Add New?

## Links



Add New?

## Users Posts

[Browse messages](#) [New post](#)

# LabCollector

Discover LabCollector LIMS

Improve your lab management

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- Free Mode Ads -

## RSS Feed

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# Challenges

- **Data Lifecycle (DMP)**
  - Sample collection to visualization
- **Interface**
  - Easy to use
  - Interactive
- **Cost**
  - Website development
  - User interface & Interoperability development



# Solutions?

## Standardization

- Partnership
  - Interoperability between CBM Nodes
  - Standardize protocols
  - Lab inter-calibration
  - LIMS
  - Certified volunteers

## Expense

- Share development costs
- Shared API, interoperability tools

