



Metadata

Lake Winnipeg Basin Information Network

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General information

name of the dataset:

full name of the dataset: *Lake Winnipeg Basin Information Network*
dataset short name: *LWBIN*

type of dataset ([more information](#)):

data type: *point data/observation data, shape files, descriptive data*
short description of the dataset/summary:

The Lake Winnipeg Basin Information Network (LWBIN) is a data and information web portal for biological and physical information about the Lake Winnipeg watershed. It was created by Environment Canada as part of the Lake Winnipeg Basin Initiative under Canada's Action Plan on clean water. It was created to facilitate sharing of water quality data and information for the lake and its contributing watersheds. In 2012 management of the network transferred to the Centre for Earth Observations Science (CEOS) at the University of Manitoba, where it supports the CEOS key theme of aquatic ecosystems.

The LWBIN enhances research, education and decision making in the watershed by:

- 1. Enabling networking and collaboration among researchers, decision makers, government agencies, organizations and the public by acting as a portal for open-source data, metadata and information;*
- 2. Acting as a central hub where decision makers and managers share access to current scientific information to guide and evaluate water and land management policy and programs; and*
- 3. Facilitating Citizen Science and public Education and Outreach throughout the basin through tools such as Know Your Watershed.*

For several decades, water quality in Lake Winnipeg has been deteriorating. Beach closures due to high levels either of the algal toxin microcystin or of pathogenic bacteria have become more frequent. Nutrient loading has led to advanced anthropogenic eutrophication of not only Lake Winnipeg but other lakes in the watershed. As a result, blooms of blue-green algae have become increasingly frequent, persistent and extensive, potentially impacting municipalities, recreational and agricultural activities, the food web and fishery throughout the basin. Invasive species like zebra mussels have also recently been found in the lake (Fall 2013). Based on experience with their effects on Lake Erie, we can expect further ecosystem changes as they colonize Lake Winnipeg and other prairie lakes.

Streamlined access to many disparate sources of data, information, knowledge, expertise and tools will assist researchers in deciphering the shifting dynamics of nutrient loading, invasive species and other future

impacts within the basin. By acting as a central information hub, the Lake Winnipeg Basin Information Network will deliver this access through integration of multiple geospatial and non-geospatial datasets and information pertaining to the basin. Because data comes in many forms and from many disparate sources, Canadian Geospatial Data Infrastructure standards are adhered to within the LWBIN to ensure international interoperability.

science keywords according to [GCMD](#):

topic: *Agriculture, Biosphere, Biological Classification, Climate Indicators, Land Surface*

keywords: *Data analysis and visualization, geographic information systems, data mining, data delivery, data search and retrieval, web-based outreach, HYDROLOGIC AND TERRESTRIAL WATER CYCLE MODELS, BIBLIOGRAPHIC DATABASES, SOILS, Phytoplankton, Zooplankton, Lakes, Rivers/Stream Habitat, Wetlands, Benthic Habitat, food-web dynamics, nutrient cycling, oxygen demand, primary production, photosynthesis, LAND USE/LAND COVER CLASSIFICATION, WATER MANAGEMENT, EUTROPHICATION, FISHERIES, BATHYMETRY, WATER DEPTH, WATERSHED CHARACTERISTICS, WATER CHEMISTRY*

ISO topic category according to [ISO 19115](#):

Biota, Boundaries, Environment, Geoscientific Information, Imagery/Base Maps/Earth Cover, Inland Waters, Location

Technical and administrative specifications

data format: *special software versions*
others/details: *SQL Server, UNIX*

operating system: *Win Server*

data language: *others/specify*
specify: *English/French*

current access level: *web (public)*
web address (URL): *http://lwbi.cc.umanitoba.ca/*
others/details: *Some areas are open to public, some require registration and are open to all registered users*

currently available through [GBIF](#): *no*
exchange planned: *no*
comments: *Portal would be open to working with GBIF for data exchange.*

update level: *continuously updated*

documentation:
type: *manual*
language: *English*

Do you plan to publish the data on the Freshwater Biodiversity data portal:
media for data delivery: *web service, online internet (HTTP)*
web address: *http://lwbi.cc.umanitoba.ca*

contact details:

metadata contact person:
first, last name: *Claire Herbert*
phone: *1-204-474-8657*
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institution: *Centre For Earth Observation Science, University of Manitoba*
address: *522 Wallace Building*
postal code, city: *R3T 3N2 Winnipeg*
province, state: *MB*
country: *Canada*
web address: *http://lwbi.cc.umanitoba.ca/*

technical contact person:
first, last name: *Claire Herbert*
phone: *1-204-474-8657*
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scientific contact person:
first, last name: *Claire Herbert*
phone: *1-204-474-8657*
email: *claire.reis@umanitoba.ca*

comments: *Clayton H. Riddell Faculty of Environment, Earth, And Resources*

Intellectual property rights and citation

(if the database is already published):

dataset creator (data compiler):

contact name: *Data is owned by LWBIN data providers and users must adhere to data usage rights under individual metadata files*

contact email: *portalco@umanitoba.ca*

contact institution: *University of Manitoba, CEOS*

data contributors to/owners of this dataset:

single

criteria for using the data in a publication/scientific analysis:

Other/Additional criteria

other/additional criteria: *Citation criteria, data policy and TOU are listed on the Information Network Website, and can be found directly at http://lwbi.cc.umanitoba.ca/media/files/LWBIN_DataPolicy_April2014.pdf*

citation of this dataset:

author(s): *Lake Winnipeg Basin Information Network(publisher), Data Owner/creator (owner/provider).(2013-) Dataset name. Published on <http://lwbi.cc.umanitoba.ca>, accessed on DD/MM/YYYY*

title: *Lake Winnipeg Information Netowrk*

year: *2014*

citation of the metadata:

author(s): *according to author metadata*

General data specifications

regional coverage of the dataset:

scale of the dataset:	<i>catchment</i>
continents:	<i>North America</i>
countries:	<i>North America: Canada, United States</i>

Site specifications

coordinate system/grid data:

number of sites: *100 - 1000*

Climate and environmental data

climate related data:

environmental data:

available parameters per catchment: *catchment geology*

available parameters per catchment: *catchment land cover/land use*

available parameters per catchment: *presence of barriers/dams/reservoirs (fragmentation)*

available parameters per site: *catchment land use upstream of sampling site*

available parameters per site: *information on water uses (e.g., irrigation, fish ponds)*

available parameters per site: *discharge*

available parameters per site: *maximum depth*

available parameters per site: *mean depth*

physico-chemistry data:

total P, ortho P, total dissolved P, nitrate, nitrite, total N, ammonium, chloride, magnesium, calcium, hardness, alkalinity, TOC (total organic carbon), oxygen content, water temperature, pH, conductivity, chlorophyll, colour, euphotic depth, suspended solids

availability of physico-chemical data, if there is more than one sample per site:
per sample

stressors influencing the sites:

stressor	restored sites available	data before/after restoration available	stressor gradient available	comments
organic pollution	no	yes	no	
hydrologic stress (e.g. impoundment, flow velocity reduction, hydropeaking, water abstraction, flow velocity increase)				

Biological data

biological data origin:

organism group addressed: *macro-invertebrates (Ephemeroptera, Odonata, Plecoptera, Coleoptera, Trichoptera, Chironomidae), zooplankton (Cladocera), phytoplankton, (benthic) diatoms, invasive species*

Sample specifications/sample resolution

macro-invertebrates:

sample information:

taxonomic resolution:

taxonomic coding:

sample specifications:

zooplankton:

sample information:

taxonomic resolution:

taxonomic coding:

sample specifications:

phytoplankton:

sample information:

taxonomic resolution:

taxonomic coding:

sample specifications:

(benthic) diatoms:

sample information:

taxonomic resolution:

taxonomic coding:

sample specifications:

invasive species:

sample information:

taxonomic resolution:

taxonomic coding:

sample specifications:

Other specifications

GIS layers, shapes related to the dataset:

catchments, river-sub-basins

land use

dams/reservoirs/barriers

population density

environmental variables (freshwater or terrestrial)

availability of photos:

yes

availability of maps:

yes

quality control procedures:

Were any quality control procedures applied to your dataset?

yes

quality control protocols and comments:

Standardized reporting units. Protocols listed.