

Table 1. Description of dataset

Title of dataset	Ichthyological data of Station de biologie des Laurentides
Dataset identifier	(DOI of Zenodo)
Abstract	These data combine fish sampling, basic physical variables, and macroinvertebrate data collected in main water bodies of Station de biologie des Laurentides (SBL) during BIO2476 field course in September 2018. BIO2476 is an undergrad course in the Department of biological sciences of Université de Montréal. During the field course, students sample fish in main SBL waterbodies using different capture techniques (e.g. electrofishing, minnow traps, fyke nets) and visual observation (snorkeling surveys). Fish counts obtained by these different techniques can be expressed as relative abundances using sampling gear dimensions, duration of sampling and/or water volume covered by sampling gear. Data are collected by participating students using standardized and documented methods under the supervision of HQP (teaching assistants and course lecturer). These data are used by students to compute different ichthyological metrics and write their final report. These data consist mainly in datatables accessible openly but fish scale samples and fish photos are also available upon request. Details provided below.
Keywords	Fish, freshwater fish, benthos, macroinvertebrate, cpue, mass-length relationship, diet
Dataset lead author	Emmanuelle Chrétien
Position of data author	PhD Candidate
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Data contributors	Maxime Leclerc and undergraduate students who participated to BIO2476 field course, as well as TA and course lecturer in charge in September 2018
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Primary contact person for dataset	Daniel Boisclair
Position of primary contact person	Professor and Chair of Département de sciences biologiques, Université de Montréal
Address of primary contact person	Same as above
Email address of primary contact person	daniel.boisclair@umontreal.ca
Organization associated with the data	Université de Montréal
Usage Rights	Data tables are open access. Fish photos and scales are available upon request. See Additional informations below.
Geographic region	Laurentian region of Quebec
Geographic coverage	Station de biologie des Laurentides
Lat, Long Northwest	45.994210, -74.015519
Lat, Long Southeast	45.985288, -73.993418
Temporal coverage - Begin date	2018
Temporal coverage - End date	2018
General study design	BIO2476 is an undergrad course in Biological sciences department of Université de Montréal. Data are collected using standardized and documented methods taught to students during the field course to meet specific course requirements. Fish are sampled in different locations but using a comparative approach.
Study extent	3 lakes and one stream are sampled during the field course each year. This dataset contains 2018 sampling data.

Methods description	<p>General instructions and protocols for data collection are available in 2018_ConsignesProtocole.pdf (in French only).</p> <p>The data tables included in this dataset refer to:</p> <ul style="list-style-type: none"> - fish captures by different techniques: fish_captures_2018.csv - fish visual observations: fish_visual_long_2018.csv - fish consumption rates and diet: fish_consumption_2018.csv, fish_diet_2018.csv - benthos sampling: benthos_2018.csv - fish and benthos sampling gear dimensions: dim_dnet_2018.csv, dim_fykenet_2018.csv, dim_gillnet_2018.csv, dim_seine_2018.csv, dim_traps_2018.csv <p>We also provide detailed lists of taxa:</p> <ul style="list-style-type: none"> - fish species list (including common name and latin name): benthos_list.pdf - macroinvertebrate list (including taxonomic level): benthos_list.pdf
Laboratory, field, or other analytical methods	Field and laboratory.
Quality control	Data are collected by participating students using standardized and documented methods under the supervision of HQP (teaching assistants and course lecturer) with extensive fish identification experience.
Additional information	Fish for which scale samples and photos are available are identified by an ID in the fish capture data table.

Table 2. Description of the variables (i.e., columns) in benthos_2018

Attributes Name	Attribute Label	Definition	Units
water_body	Water body	Type of water body (e.g. lake or stream)	NA
water_body_name	Water body name	Name of lake or stream	NA

team_no	Team number	Sampling team number	NA
date_time	Date and time	YYYY-MM-DD HH:mm	NA
gear_type	Gear type	Gear used to sample benthos	NA
transect_length	Transect length	Length of sampling effort	m
lat	Latitude	GPS point in decimal degrees	Degrees North
long	Longitude	GPS point in decimal degrees	Degrees East
benthos_ID	Benthos sample ID		NA
*Benthos taxa (see list)	Taxa name	Counts per sample unit effort	NA

Table 3. Description of the variables (i.e., columns) in fish_visual_long_2018

Attributes Name	Attribute Label	Definition	Units
water_body	Water body	Type of water body (e.g. lake or stream)	NA
water_body_name	Water body name	Name of lake or stream	NA
team_no	Team number	Sampling team number	NA
date_time_beg	Date and time at beginning of sampling	YYYY-MM-DD HH:mm	NA
date_time_end	Date and time at the end of sampling	YYYY-MM-DD HH:mm	NA
transect_length	Transect length	Length of sampling transect	m
transect_segment	Transect segment	Segment of the sampled transect	m

lat_beg	Latitude at beginning	GPS point in decimal degrees	Degrees North
long_beg	Longitude at beginning	GPS point in decimal degrees	Degrees East
lat_end	Latitude at the end	GPS point in decimal degrees	Degrees North
long_end	Longitude at the end	GPS point in decimal degrees	Degrees East
diver_position	Position of diver	Position of diver relative to the shore. (“rive” = shore, “centre” = center)	NA
lamp_type	Lamp type	Type of lamp used if visual sampling occurred at night.	NA
water_temp	Water temperature	Surface water temperature	Celsius
visibility	Visibility	Water transparency measured horizontally	m
trunks	Number of trunks	Number of submerged log/trunks in lake (>10 m long, > 10 cm in diameter) in transect segment	NA
water_lilies	Water lilies	Presence/absence of water lilies in transect segment	NA
emergent_plants	Emergent plants	Presence/absence of emergent plants in transect segment	NA
macrophyte_cover	Macrophyte cover	Percentage of macrophyte cover in transect segment	Percentage
water_depth	Mean water depth	Mean water depth in transect segment	m
silt	Silt	Percentage of silt as substrate type in transect segment	Percentage

sand	Sand	Percentage of sand as substrate type in transect segment	Percentage
rock	Rock	Percentage of rocks (gravel, pebble, cobble, rocks) as substrate type in transect segment	Percentage
metric_bloc	Metric bloc	Percentage of metric blocs as substrate type in transect segment	Percentage
fish_species	Fish species	Name of fish taxa (family or species) observed (see list)	NA
fish_count	Fish count	Number of fish observed	NA

Table 4. Description of the variables (i.e., columns) in fish_captures_2018

Attributes Name	Attribute Label	Definition	Units
water_body_name	Water body name	Name of lake or stream	NA
water_body	Water body	Type of water body (e.g. lake or stream)	NA
team_no	Team number	Sampling team number	NA
date_time_beg	Date and time at beginning of sampling	YYYY-MM-DD HH:mm	NA
date_time_end	Date and time at the end of sampling	YYYY-MM-DD HH:mm	NA
gear_no	ID of the sampling gear	Identification number of the sampling gear used	NA
gear_type	Type of sampling gear	Type of the sampling gear used	NA

water_temp	Water temperature	Surface water temperature	Celsius
lat_beg	Latitude at beginning	GPS point in decimal degrees	Degrees North
long_beg	Longitude at beginning	GPS point in decimal degrees	Degrees East
lat_end	Latitude at end	GPS point in decimal degrees	Degrees North
long_end	Longitude at end	GPS point in decimal degrees	Degrees East
transect_length	Transect length	Length of sampling transect	m
water_depth	Mean water depth	Mean water depth in transect segment	m
gear_depth	Depth of sampling gear	Depth of sampling gear	m
fish_species	Fish species	Name of fish taxa (family or species) observed (see list)	NA
fish_tl	Fish length	Total length of fish	cm
fish_mass	Fish mass	Wet mass of fish	g
fish_count	Fish count	Number of fish observed	NA
fish_id	Fish ID	Code to ID fish we have scale samples and photos of	NA
fish_age	Fish age	Age of fish in years, plus sign indicates age was estimated post spawning time for that species	Years
scale_ray	Scale ray	Scale ray at longest side	mm

Table 5. Description of the variables (i.e., columns) in fish_consumption_2018

Attributes Name	Attribute Label	Definition	Units
water_body_name	Water body name	Name of lake or stream	<i>NA</i>
water_body	Water body	Type of water body (e.g. lake or stream)	<i>NA</i>
date_time	Date and time	YYYY-MM-DD HH:mm	<i>NA</i>
team_no	Team number	Sampling team number	<i>NA</i>
water_temp	Water temperature	Surface water temperature	Celsius
lat	Latitude	GPS point in decimal degrees	Degrees North
long	Longitude	GPS point in decimal degrees	Degrees East
fish_species	Fish species	Name of fish taxa (family or species) observed (see list)	<i>NA</i>
gut_id	Gut ID	Code to ID gut content	<i>NA</i>
fish_tl	Fish length	Total length of fish	cm
fish_mass	Fish mass	Wet mass of fish	g
gut_mass_hum	Gut wet mass	Wet mass of fish gut	g
gut_mass_dry	Gut dry mass	Dry mass of fish gut	g

Table 6. Description of the variables (i.e., columns) in fish_diet_2018

Attributes Name	Attribute Label	Definition	Units
water_body_name	Water body name	Name of lake or stream	<i>NA</i>
water_body	Water body	Type of water body (e.g. lake or stream)	<i>NA</i>
date_time	Date and time	YYYY-MM-DD HH:mm	<i>NA</i>
team_no	Team number	Sampling team number	<i>NA</i>
water_temp	Water temperature	Surface water temperature	Celsius
lat	Latitude	GPS point in decimal degrees	Degrees North
long	Longitude	GPS point in decimal degrees	Degrees East
fish_species	Fish species	Name of fish taxa (family or species) observed (see list)	<i>NA</i>
fish_id	Fish ID	Code to ID fish gut content sample	<i>NA</i>
fish_tl	Fish length	Total length of fish	cm
fish_mass	Fish mass	Wet mass of fish	g
*Diet items	Taxa name	Counts per diet item in gut (see benthos list)	<i>NA</i>

Table 7. Description of the variables (i.e., columns) in different sampling gear dimension datatables.

Datatable	Attributes Name	Attribute Label	Definition	Units
all datatables	gear_type	Gear type	Type of sampling gear	<i>NA</i>
	gear_no	Gear number	Sampling gear identification number	<i>NA</i>
dim_dnet_2018.csv	dnet_length	Dnet length	Length of dnet opening	cm
	dnet_width	Dnet width	Width of dnet opening	cm
dim_fykenet_2018.csv	fyke_length	Fyke net length	Length of fyke net	m
	fyke_width	Fyke net width	Width of fyke net including “wings”	m
	fyke_hole	Fyke net hole diameter	Diameter of fyke net opening hole	cm
	fyke_mesh	Fyke net mesh diameter	Diameter of fyke net mesh	cm
dim_gillnet_2018.csv	net_length	gill net length	Length of gill net	cm
	net_width	gill net width	Width of gill net	cm
	net_mesh	gill net mesh diameter	Diameter of gill net mesh	cm

dim_seine_2 018.csv	seine_length	seine length	Length of seine net	cm
	seine_width	seine width	Width of seine net	cm
	seine_mesh	seine mesh diameter	Diameter of seine net mesh	cm
dim_trap_20 18.csv	trap_length	minnow trap length	Length of minnow trap	cm
	trap_diameter	minnow trap diameter	diameter of minnow trap	cm
	trap_hole	minnow trap hole diameter	diameter of minnow trap opening hole	cm
	trap_mesh	minnow trap mesh diameter	Diameter of minnow trap mesh	cm
