



Hydrometric Site Steward Field Guide



A "how to" guide for collecting hydrometric
water level data and photos as part of the
Columbia Basin Water Monitoring Framework

Land Acknowledgement

Living Lakes Canada acknowledges that this project takes place on the unceded traditional territories of the Ktunaxa, Lheidli T'enneh, Secwépemc, Sinixt and Syilx Nations who have stewarded these lands for generations.


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Welcome and Thank You

Welcome to the Living Lakes Canada Hydrometric Site Steward volunteer team supporting the Columbia Basin Water Monitoring Framework (CBWMF). This project is collecting data on stream flows and climate to understand how climate change and other impacts affect water supply in the Columbia Basin.

Local volunteers provide on-the-ground updates on site conditions, and collect data that supports our team in keeping accurate water level records.

A person wearing a high-visibility orange and yellow safety vest is standing in a shallow, rocky stream. The water is clear and flows over the rocks. The background shows a dense forest of green trees.

Funder Acknowledgement

We are grateful to the funders who have generously supported the CBWMF including:



Watersheds BC



REAL ESTATE
Foundation
OF BC



vancouvers
foundation

Columbia Basin **trust**



sitka foundation

For a full list of funders, visit www.livinglakescanada.ca/cbwmf

CBWMF Program Objective

The CBWMF is collecting climate and hydrometric data to track climate change and other impacts on Columbia Basin water supply and to support community climate adaptation.

The role of volunteers is to support the CBWMF hydrometric monitoring programs by participating in site visits to record water levels on staff gauges and document water levels and site condition through site photos.

Volunteer Responsibilities

Volunteers will be responsible for taking photos, and recording the water level data and time their water level measurement was taken. Photos help understand what is happening in an aquatic system and support data accuracy.

Volunteers will have the opportunity to collect four pieces of data to support the Columbia Basin Water Monitoring Framework.



Each site visit will include:

1. Taking the following site photos: upstream, downstream, across the stream, and the water level on the staff gauge



2. Reading and recording the water level on the staff gauge



3. Recording the time that the water level was read on the staff gauge

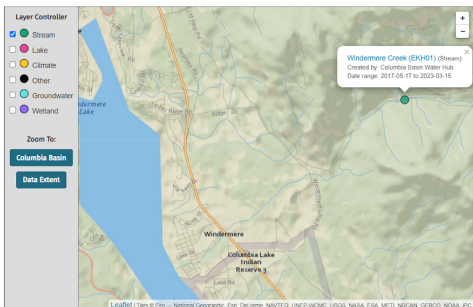


4. Recording observed conditions at the site

Steps for Volunteer Field Data Collection

STEP #1

Verify the location of your site. The [Columbia Basin Water Hub](#) provides a map view of the site and the site coordinates.



Are there any conditions to be aware of in advance such as road closures, wildfire, other hazards, etc.?

STEP #2

Pack your gear. You need to bring a pair of hiking boots, a camera or cell phone, PFD and a small notebook.

Remember to dress for the weather and let someone know where you are going!


STEP #3

Travel to the site. Once you arrive at the site location, locate the site by identifying the staff gauge in the creek. Before approaching the stream bank, assess the conditions at the site to ensure you can access the staff gauge safely.



Use this checklist:

1. Are there any hazards that can affect your safety? For example, steep or slippery slopes or eroding banks.
2. How fast is the stream flowing? Are flows low enough to safely stand on the bank? High water can create dangerous flows. Do not access the site during high water conditions.
3. Can you walk to the staff gauge using a route that is a low risk to your safety?



**PROCEED TO
WALK TO THE
STAFF GAUGE
ONLY WHEN
CONDITIONS
ARE SAFE**

STEP #4

Inspect the staff gauge and record the conditions at the site.

1. Is the staff gauge vertical?
2. Is there damage to the station or movement of the staff gauge?
3. Is ice present in the stream upstream or downstream of the gauge?
4. Has vegetation accumulated around the staff gauge?



STEP #5

Take photos of the site. Look at the flow through the site and record in your notebook any observations of log jams, vegetation growth or channel features altering flow at the site.

Photo 1 - Take a photo of the stream looking upstream from the staff gauge.

Photo 2 - Take a photo of the stream looking downstream from the staff gauge.

Photo 3 - Take a photo across the channel with the staff gauge in the photo.



Upstream



Downstream



Across stream

STEP #6

Read the water level on the staff gauge.
You may have to bend or kneel to be at
water level for the most accurate reading.

Identify where the water is most steady on
the staff gauge and record the water level.
Take 3 water level readings to make sure
you are accurate.

Note that the water level will fluctuate.
Choose the value that best represents the
water level between the rise and fall of the
water surge.

Record the below information in the Field
Sheet.



Date

(yyyy-mm-dd)



Time

(local)



Water Level

(m)



Comments

STEP #7

Take a photo of the Field Sheet with recorded observations.

STEP #8

Take a photo of the water level on the staff gauge.



The water level in the above picture is 0.237 m with the water level fluctuating ± 0.005 m (5mm) above and below the 0.237 m mark.

Water level is recorded in hundredths of a metre.

How to read the water level on the staff gauge:

(Example using the previous photo)

Note the large number below water level (.2)

Note the closest small numbers ranging from 1-9 below the water level (3)

Count the tick marks up from the small number (3) to where the water level sits (7). Each of the alternating blue and white ticks along the edge represent 2 mm.

In the example photo, these numbers combined show that the water level is .237 m.

STEP #9

Using the data checklist, make sure you have each of the following:

Checklist

- Photo Upstream
- Photo Downstream
- Photo Across Stream
- Photo of Staff Gauge
- Photo of Completed Field Sheet

STEP #10

Once you have returned home from the field,
email your 5 pictures to
CBWMF@livinglakescanada.ca.

Title the email “CREEK NAME yyyy-mm-dd”.



Contact us

If you have any questions or feedback, contact our CBWMF team at the email below:



CBWMF@livinglakescanada.ca

Visit our website to learn more about Living Lakes Canada and the CBWMF program.



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