



## Water Level Extremes Information Worksheet

The following information worksheet is intended to be used in conjunction with the video “Extreme Water Levels – What you can do” to assist you in preparing your waterfront for water level extremes.

It is divided into six sections:

- A) Identifying your high and low water level risks
- B) Typical types of docking systems
- C) Docking system suppliers
- D) Sources of information for In-lake water systems
- E) Preparing your Home/Cottage for water level extremes
- F) In the event of an approaching or active water level emergency

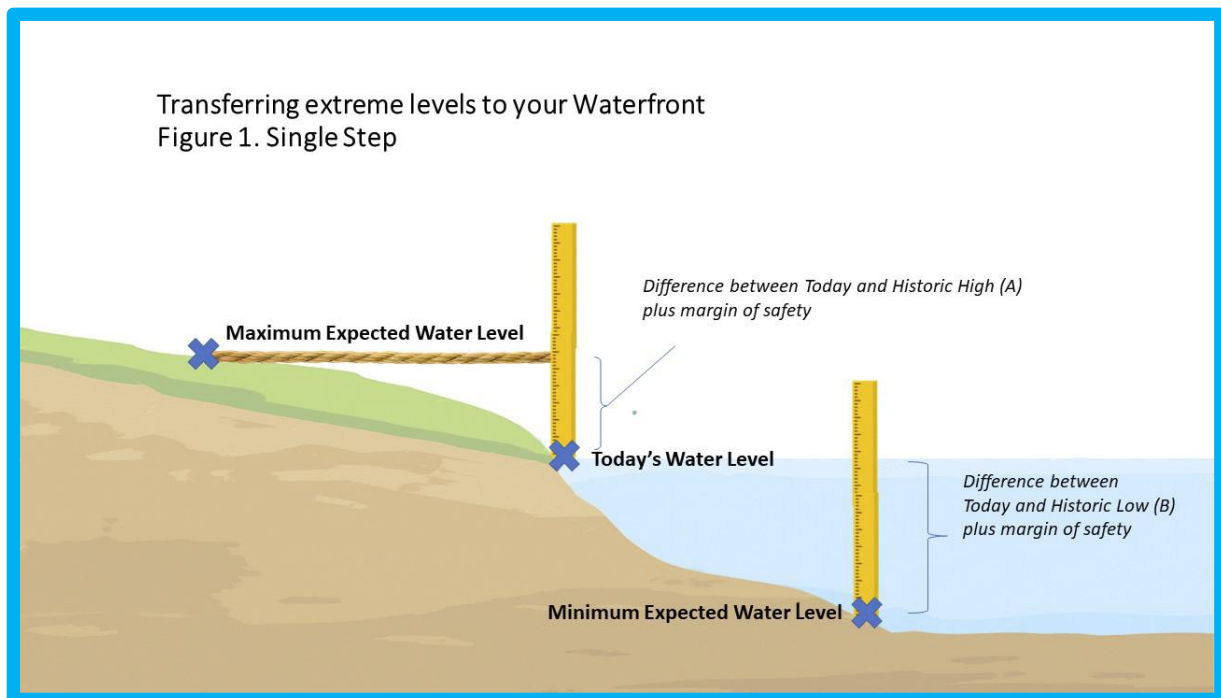
### A) Identifying Your High and Low Water level Risks

This section consists of two components. The first is to establish the historic high and low levels on your lake or river. The second is to determine if your waterbody has flood lines mapped by a local authority.

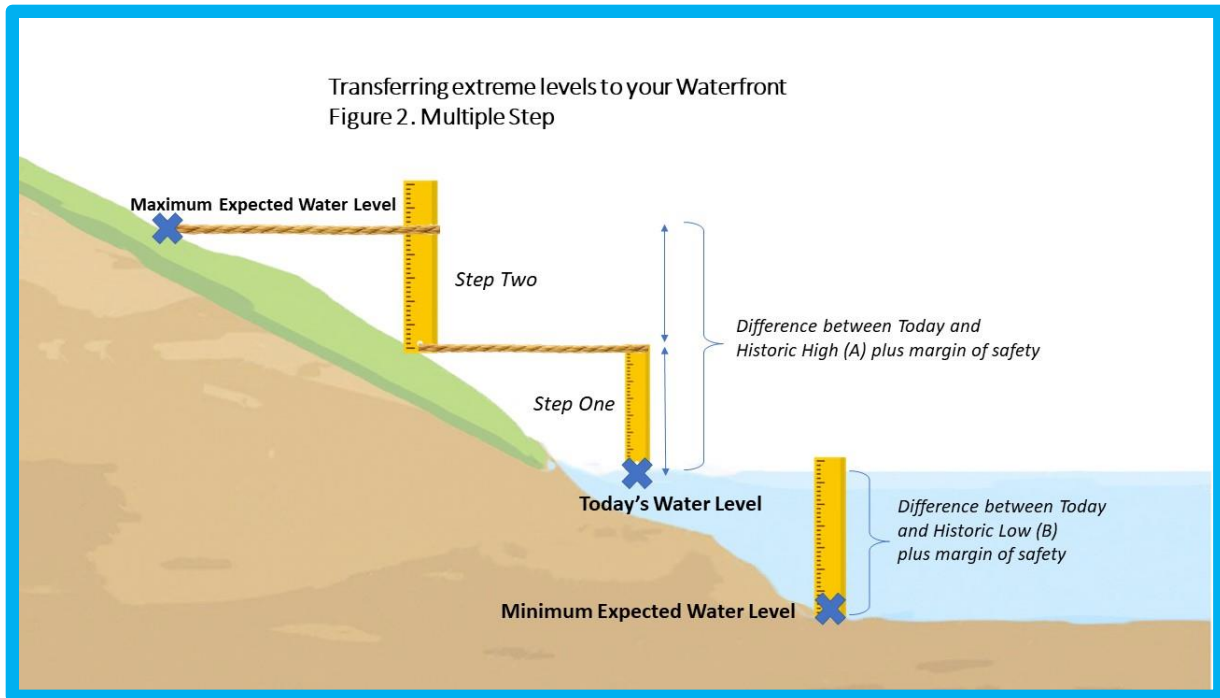
#### Historic High and Low Water Levels

1. Go to [www.cewf.ca](http://www.cewf.ca). In the upper right corner of the Home Page, you will see a link to Water Levels Website. Click on this. (Alternatively, you can proceed directly to the TSW Water Levels website at <https://www.pc.gc.ca/en/lhn-nhs/on/trentsevern/info/infonet/niveau-eau-water-levels>.) Once there, click on your River basin, then on your lake. A water levels graph will open.
2. This graph shows the change in water levels through the year. The upper yellow line is the historic maximum and the lower purple line, the historic minimum. The middle orange line is the average and blue line, the actual water level for the current year up to today’s date. You can read the water level from the scale on the left. The scale is measured from the sill of the dam that controls the water level for your lake. The sill is the concrete base in the dam’s spillway upon which the stop logs are stacked.
3. Record these levels in the following Worksheet or a separate piece of paper.
  - ◆ Today’s Water Level \_\_\_\_\_
  - ◆ Historic High Level \_\_\_\_\_
  - ◆ Historic Low Level \_\_\_\_\_
  - ◆ Difference Between Today and Historic High (A) \_\_\_\_\_
  - ◆ Difference Between Today and Historic Low (B) \_\_\_\_\_

4. Take these last two numbers and transfer them to your waterfront using a tape measure to get the vertical heights above (A) and below (B) today's water level. To transfer up a sloping bank, you can use a string, leveled either by eye or using a builder's level. You may wish to add some margin of safety to account for greater extremes in the future. If the slope is relatively shallow or the vertical height quite substantial, it will be necessary to do the transfer as a series of 2 or more steps. (See Figures 1 and 2).



Mark the high-risk level using either a reference point at that level or perhaps some heavy rocks. Do the same with the low level. This will be a bit more challenging since the low level will be underwater. If you have a fixed dock, you could locate the low risk level relative to a position on a dock leg. Alternatively, identify a feature or features in the water which would become exposed at the low risk level. In some cases, with gently sloping banks, this may involve wading some distance out in the water or using a boat.



5. You should also assess your property for the potential for ice damage. Ice damage typically occurs as water levels rise in the Spring. The ice sheet breaks away from the shore and can be pushed by strong winds onto the shore to levels exceeding the historic high-water levels. Properties most susceptible to ice damage are those exposed to a wide expanse of lake. In these cases, you will want to add an extra margin of safety to the high-risk level of your shoreline infrastructure. With climate change and the increase in extreme weather events, severe ice damage may occur earlier in a year when the floating ice sheet is relatively thick.

### Mapped Flood Lines

In addition to historic high and low water levels, you should check if your lake or river has a mapped floodplain. The flood lines associated with this mapping are based on the “Regulatory Flood” which is the worst case of either a 1-in-100-year flood event or a “Regional Storm” which, in the case of both Haliburton and Peterborough, is based on the Timmins storm of August, 1961.

#### Haliburton County

- Visit <https://gis.haliburtoncounty.ca/HCWEB/Community/> Under “Additional Map Layers”, find “Water Features”, then click the Minden Regulatory Flood Line and the Haliburton Floodway Boundary. By applying a transparency of about 70% and zooming in, it is possible to see if your property would be affected by the Regulatory Flood and to what extent. As of July 2022, only the Gull River from Minden to Gull Lake and the area in Haliburton Village at the outlet of the Drag River have been mapped. The County of Haliburton is actively mapping other waterbodies in the County and the results should be available in late 2023.

### **Peterborough County**

- In the northern Peterborough municipalities of North Kawartha and Trent Lakes, flood line mapping is available through the Kawartha Region Conservation Authority for the Burnt River from the Town of Burnt River to Fenelon Falls. Visit <https://www.kawarthaconservation.com/en/environmental-sciences/flood-plain-mapping.aspx>

## B) Typical Types of Docking Systems

*Photos courtesy of Houston Marine Systems*



Aluminum Standing docks with various leg configurations and either aluminum, wood or composite removeable decking



Aluminum wheel in docks with wood or composite removeable decking



Aluminum Winch Up Docks with wood or composite removeable decking



Floating docks with various flotation devices





Jet Float type docks

Photo courtesy of  
Jetfloat BC

### **C) Docking System Suppliers**

The following is a partial list of dock suppliers who can offer removeable systems for your waterfront. This list is not inclusive nor does CEWF receive benefit from any company listed.

There are various hardware and building suppliers throughout Haliburton and Peterborough Counties many of whom do custom dock building and who also have information on local contractors. Shop locally and consult your favorite hardware store. Other options are:

Houston Marine Systems - <http://houstonmarinesystems.com/>

The Dock Shop - <https://thedockshop.net/thedockshop.net/Welcome.html>

The Dock Spot - <http://www.thedockspot.com/>

R&J Machine - <https://www.rjmachine.ca/>

Canada Docks - <https://www.canadadocks.ca/>

Jetfloat Docks - <https://www.jetfloat.com/products/>

## D) Sources of Information for In-lake Water Systems

The following is a partial list of suppliers of in-lake water systems. This list is not inclusive nor does CEWF receive benefit from any company listed.

The Pump Shop, Haliburton - <https://thepumpshop.ca/>

Teasdale Plumbing, Cranberry Lake - <http://kenteasdaleplumbing.com/>

Local Hardware and Building Suppliers will have information on local contractors.

## E) Preparing your Home/Cottage for water level extremes

There are a number of sources of information for flood preparedness.

- The Ontario government flood preparedness site is a good place to start. Visit: <https://www.ontario.ca/page/floods>
- This link provides background to Ontario's Flood Management strategy and is worth reviewing. <https://www.ontario.ca/page/protecting-people-property-ontarios-flooding-strategy>
- One link which offers specific suggestions on flood proofing your dwelling is the following. [https://www.intactcentreclimateadaptation.ca/programs/home\\_flood\\_protect/resources/](https://www.intactcentreclimateadaptation.ca/programs/home_flood_protect/resources/)

## F) In the Event of an approaching or active water level emergency

There are a number of sources of information as we approach and enter a water level emergency:

- The Trent Severn Waterway issues periodic Water Management Updates - <https://www.pc.gc.ca/en/lhn-nhs/on/trentsevern/info/infonet/point-gestion-eau-water-management-updates>
- Local radio stations, Canoe FM 100.9 and Moose FM 93.5, will broadcast information for Haliburton. Various radio stations such as Wolf 101.5 FM, Move 99.7 FM, Magic 96.7 in the Peterborough/Trent Lakes area may also broadcast information.
- The Ministry of Natural Resources and Forestry for Ontario has a flood warning system - <https://www.gisapplication.lrc.gov.on.ca/webapps/flood/#currentFloodInformation>
- If you are within the boundaries of the Kawartha Conservation Authority, there will be flood information on their website: <https://www.kawarthaconservation.com/en/environmental-sciences/flood-forecasting-and-warning.aspx>
- If you are within the boundaries of the Crowe Valley Conservation Authority, flood information is available on their website: <https://www.crowevalley.com/crowe-valley-conservation-authority-current-water-level-readings/>
- The Counties of Haliburton ([www.haliburtoncounty.ca](http://www.haliburtoncounty.ca)) and Peterborough ([www.ptbocounty.ca](http://www.ptbocounty.ca)) will have flood warning and water level information during an extreme event.