



Ottawa River  
Regulation  
Planning Board

Commission de planification  
de la régularisation  
de la rivière des Outaouais

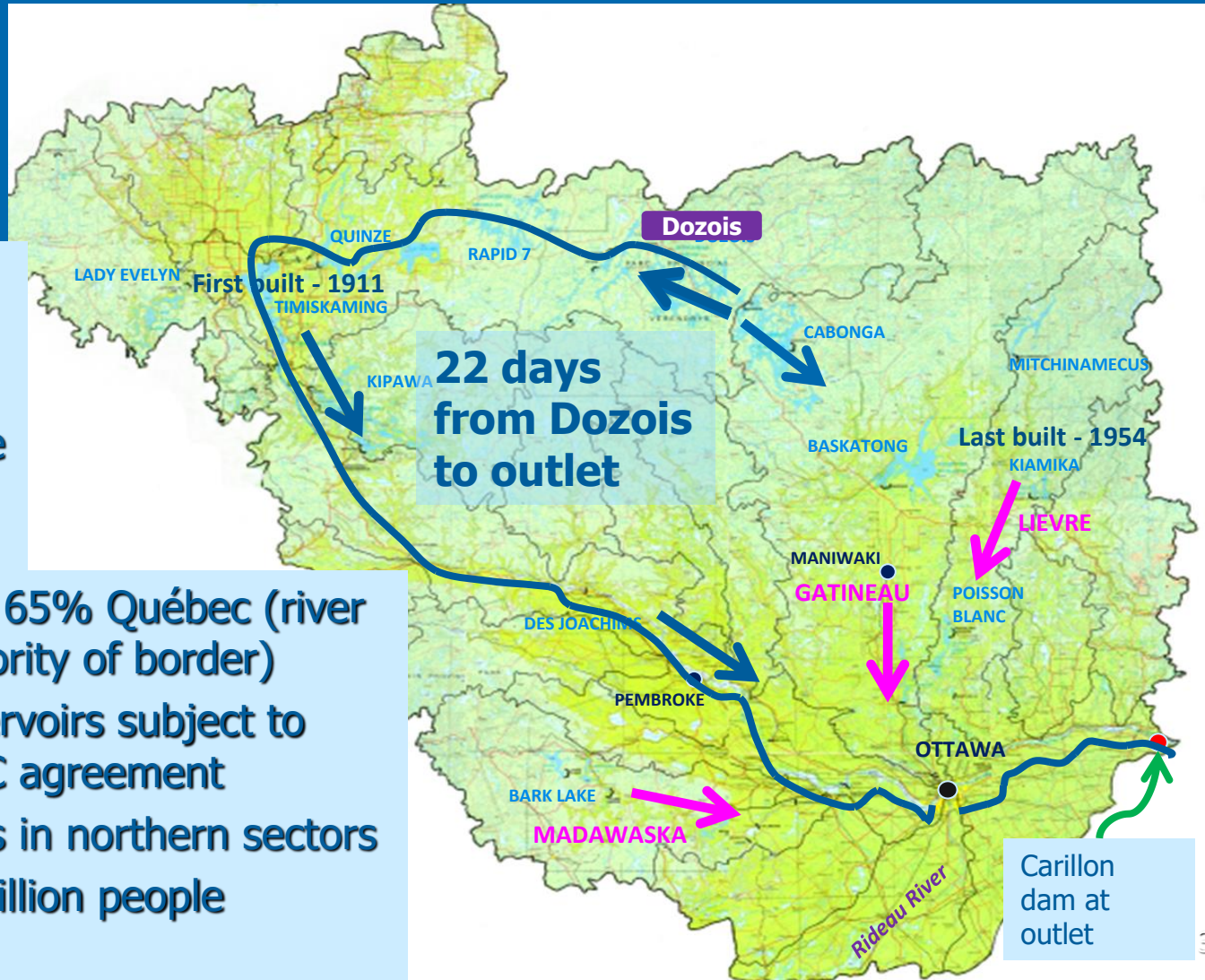
**Preparing for Spring Freshet 2021**

**Ottawa River Basin**

# **HOW THE RIVER SYSTEM WORKS**



# OTTAWA RIVER WATERSHED



- Larger than England
- Largest tributary of the St. Lawrence River
- 35% Ontario / 65% Québec (river makes up majority of border)
- 13 largest reservoirs subject to Canada-ON-QC agreement
- Most reservoirs in northern sectors
- More than 2 million people

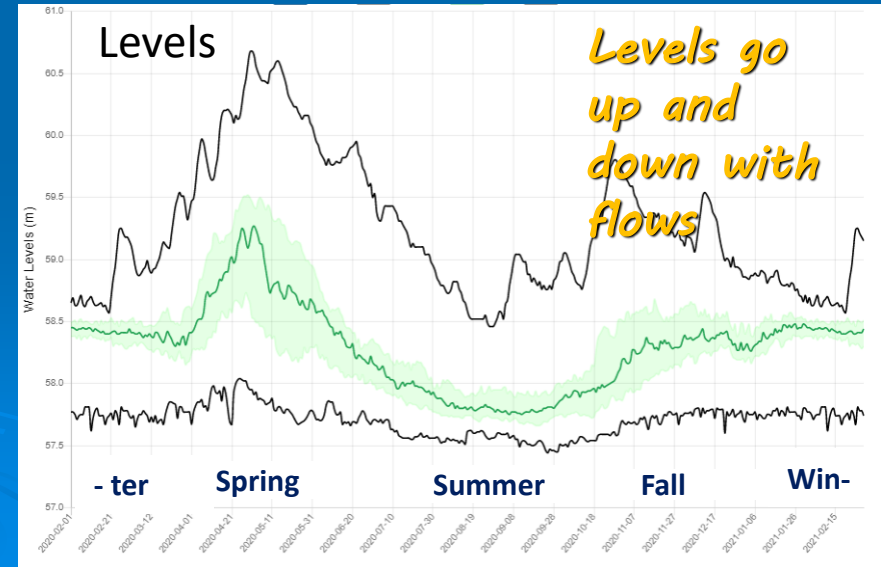
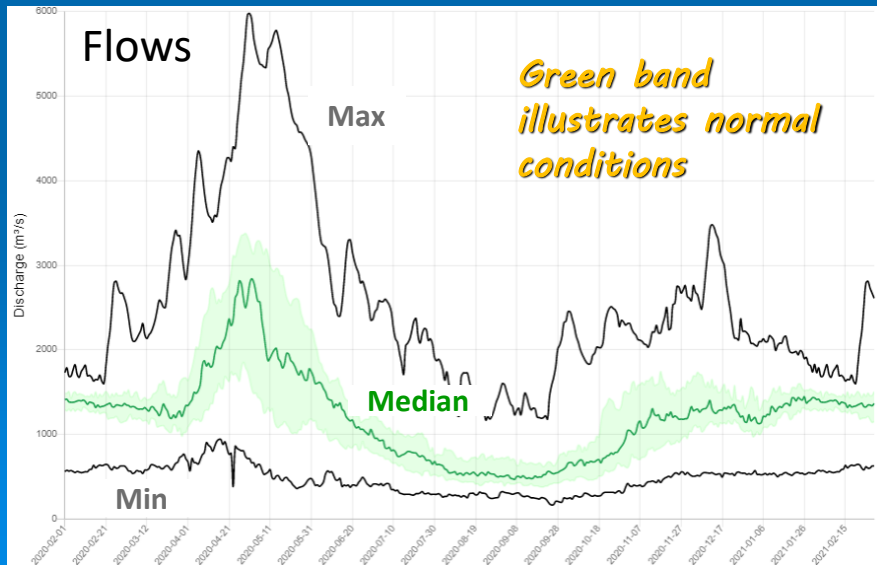
Carillon dam at outlet





# Ottawa River Characteristics

- Flow variability similar to natural rivers
- Regulation of flows via the upstream principal reservoirs
  - reduce peak during spring, and
  - augment flow in winter





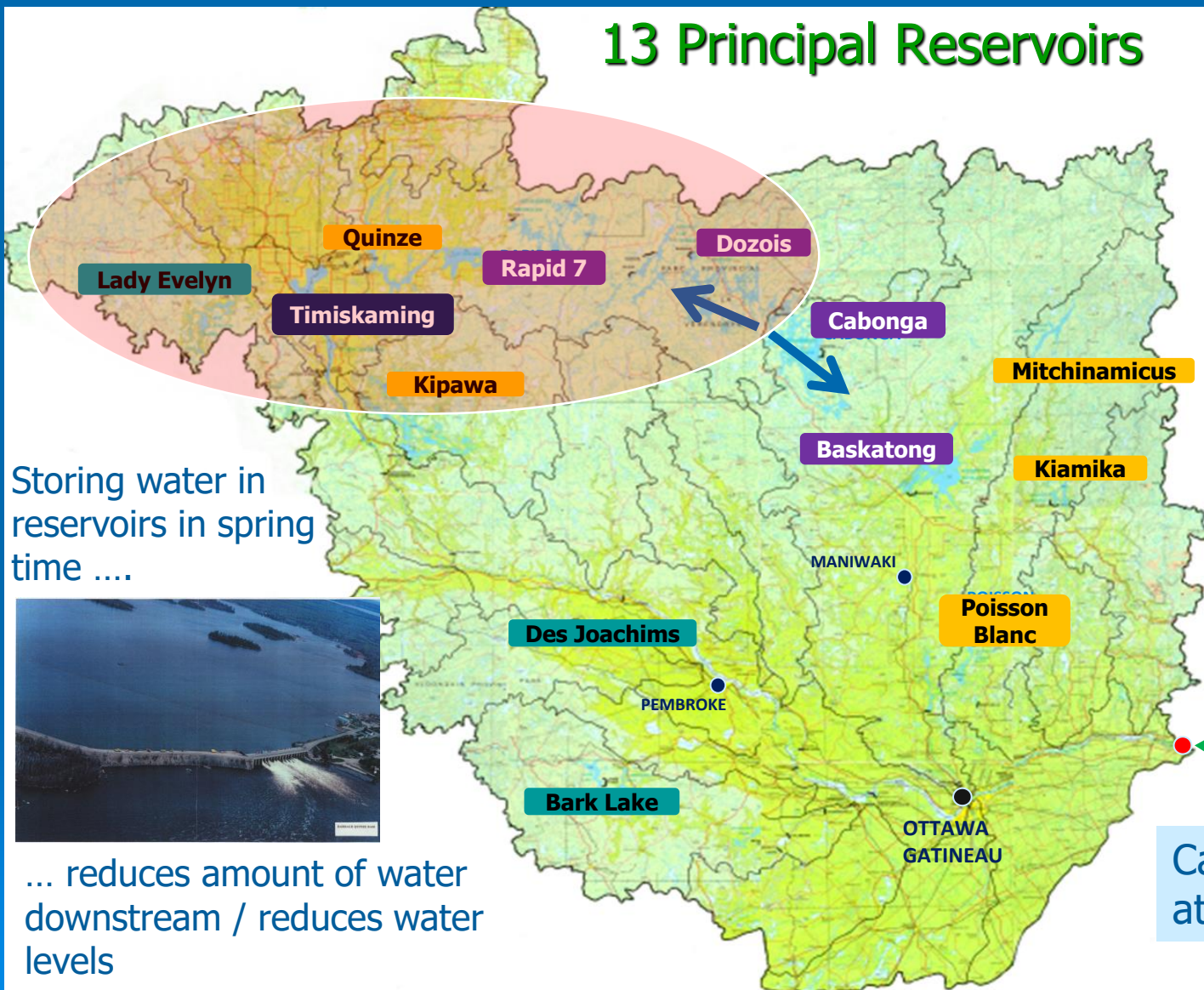
# 13 Principal Reservoirs

ONTARIO POWER GENERATION

Gouvernement du Canada

Hydro Québec

Québec



Storing water in reservoirs in spring time ....



... reduces amount of water downstream / reduces water levels

Carillon dam at outlet





# The Ottawa River still partially a natural river during the spring flood...

**40%**  
**regulated**

**60%**  
**unregulated**

## Basin Characteristics:

- Large reservoirs located in the northern portion
- Over 60% of the basin has no significant storage (is uncontrolled)

• Mattawa

• Arnprior

• Outlet at Carillon dam



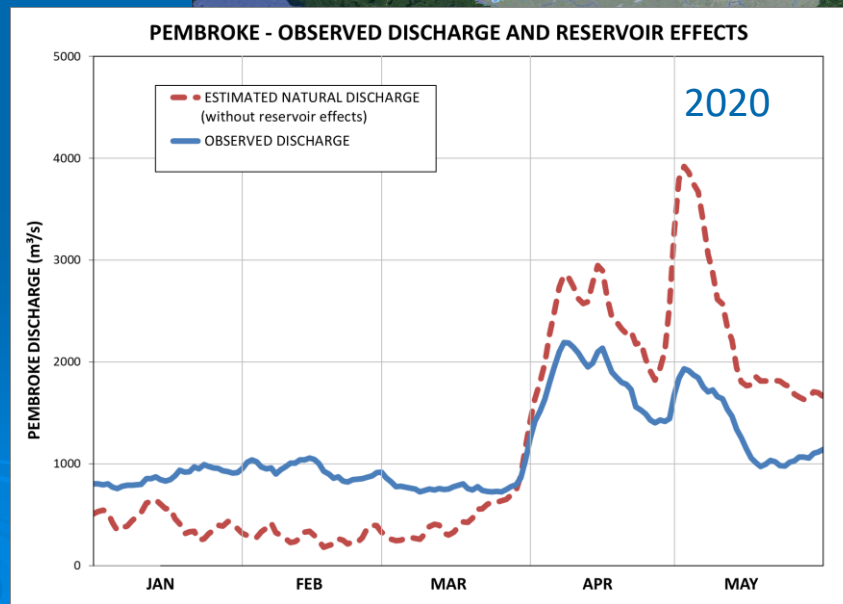
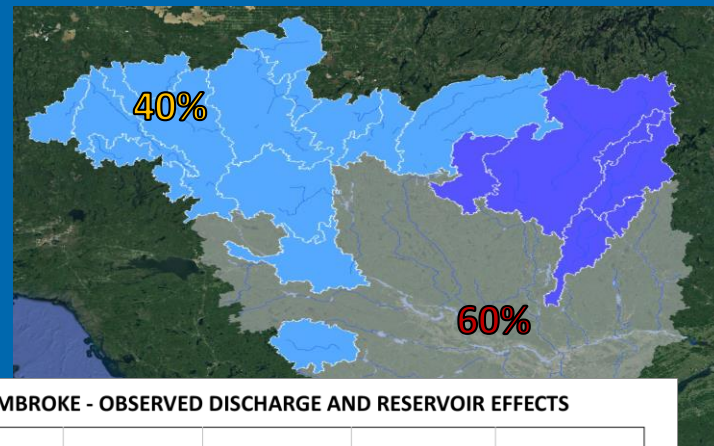
# Limits of Flow Regulation

## Flooding occurs when:

- Spring runoff greatly exceeds the size of reservoirs
- There is significant spring runoff in areas where there are no reservoirs

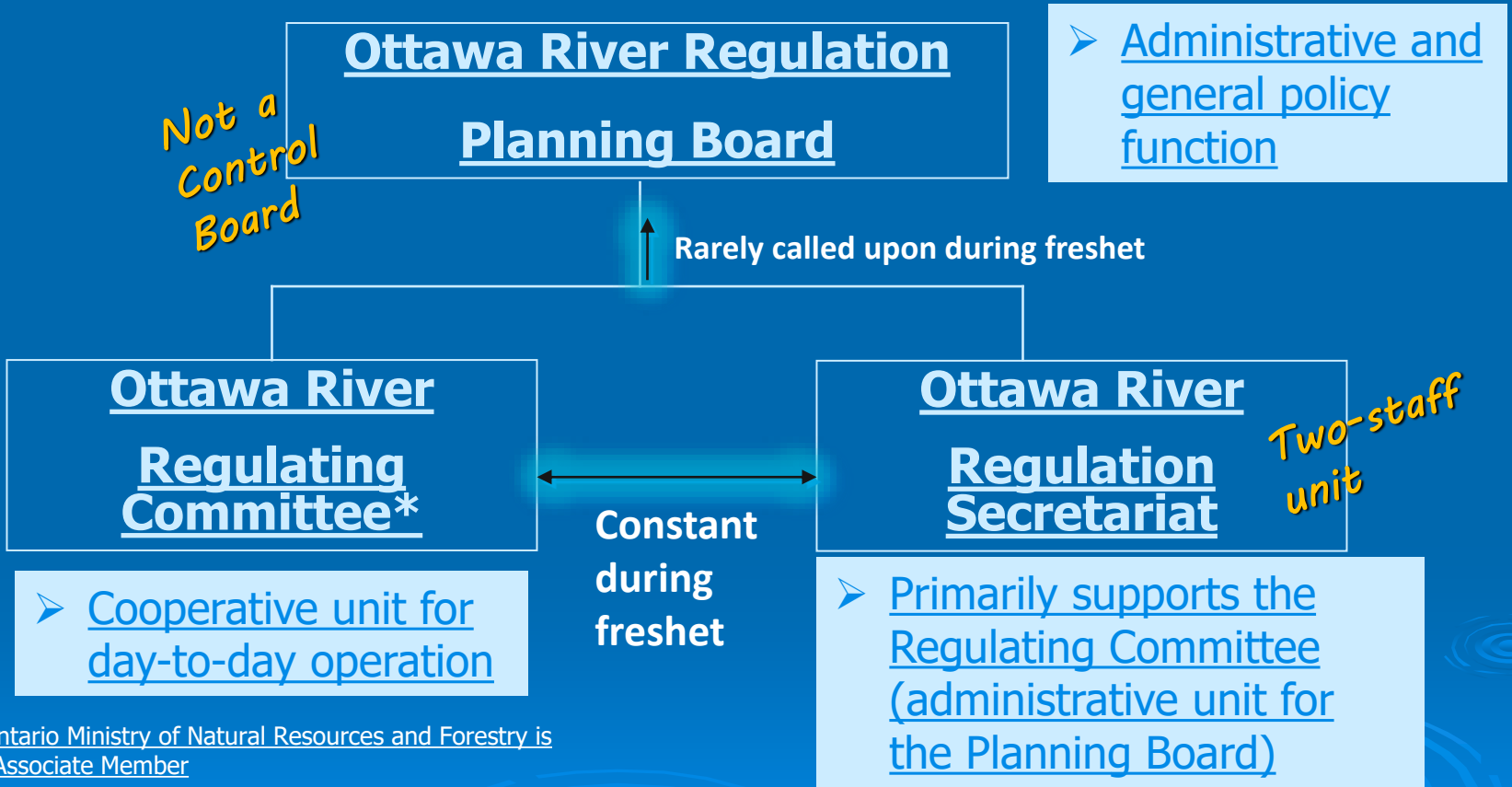
## Flooding extent and duration :

- Is always reduced
- Eliminated in many years





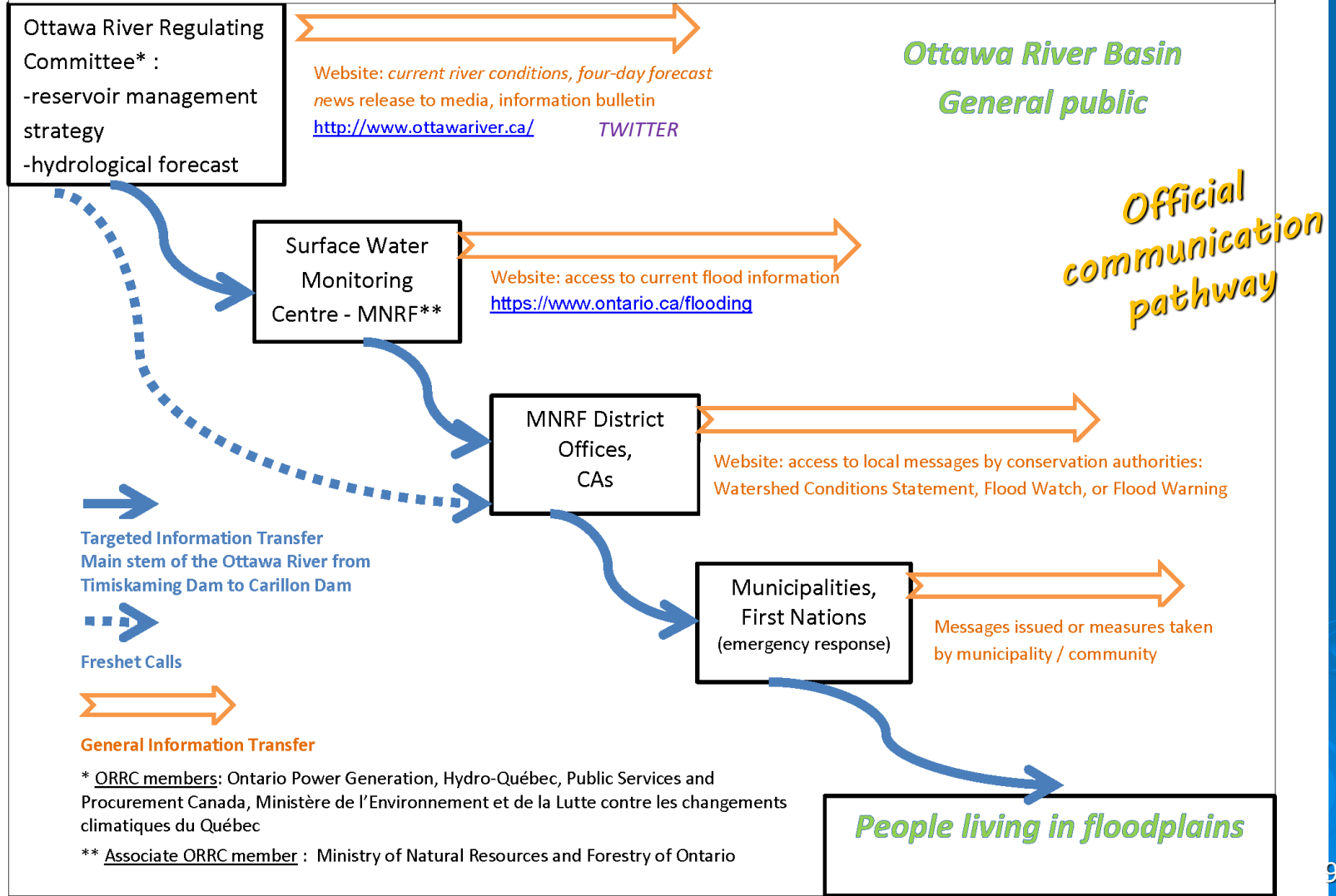
# COOPERATIVE AGREEMENT



\* Ontario Ministry of Natural Resources and Forestry is an Associate Member



# COMMUNICATION OF OTTAWA RIVER HYDROLOGIC FORECAST – ONTARIO FLOW CHART





# Communications within Municipalities

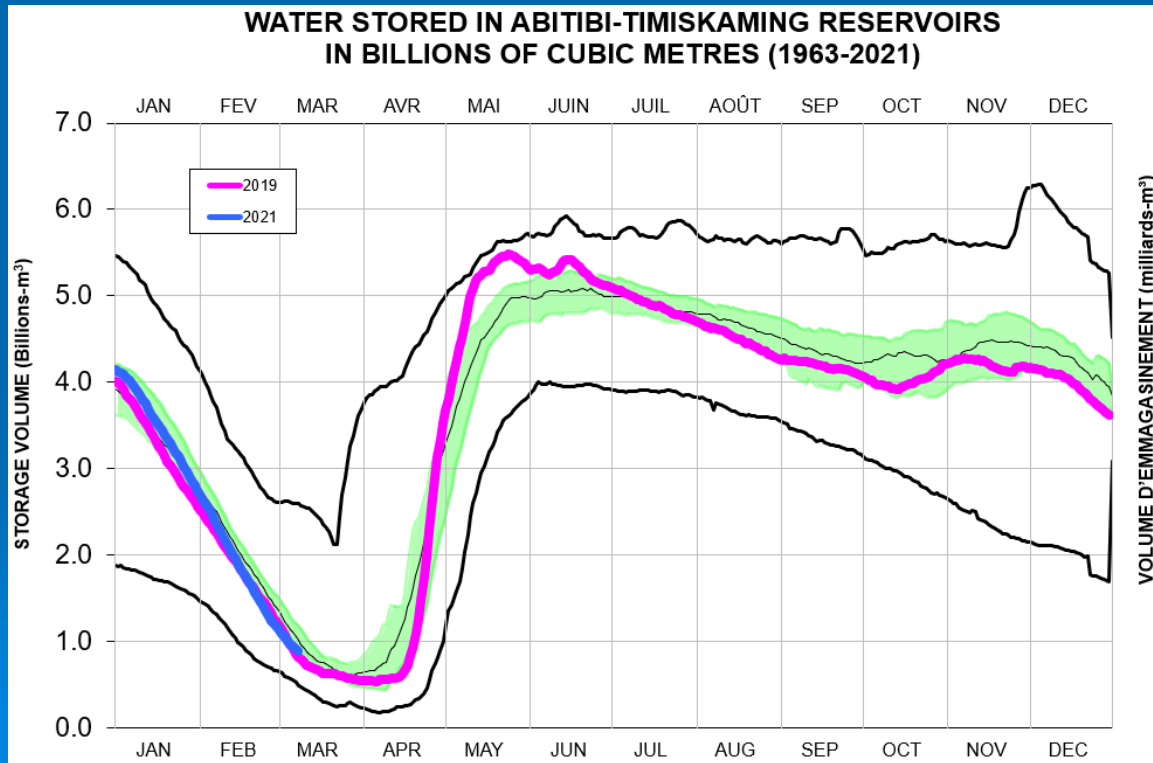
- Each municipality has its own way of disseminating information to residents / elected officials
- Planning Board is not officially involved
- Emergency measures ?
  - Know who to talk to in your municipality
  - Community Emergency Program
  - Your MNRF District Office / Conservation Authority can help

# **HOW WE PREPARE FOR SPRING FRESHET**



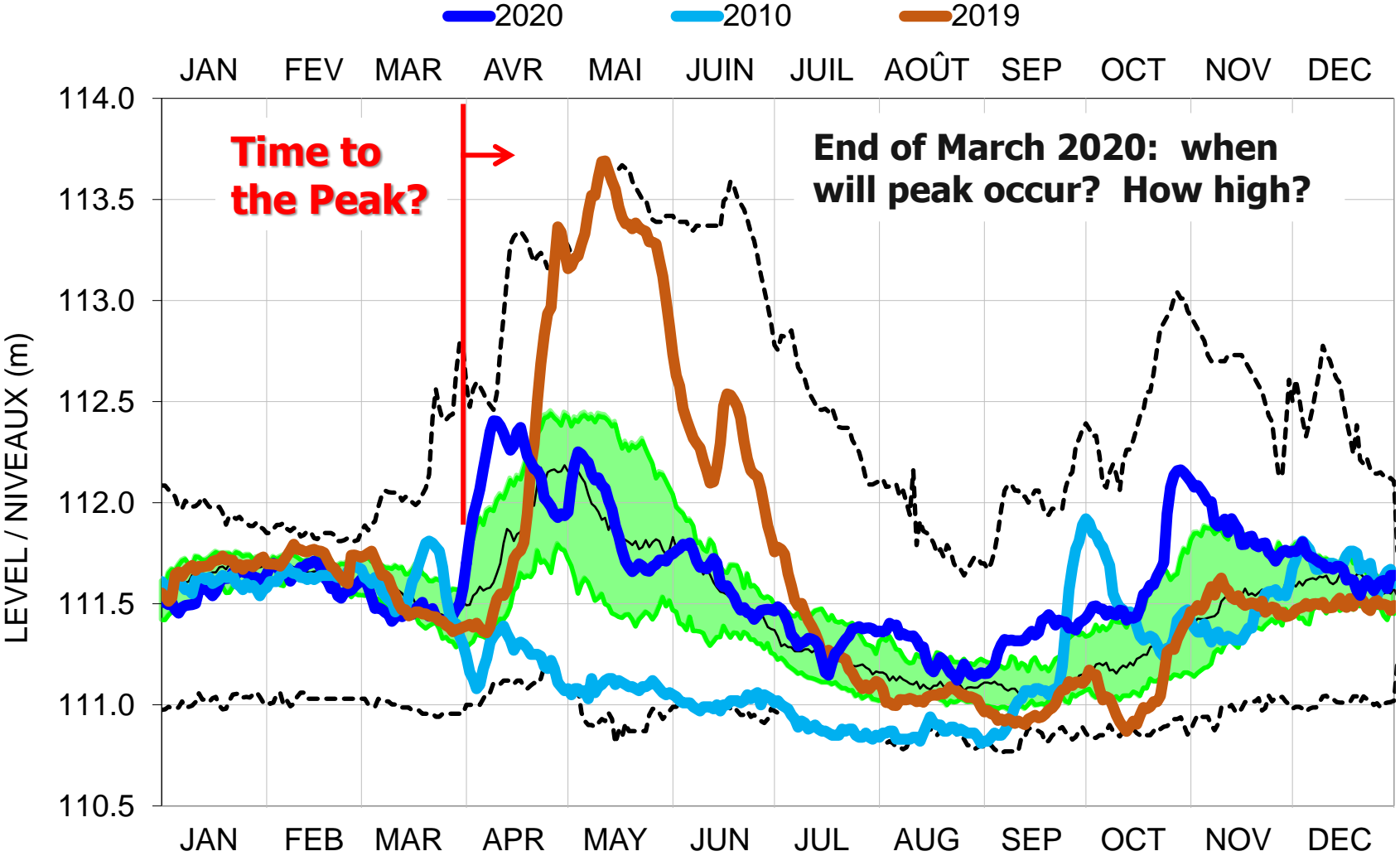
# Work of Regulating Committee & Secretariat

- Continuous monitoring of basin / river conditions
- Gradual drawdown of the principal reservoirs (mid-Dec. to end of March)



- Forecasting of river conditions: weekly and daily during freshet
- Press release when freshet starts

# Pembroke



**WINTER 2021**

**BASIN CONDITIONS**

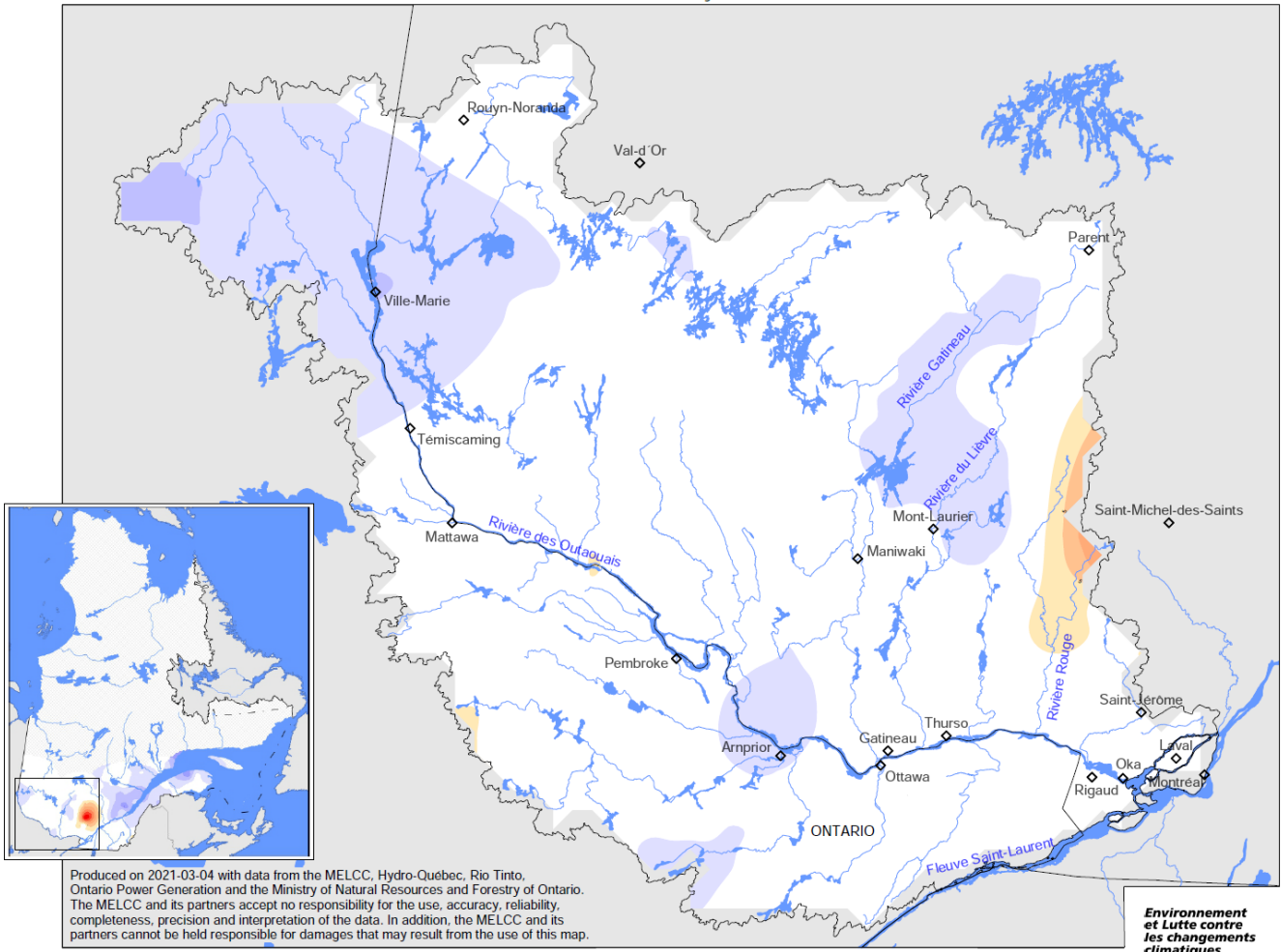




# SNOW WATER EQUIVALENT : OTTAWA RIVER AND MONTRÉAL HYDROGRAPHIC REGION

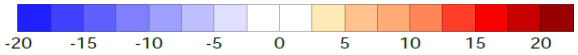
Departure from normal (cm)

End of February 2021



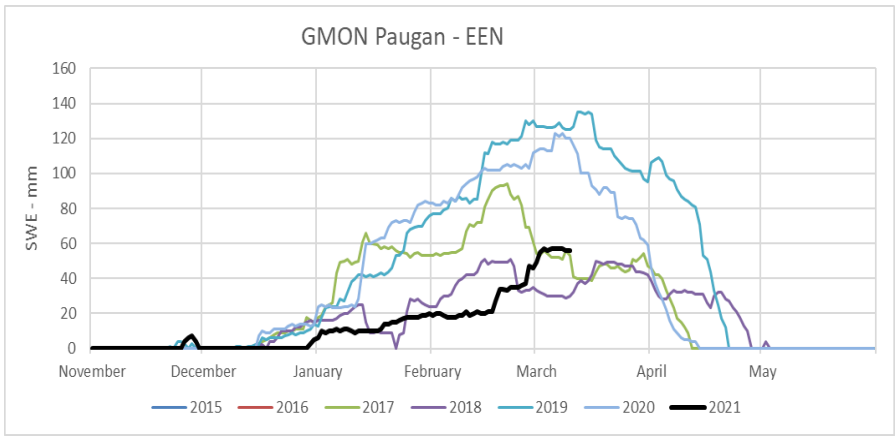
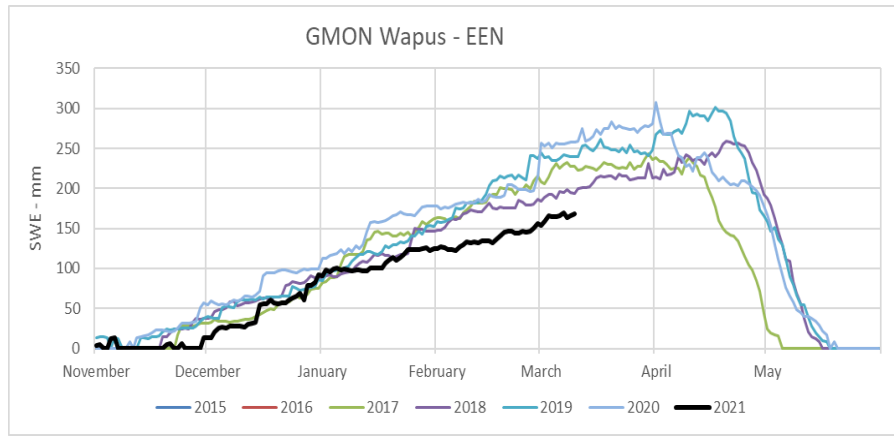
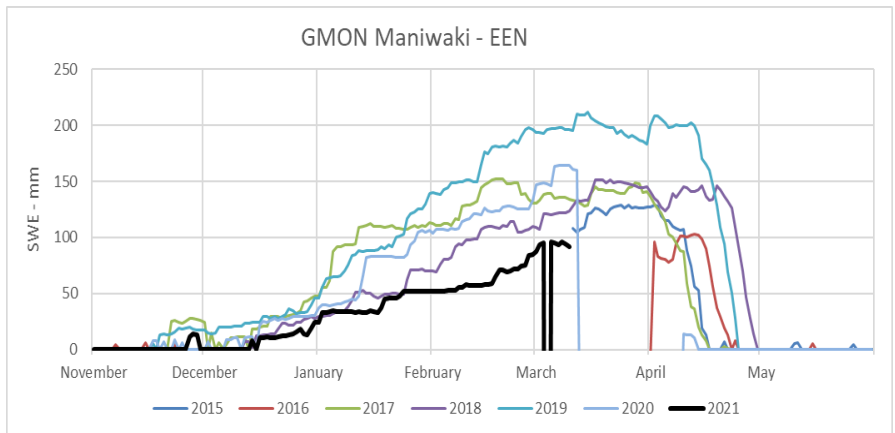
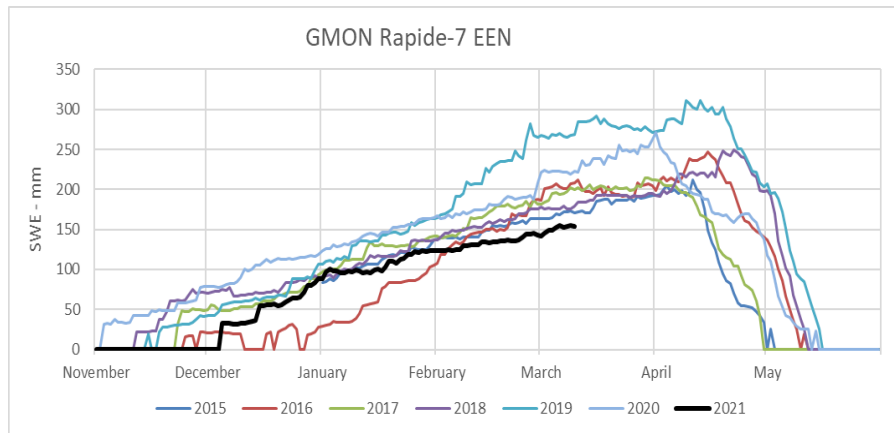
Produced on 2021-03-04 with data from the MELCC, Hydro-Québec, Rio Tinto, Ontario Power Generation and the Ministry of Natural Resources and Forestry of Ontario. The MELCC and its partners accept no responsibility for the use, accuracy, reliability, completeness, precision and interpretation of the data. In addition, the MELCC and its partners cannot be held responsible for damages that may result from the use of this map.

Environnement  
et Lutte contre  
les changements  
climatiques  
**Québec**





# Realtime Snow Measurements - GMON





# Current River Conditions



Search

## Pembroke – Advanced and Historic Data

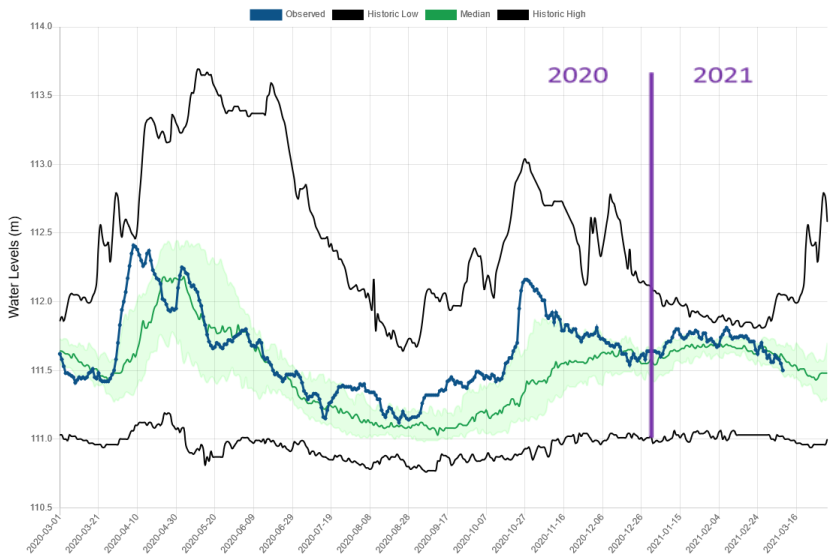
Share Tweet

[Back to Current Conditions](#) [Latest News](#)

### Data filters and display options

Data Display: Graph  
 Data Type: Daily  
 Data Range Start: 2020-03-01  
 Data Range End: 2021-04-01

APPLY FILTERS



Search

## Chats Falls – Advanced and Historic Data

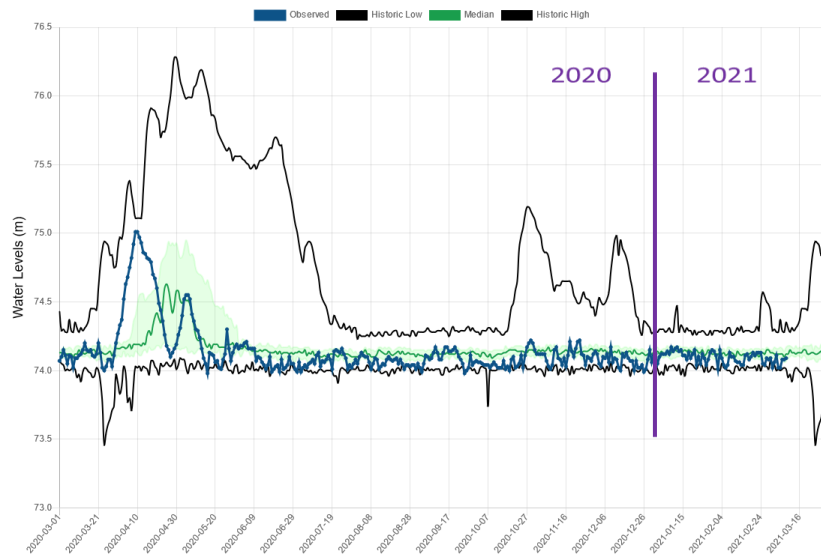
Share Tweet

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### Data filters and display options

Reading type: Water Levels (m)  
 Data Display: Graph  
 Data Type: Daily  
 Data Range Start: 2020-03-01  
 Data Range End: 2021-04-01

APPLY FILTERS





**COMMUNICATIONS**



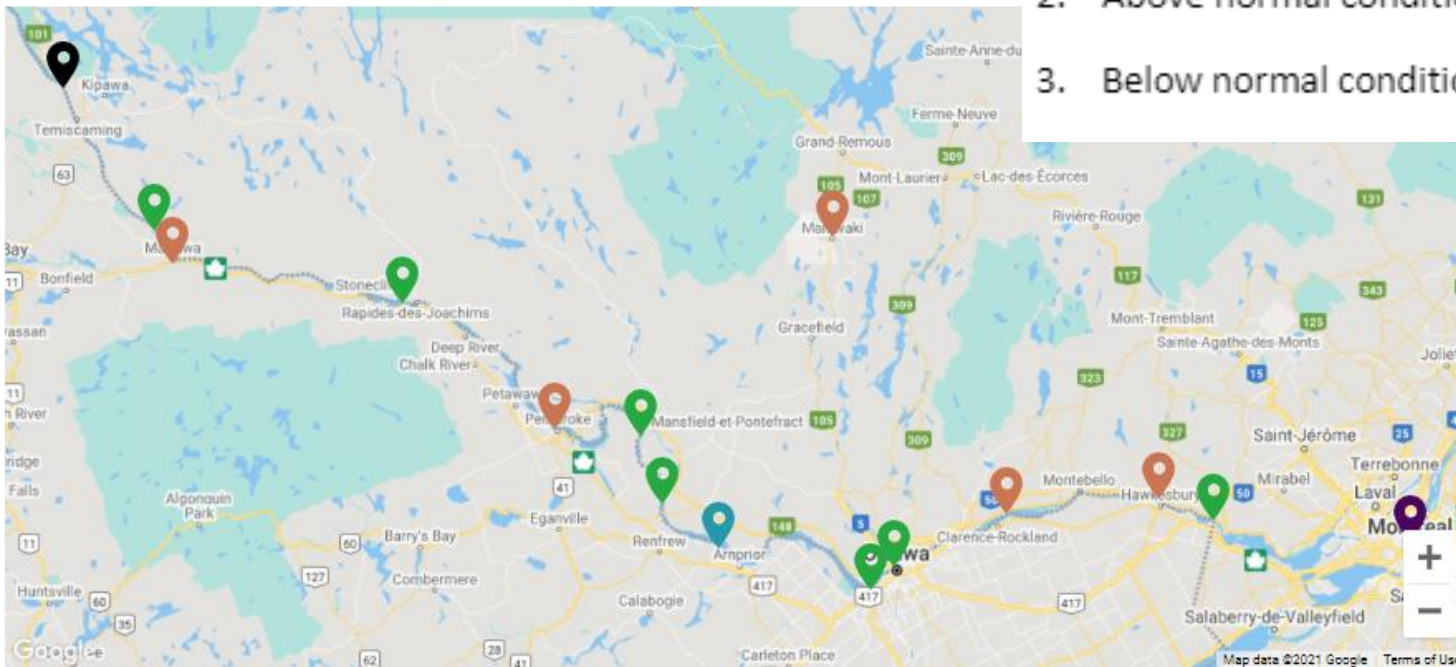
# Check our New Website

*New website  
launched in  
March 2020*

## Current Conditions

Publication: 2021-02-06

Locations to display: **River locations only** | Reservoirs only | Other locations



*Above normal ≠ flooding*

[About this map](#)



# Adding Data for Additional Locations



Ottawa River  
Regulation  
Planning Board

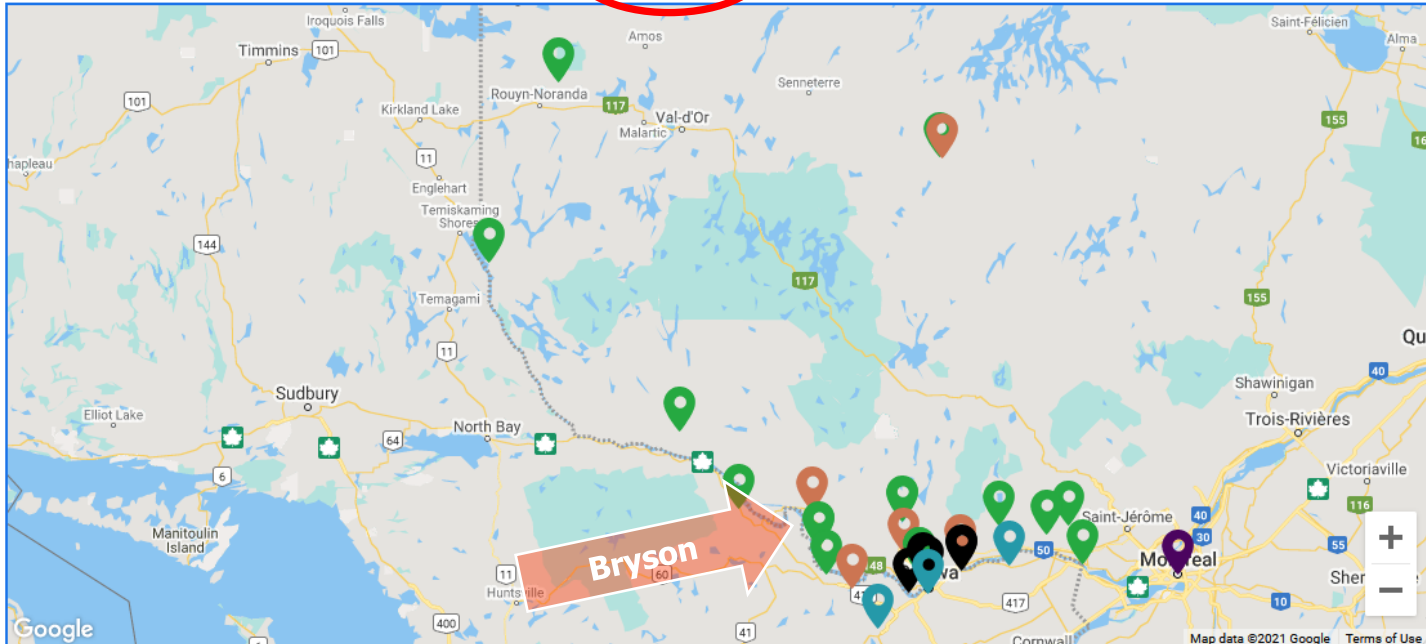


Search



Publication: 2021-02-24

Locations to display: River locations only | Reservoirs only | **Other locations**



[About this map](#)



# Keeping the Public Informed of Basin Conditions

## 2020 Freshet

### Spring Conditions Overview – Info Bulletins

- March 20
- April 23

### Check out:

- Website 'Latest News'
- Twitter



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#### Spring Conditions Overview in the Ottawa River Basin (March 20, 2020)

OTTAWA/GATINEAU, Friday March 20, 2020 — The Ottawa River Regulating Committee monitors the Ottawa River basin closely at this time of the year in preparation for the spring freshet. There are many factors that make long term forecasts of river peak conditions uncertain; however, the Committee is monitoring basin conditions and weather forecasts closely as we approach spring. This report is a summary of current early spring conditions in the Ottawa River basin.

#### Current Snowpack Conditions:

- As seen in the figure below, the snowpack (or the quantity of water held in the snowpack) in early March was above average in most locations. At that time, there was significantly less snow compared to 2019 in the western portion of the basin.
- The Spring melt has begun slowly in the southern part of the basin during the second week of March, which is three weeks earlier than the melt experienced last year. Thaws occurring in the month of March are typically more moderate than those occurring in April given that temperatures are typically cooler. The rain received the week of March 9 combined with above zero temperatures removed a significant portion of the snow in the southern part of the basin. This partial snow melt has brought the snowpack closer to or below normal in some areas, including in the Petawawa, Bonnechere, Mississippi, Rideau and South Nation basins.

#### Current Level and Flow Conditions:

- The principal reservoirs located in the northern part of the Ottawa River basin are essentially empty as shown in the figure below and are ready to retain spring runoff once



# First Press Release announces Start of Freshet

## First Press Release

- Sent to mass media
- Forecast webpage activated

## Risk of flooding is increasing?

- New press release
- Red banner on website

## Freshet is over?

- Forecast webpage is deactivated



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### RISING OTTAWA RIVER WATER LEVELS

**OTTAWA/GATINEAU, Sunday, March 29, 2020** — The Ottawa River Regulating Committee would like to inform watershed residents that levels and flows along the Ottawa River have begun increasing with the onset of the spring freshet period. It cautions residents along the shores of the Ottawa River from Mattawa down to the Montreal region that during the spring period water levels can rise rapidly and cause minor flooding in low-lying areas. Based on the current snow cover and the weather forecast, the Regulating Committee anticipates that the levels and flows on the main stem of the Ottawa River will remain within the normal range of fluctuations associated with the spring freshet period.

## Forecasts

Publication: 2020-05-08 1:54 PM



This map includes markers representing the locations where the Ottawa River Regulating Committee provides hydrological forecasts to the public.





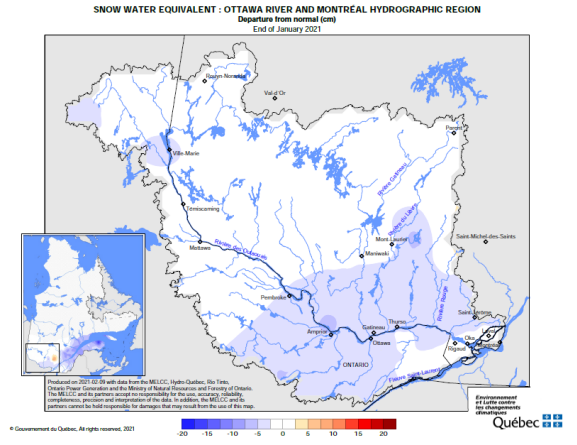
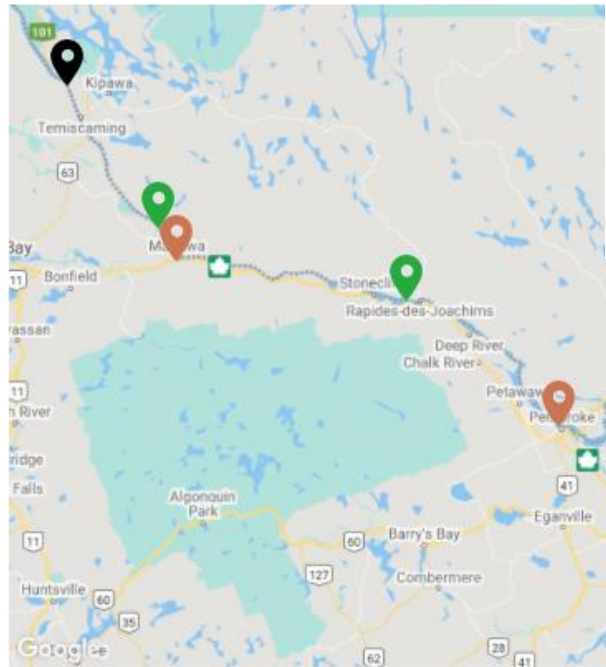


# New - Snow Map on Website

## Current Conditions

Publication: 2021-02-06

Locations to display: **River locations only** | Reservoirs only



[About this map](#)



# Closing Remarks

- Flooding is the result of natural processes that vary from year to year and is a function of snowmelt, temperatures and precipitation
- Available reservoir storage is the same every year while flow volume from the basin can vary widely
- Peak spring levels on the river mainstem are reduced every year by the retention of water in the principal reservoirs (flood mitigation)
- Water stored in principal reservoirs can mitigate impacts of droughts
- Know where to get forecast information



# Information

Current and  
forecast  
conditions  
during freshet

[www.ottawariver.ca](http://www.ottawariver.ca)  
[www.rivieredesoutaouais.ca](http://www.rivieredesoutaouais.ca)

*Conditions  
actuelles et  
prévues en  
rivière pendant  
la crue*

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Recorded message

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1-800-778-1246 Outside

*Message téléphonique*

*819-994-8171 Ottawa-Gatineau  
1-800-778-1243 À l'extérieur*

Ottawa River  
Regulation Secretariat

**Email : [secretariat@ottawariver.ca](mailto:secretariat@ottawariver.ca)**

*Secrétariat pour la régularisation  
de la rivière des Outaouais*

***Email : [bureau@ottawariver.ca](mailto:bureau@ottawariver.ca)***