

# Peaking & Ponding

## What Are They?

- Most times, the daily amount of water available for **hydropower** purposes is less than the Cornwall/Massena dam is capable of passing.
- To make the **most effective use of the water**, the dam uses more water during the daytime (when demand for electricity is highest) and less at night and on weekends.

**PEAKING:** hour-to-hour flow changes over the course of one day.

**PONDING:** day-to-day flow changes over the course of one week.

## Why Should I Care?

- More efficient use of the available water = **lower electricity bills**.
- But, large flow changes **affect water levels** upstream and downstream of the dam.

## How Do They Affect Water Levels?

- When the dam **reduces flows**, water levels **upstream rise**, and water levels **downstream fall**. This typically happens near **dusk** and/or Friday evenings.
- The exact **opposite is true** when the plant **increases flows**. This typically happens near **dawn** and/or Monday mornings.
- The **closer to the plant you are**, the **greater the impact**. Due to limits on the variation possible however, the **maximum daily impacts** are:
  - **11 inches (28 cm) upstream** (at the dam)
  - **20 inches (50 cm) downstream** (at the dam)
- **Further away from the dam the impacts lessen** dramatically. Visible fluctuations can be seen across Lake St. Lawrence and Lake St. Francis though.

## Why Do Levels Often Fluctuate More?

Picture the River. It is rarely calm and levels seem to change constantly. Winds and weather systems push the waves this way and that, ice builds up, then melts away, and given the Board regulates flows weekly, often times the outflow changes from one day to the next (usually Saturday at midnight, by the way). Add peaking & ponding onto these other factors, and the River can really fluctuate at times!