International Lake Ontario – St. Lawrence River Study

Public Interest Advisory Group Public Meeting

Summer 2004






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International Joint Commission

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Study Organization

IJC

U.S. & Canadian Co-Leads and Study Board - 14 members

U.S. & Canadian Study Managers & Public Affairs Officers

Public Interest Advisory Group

- 22 Members (U.S.+Canadian) appointed by IJC
- Co-Leads on Study Board

Technical Working Groups (TWGs)

- Environment
- Recreational Boating & Tourism
- Coastal Processes
- Commercial Navigation
- Domestic, Industrial & Municipal Water Uses
- Hydroelectric Power
- Hydrology & Hydraulics
- Information Management
- Plan Formulation and Evaluation

Direct —— Consultative ·····

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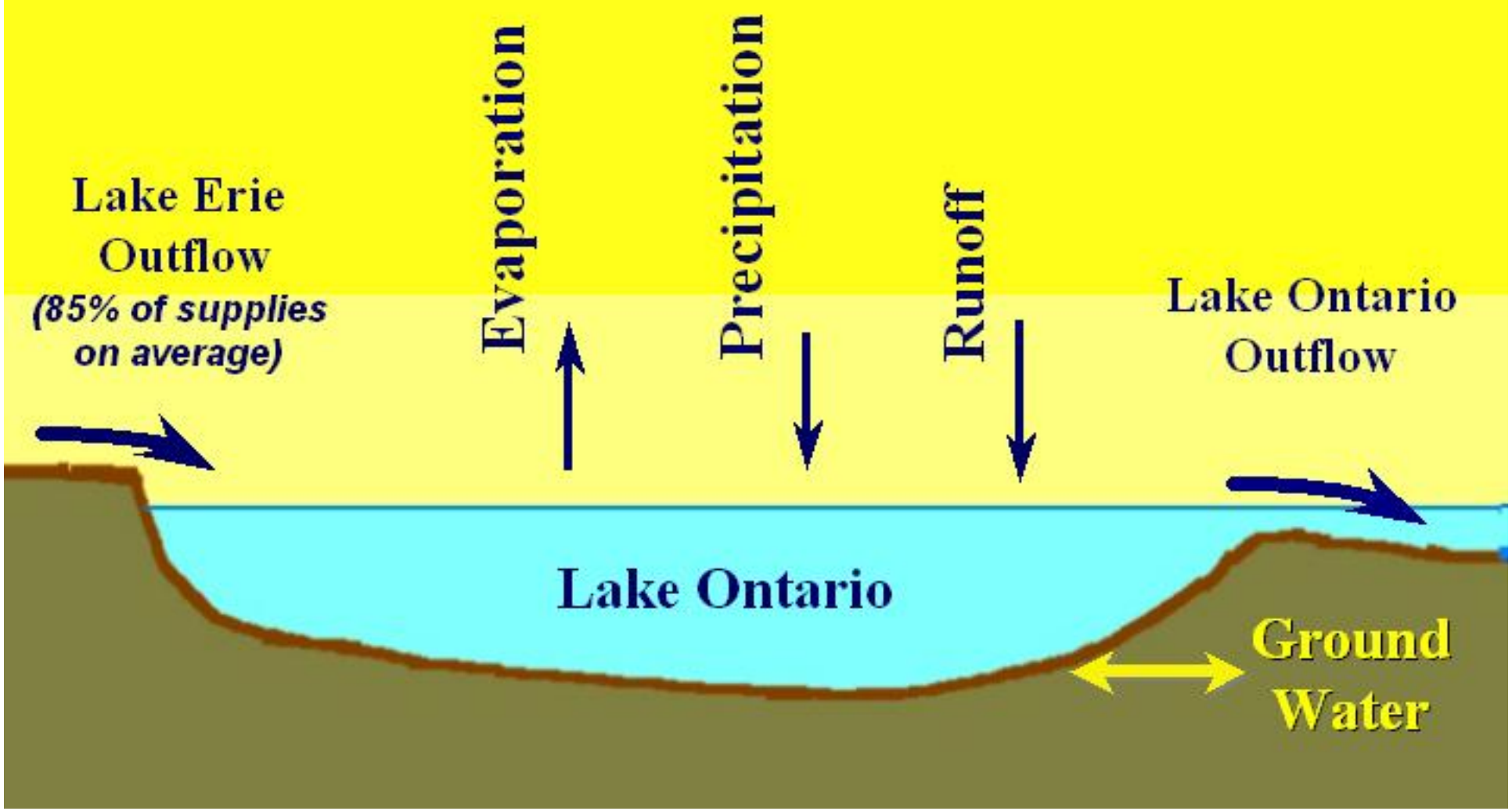
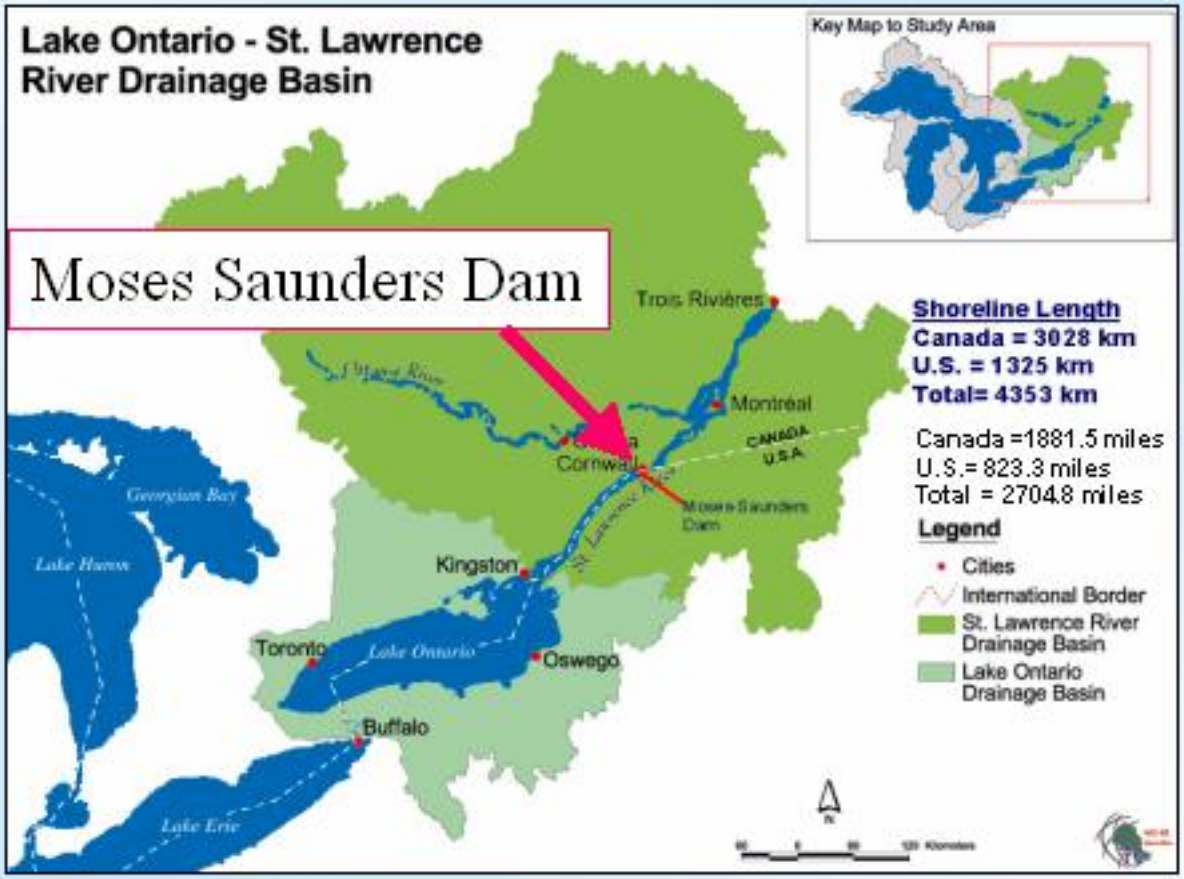
Lake Ontario Water Cycle



Complex System



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Current Regulation Plan

Plan 1958-D

- Has been in effect since 1963
- Based upon 1950's technology
- Was designed prior to any practical experience with regulating the Lake and River over time
- Was guided by the political, social and economic climate of the 1950's

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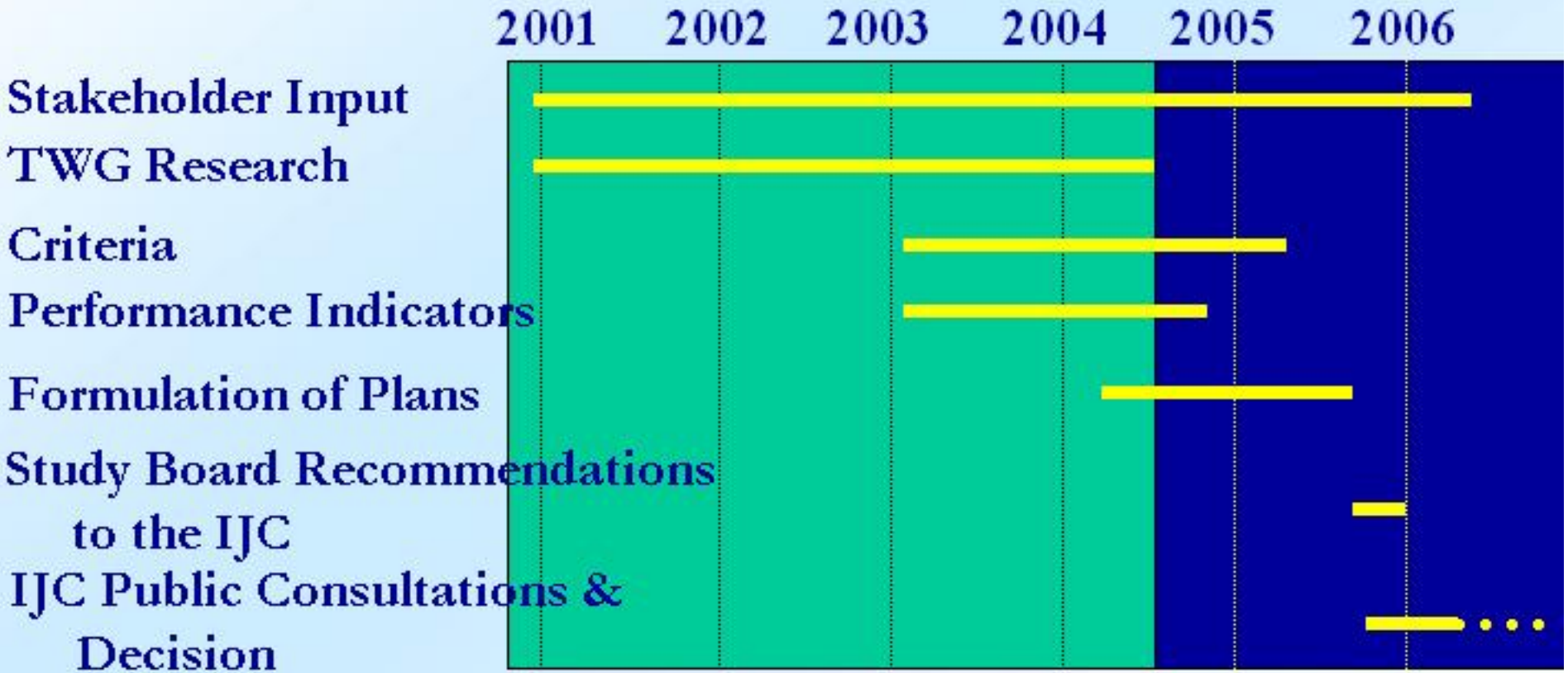
Where is the Study now?



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Study Board Guidelines

- Environmentally sustainable
- No disproportionate loss
- Flexible management
- Mitigation alternatives
- Adaptable to climate change
- Transparent decision making
- Adaptable to future technology

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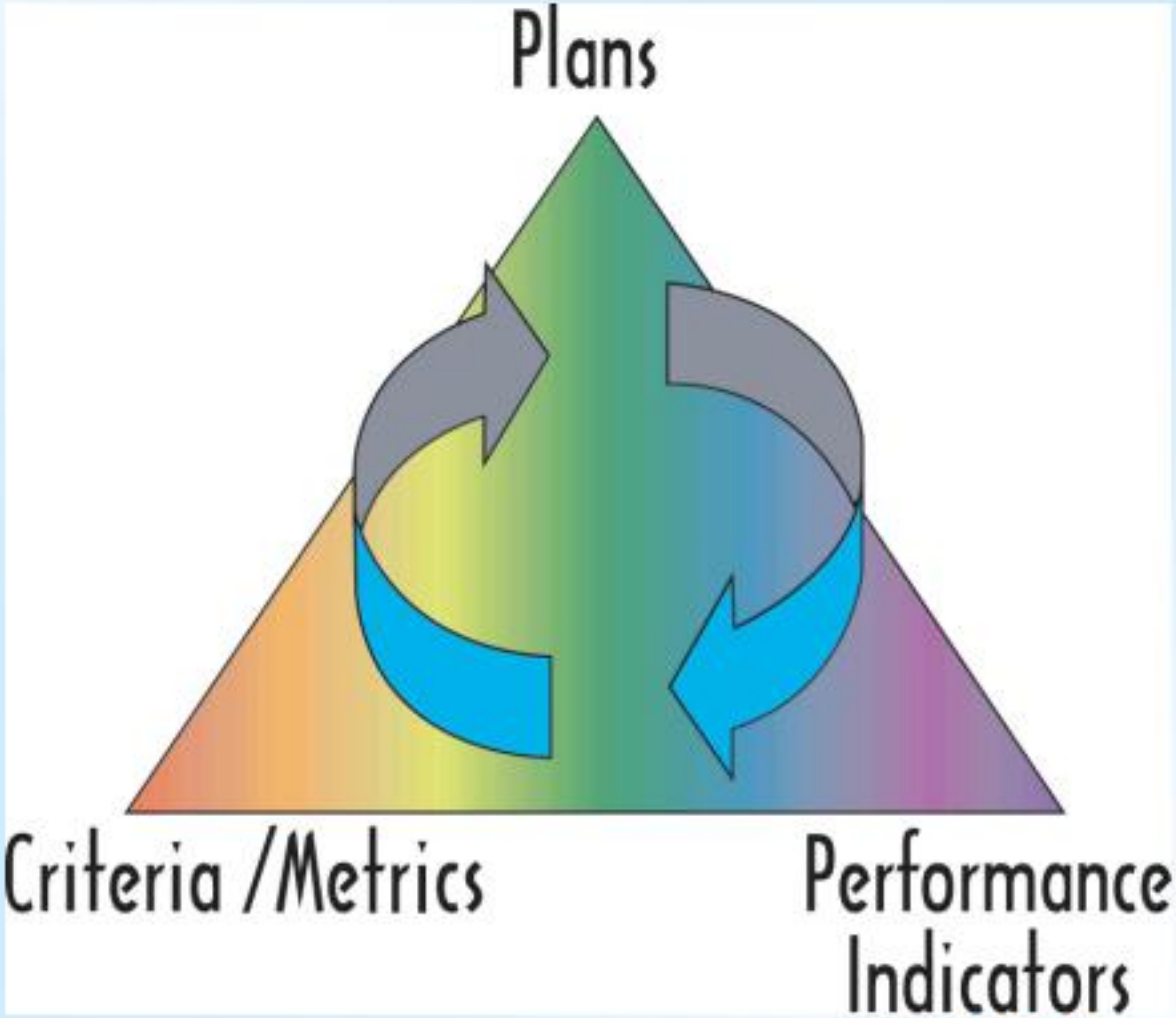
Decision Process



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Criteria

- Water level guidelines which give general direction to the regulation process.

Metrics

- Specific maximum or minimum flows or water levels that satisfy the criteria.

Performance Indicators

- Measures of economic, social, or environmental health.

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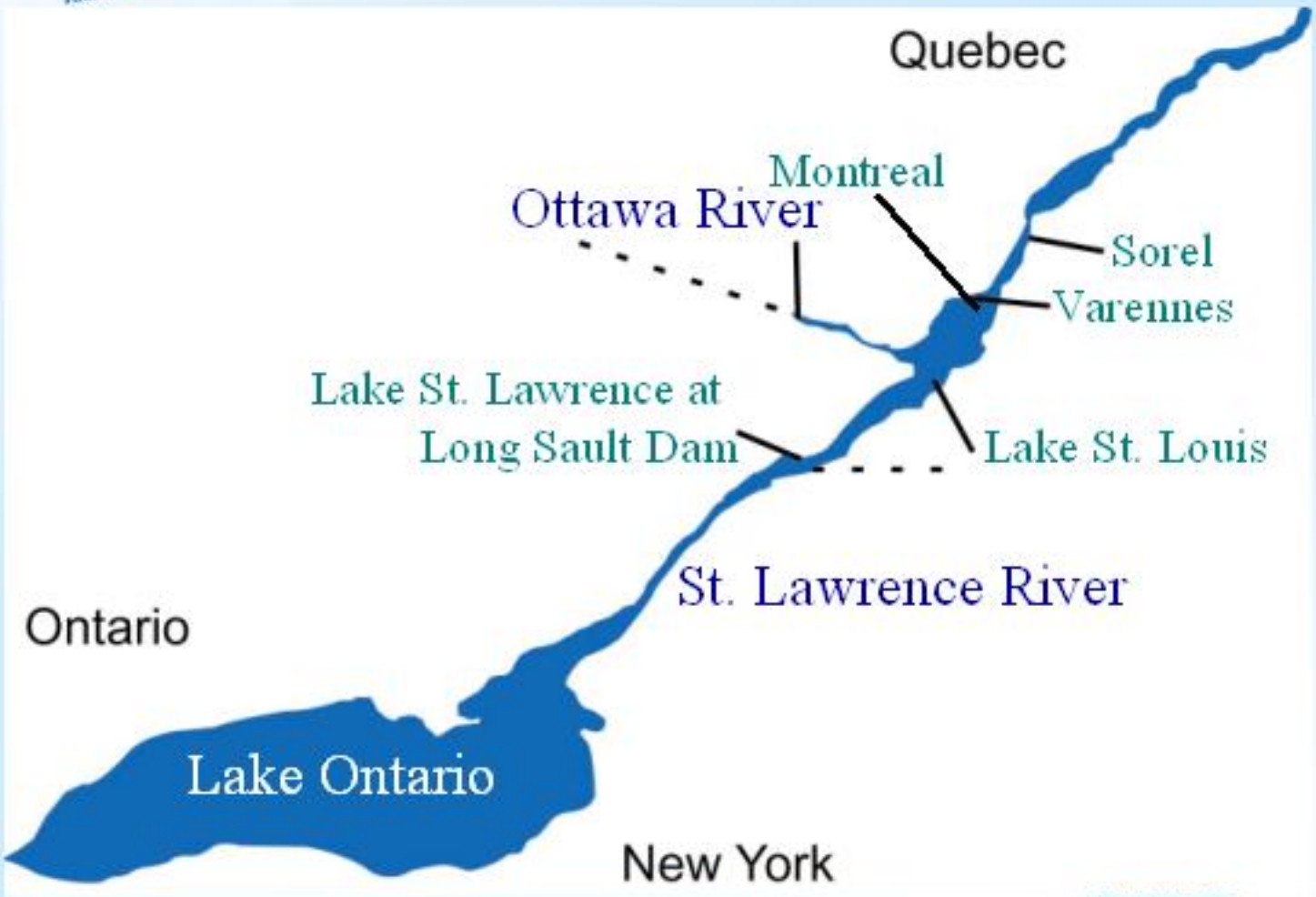
Geographic Scope



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Considered Lake Ontario Water Levels

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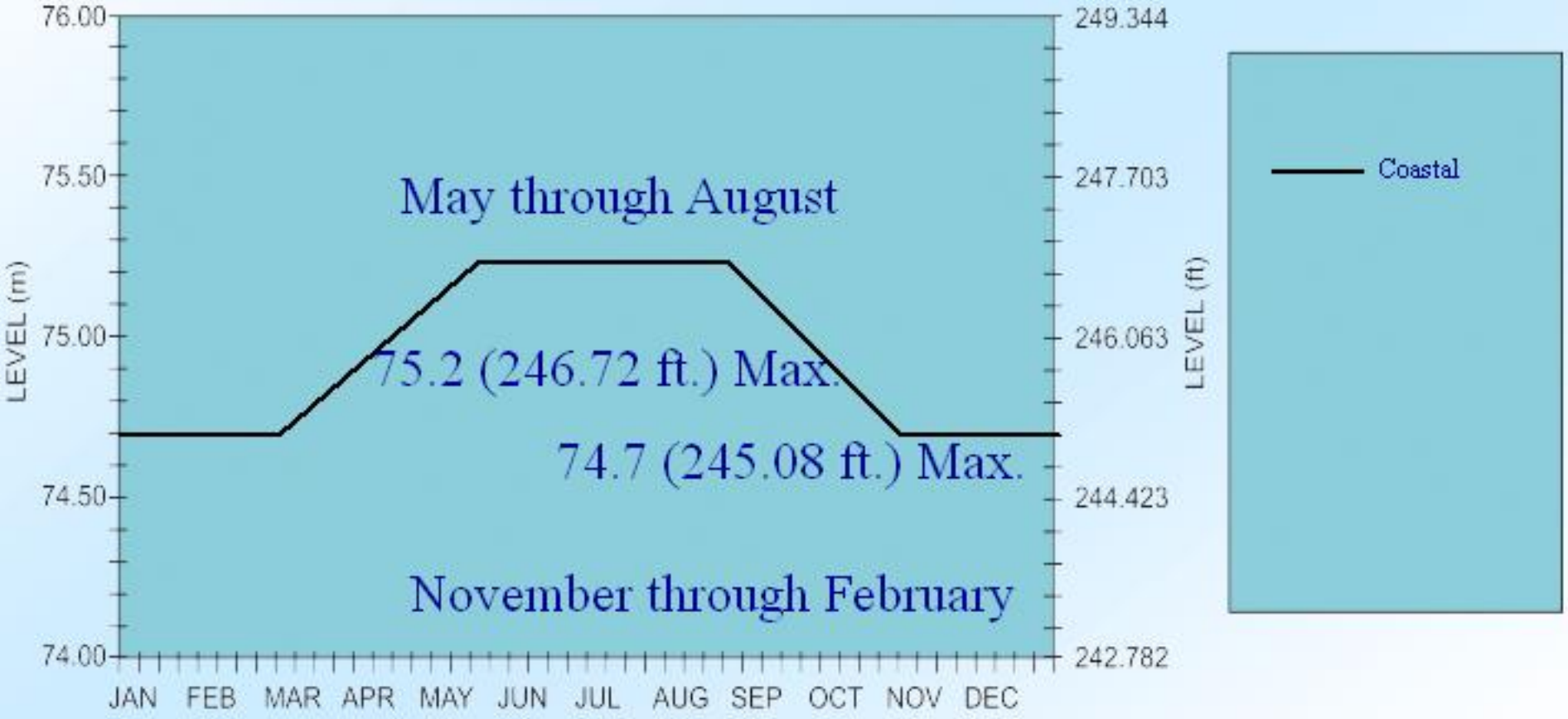
Lake Ontario - Environment

www.losl.org

Lake Ontario - Beach Access

www.losl.org

Lake Ontario - Coastal



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Lake Ontario - Recreational Boating

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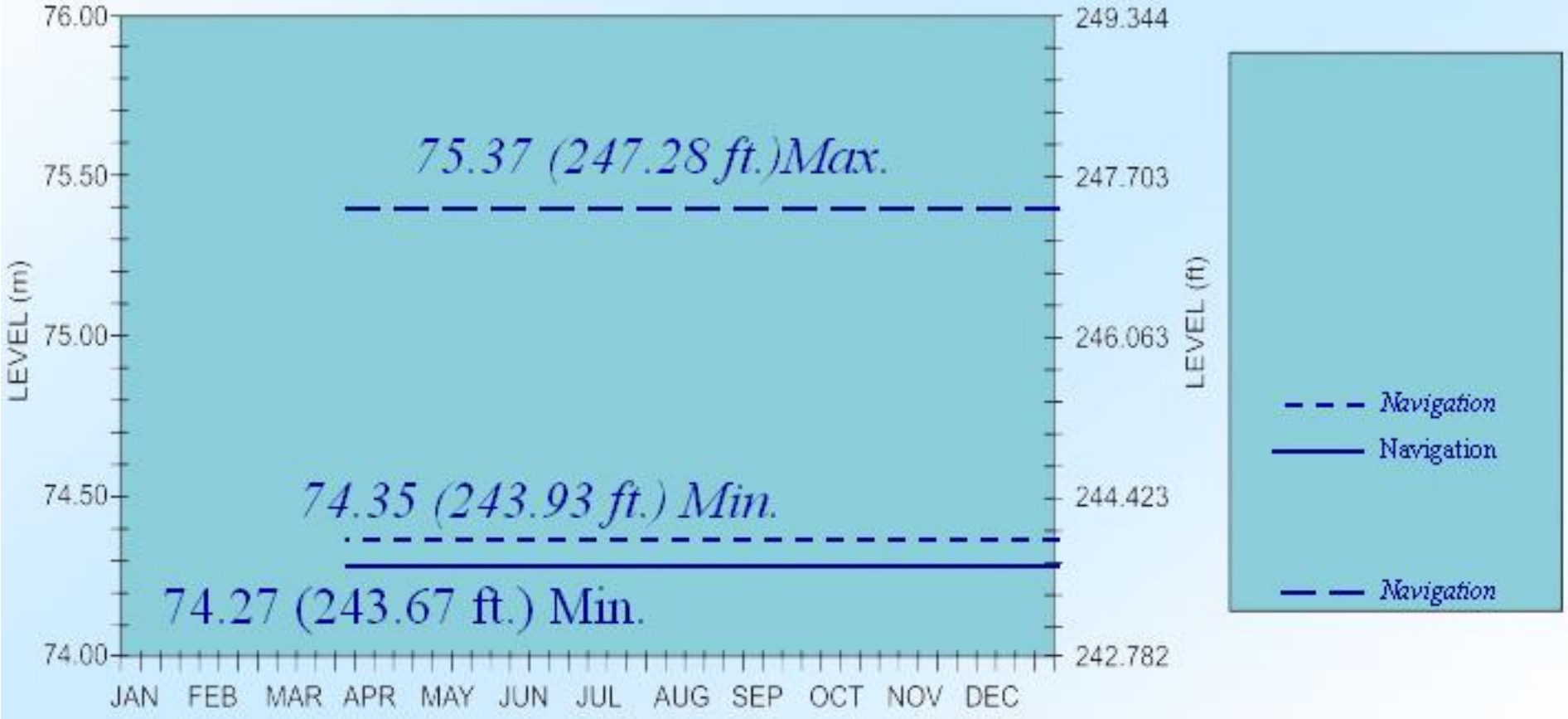
Lake Ontario - Navigation



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Recreational Boating Performance Indicators

- Economic benefits of small boat recreation,
- Economic damages and revenue losses
- Economic damages to commercial tour boat operations
- Changes in regional income and employment

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Lake Ontario - Water Uses

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Coastal Performance Indicators

- Economic losses due to erosion
- Additional costs to strengthen existing structures
- Damages to structures and contents
- Value of eroded sediment

Commercial Navigation Performance Indicators

Transportation costs increase when water levels are low because the same cargo must be carried on more ships. Costs also rise when high velocities slow or interrupt shipping.

- **Economic benefits associated with transportation cost savings.**

Lake Ontario and Upper River Environmental Performance Indicators

- Wetland plant abundance and diversity
- Fish and habitat supply and abundance
- Wetland bird abundance and diversity
- Reptile and amphibian diversity and abundance
- Muskrat abundance
- Species-at-risk

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Lower St. Lawrence River Environmental Performance Indicators

- Wetland plant abundance and diversity
- Fish and habitat supply and abundance
- Wetland bird abundance and diversity
- Dabbling duck abundance
- Reptile and amphibian diversity and abundance
- Muskrat abundance
- Species-at-risk

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Hydropower Performance Indicators

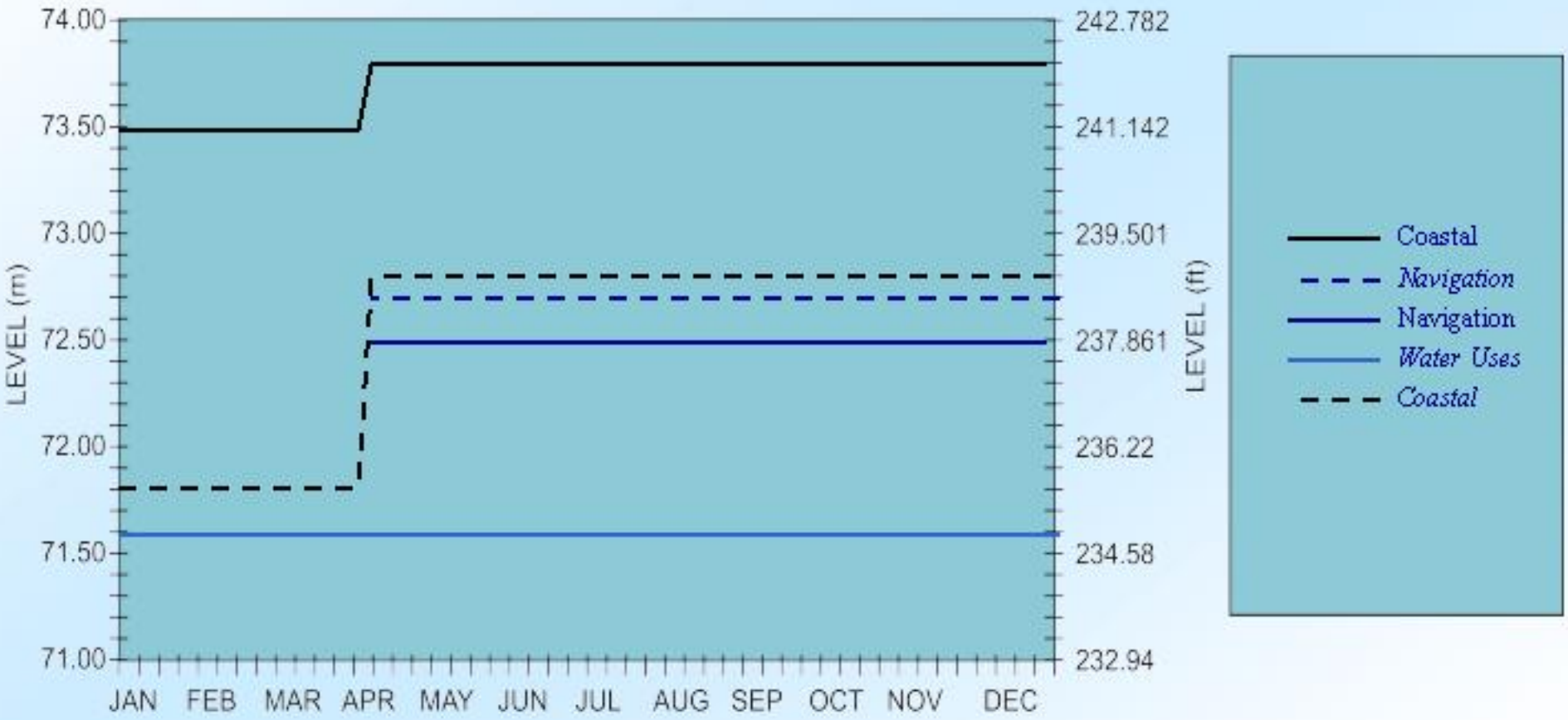
The objectives of regulation for hydropower are to maximize power (megawatts), maximize the dollar value of that power, assure that flows are predictable and stable, and manage ice conditions.

- **Power, in megawatts**
- **Economic value of power**
- **Flow predictability**
- **Flow Stability**

Water Use Performance Indicators

- Loss of power benefits from thermal power generating plants
- Increased pumping costs
- Reduction of water supply benefits
- Impacts to individual shorewells and lake line supplies
- Economic costs due to high water flooding causing sewer/septic system backup

Considered Water Levels Lake St. Lawrence at Long Sault Dam



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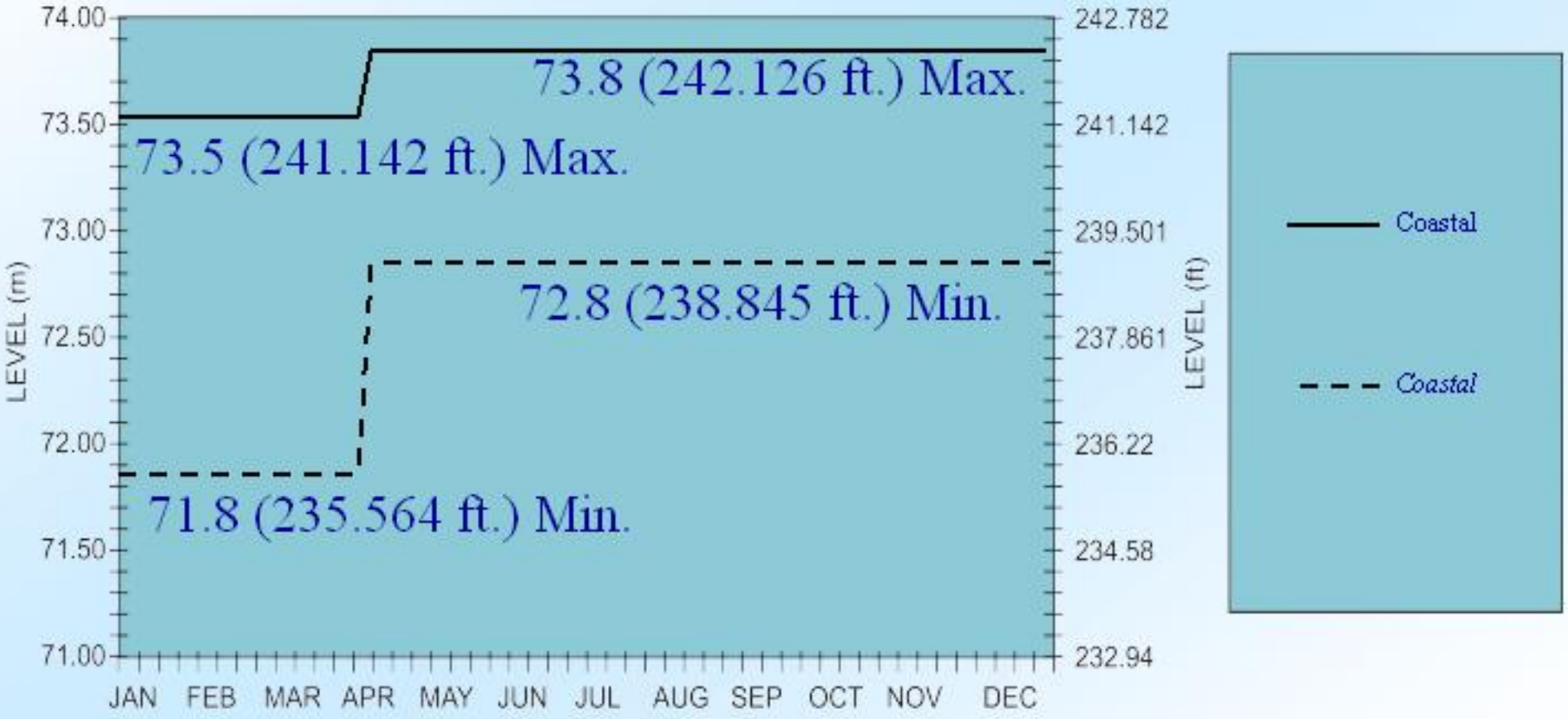
Lake St. Lawrence at Long Sault Dam - Coastal



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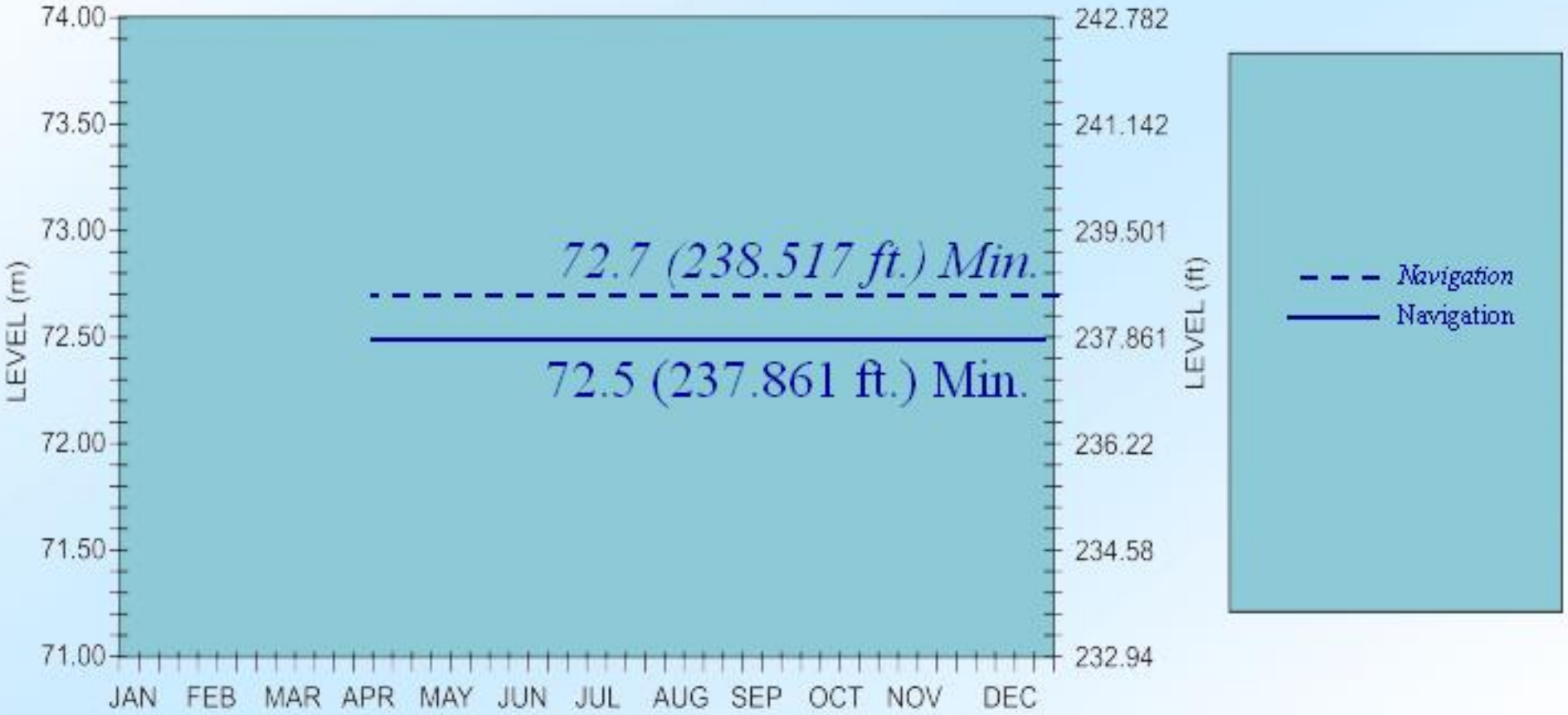
Lake St. Lawrence at Long Sault Dam - Navigation



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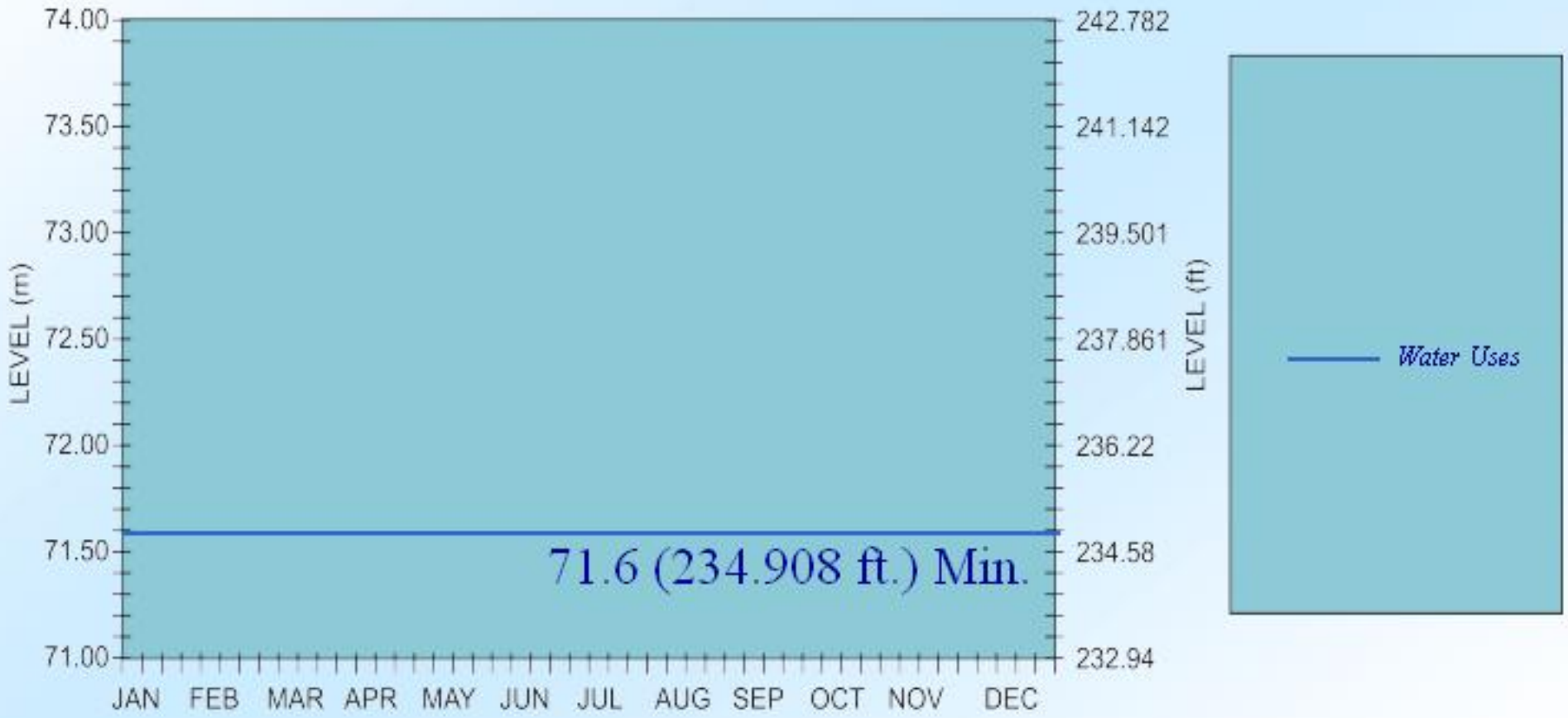
Lake St. Lawrence at Long Sault Dam - Water Uses



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Lower St. Lawrence River Coastal Performance Indicators

- Area of erosion
- Erosion damages
- Turbidity
- Flooding
- Costs to strengthen existing shoreline protection structures

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Considered Water Levels
Lac St. Louis at Point Claire

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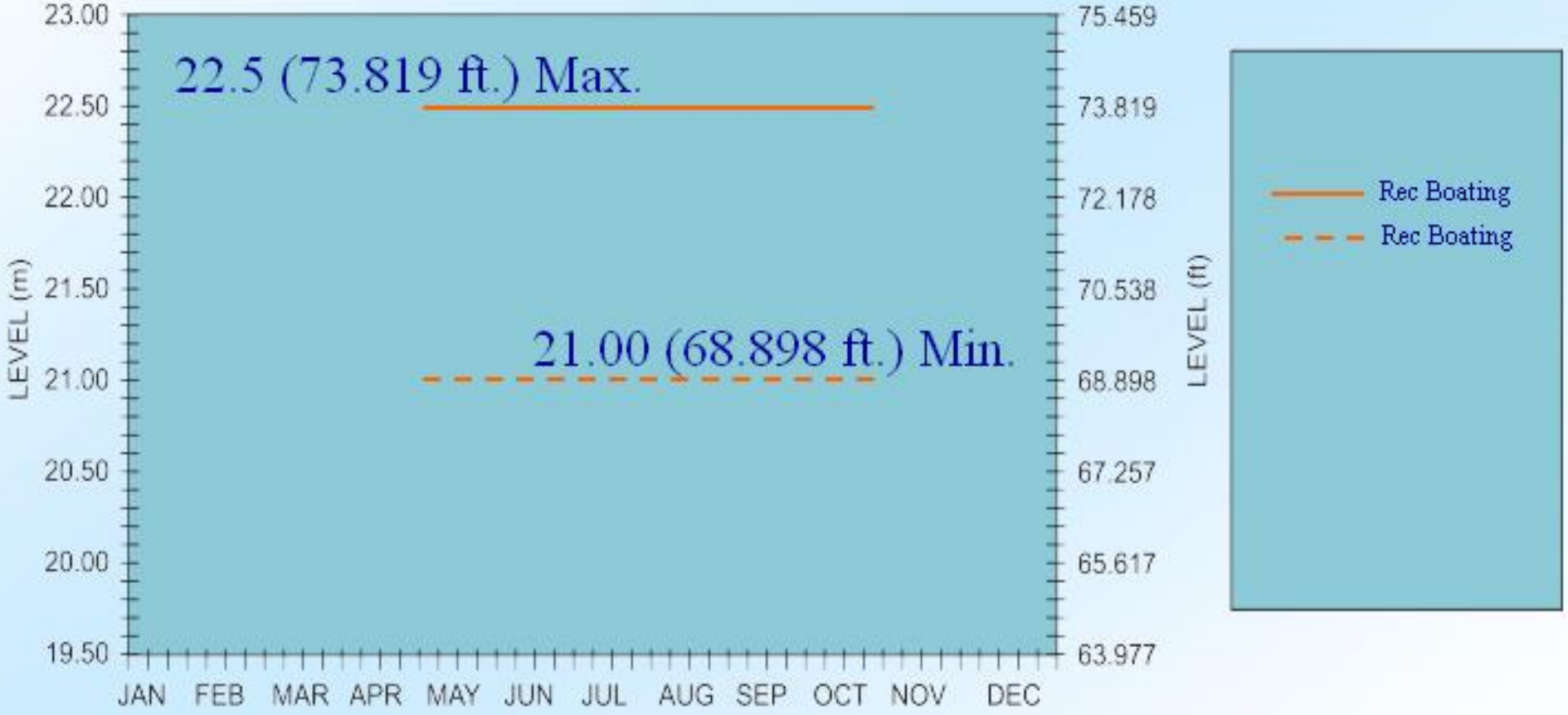
Lac St. Louis at Point Claire - Rec. Boating



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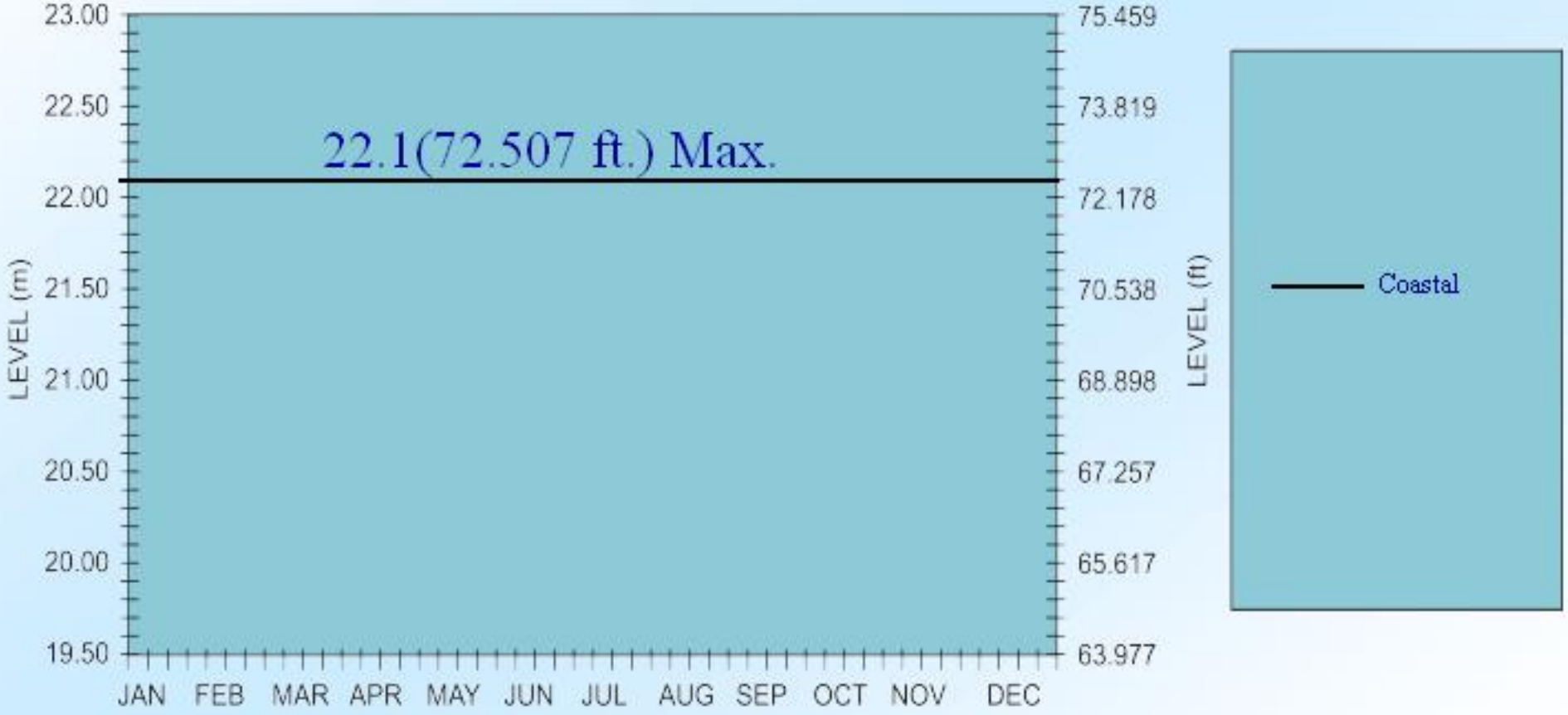
Lac St. Louis at Point Claire - Coastal



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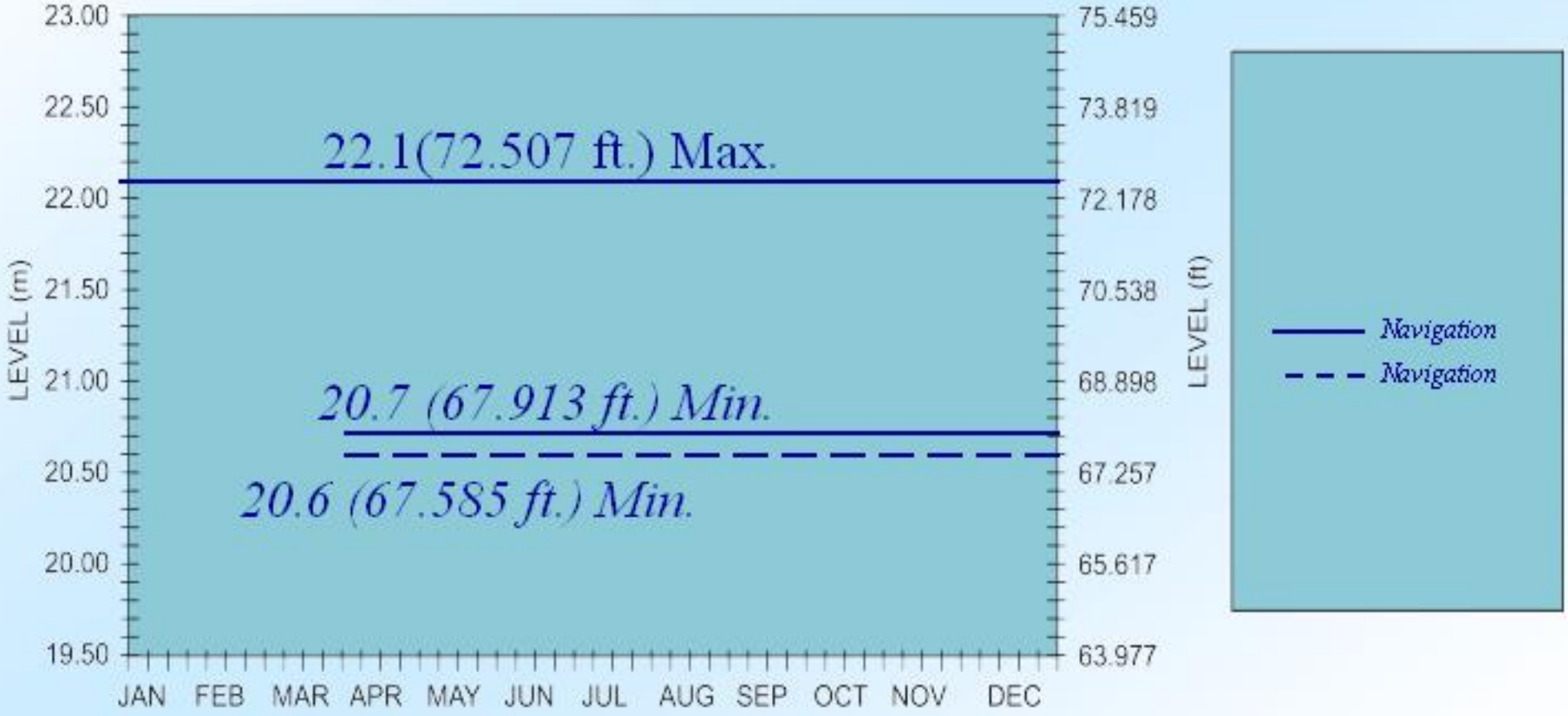
Lac St. Louis at Point Claire - Navigation



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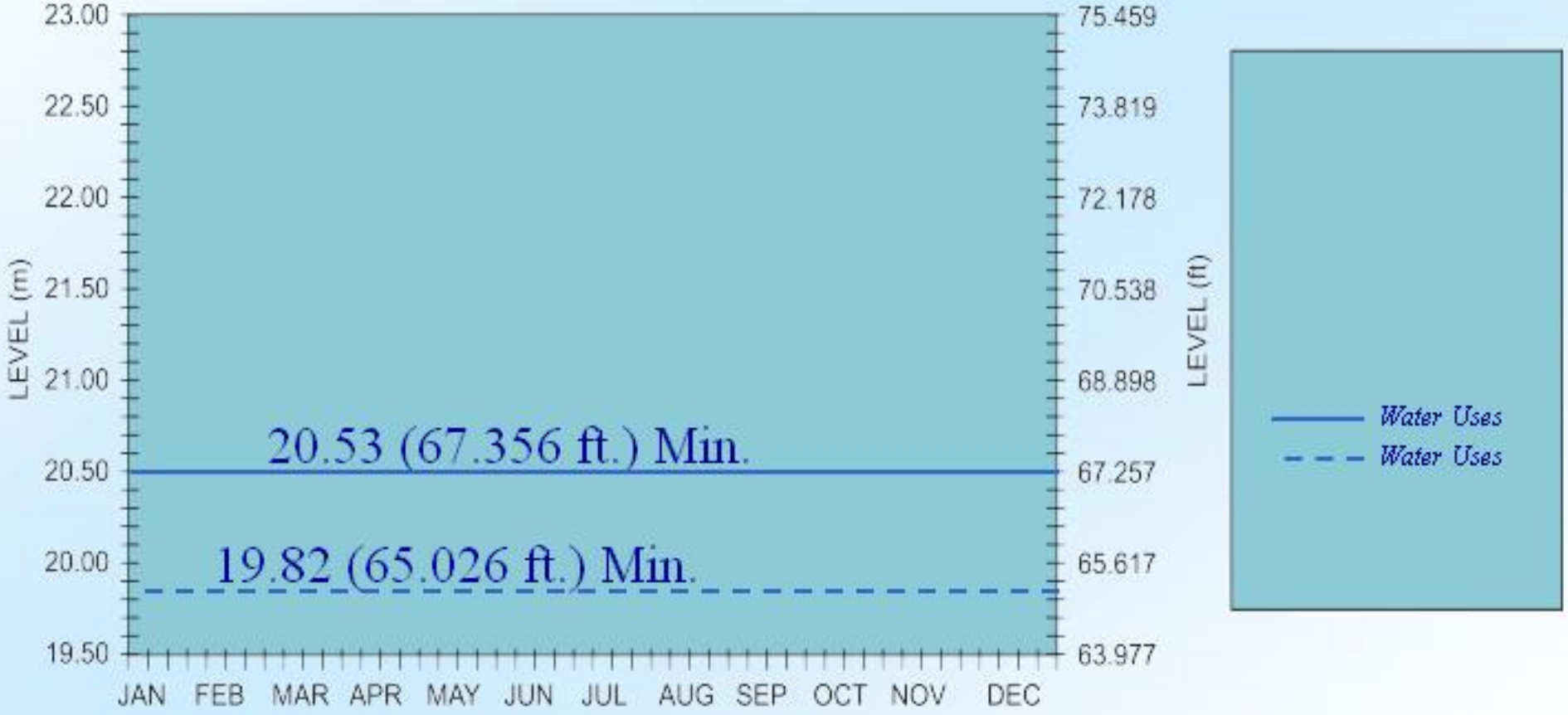
Lac St. Louis at Point Claire - Water Uses



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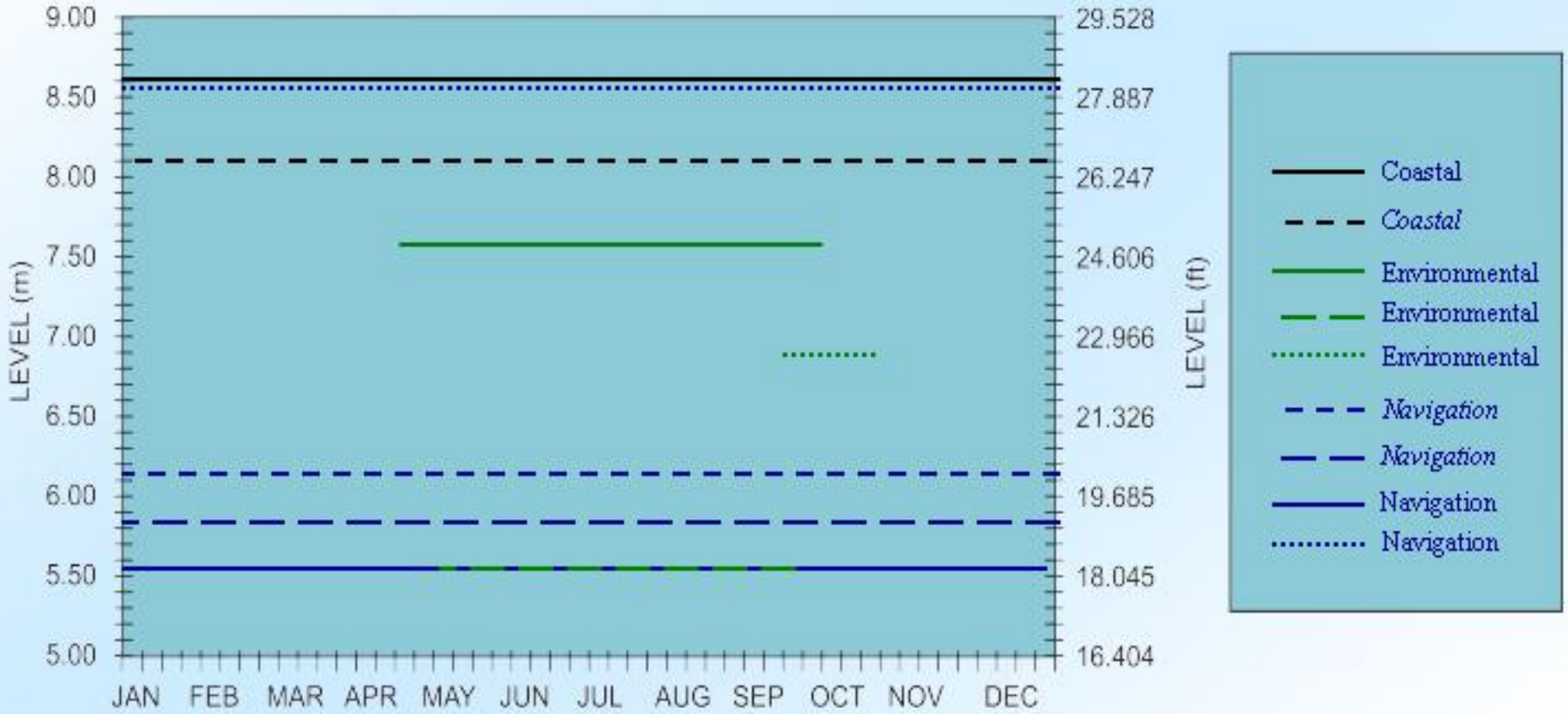
Considered Water Levels
Montreal Harbor



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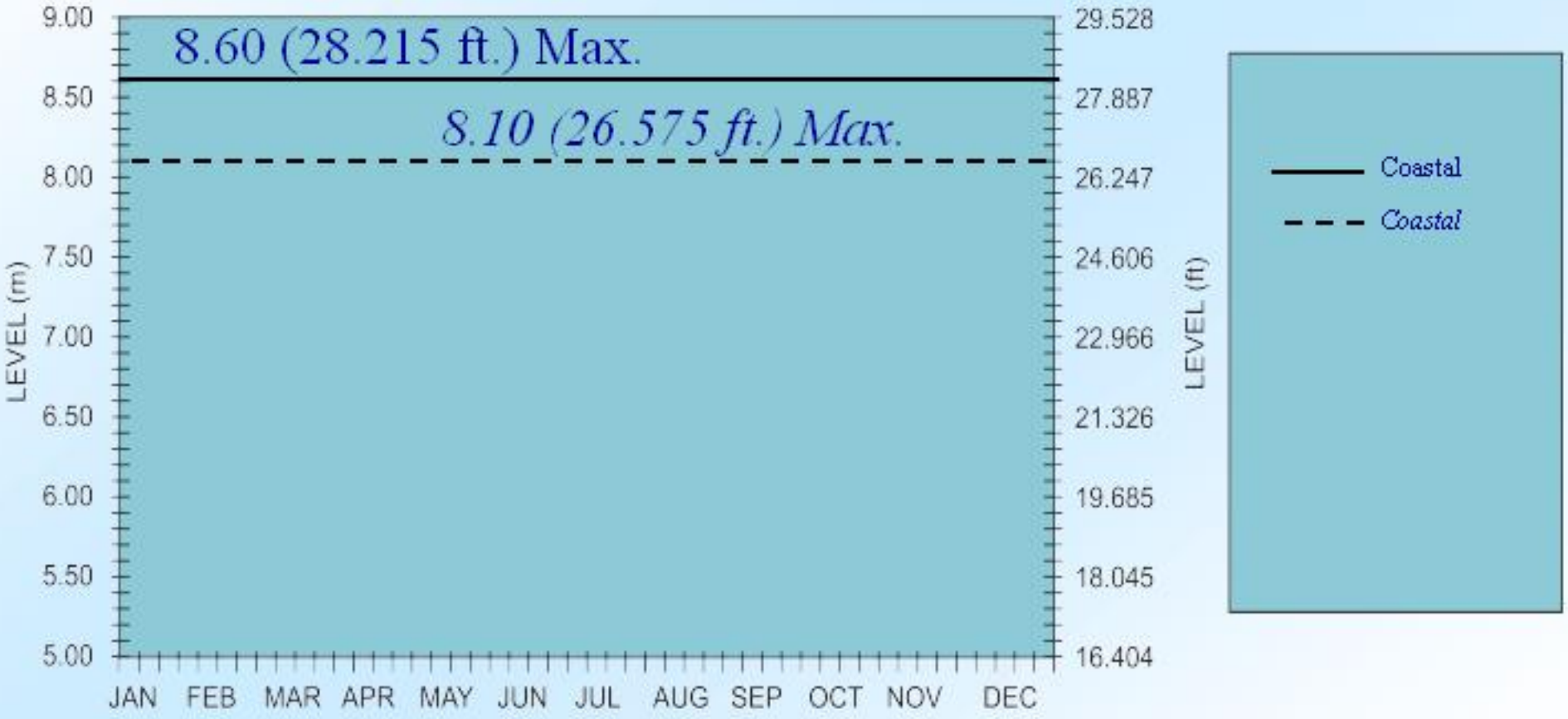
Montreal Harbor - Coastal



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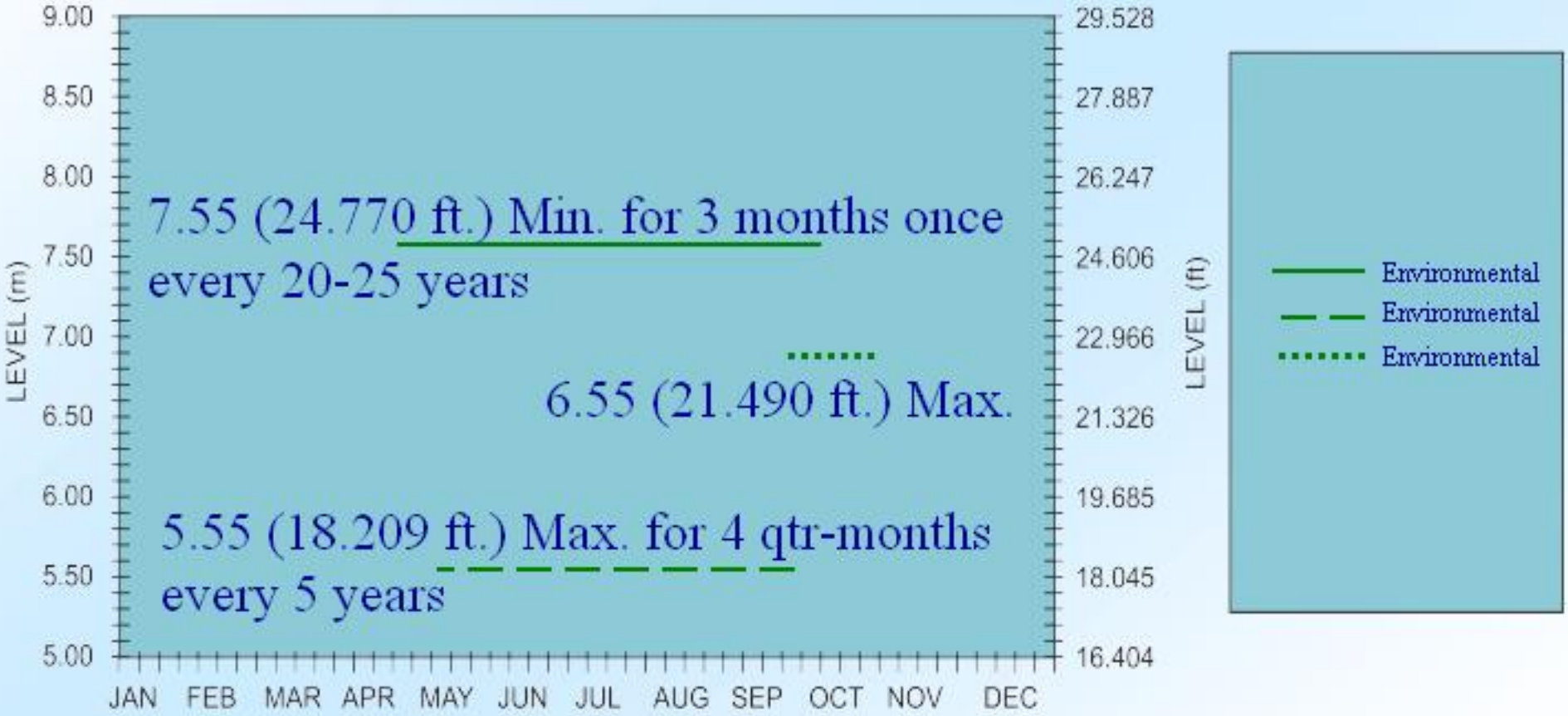
Montreal Harbor - Environmental



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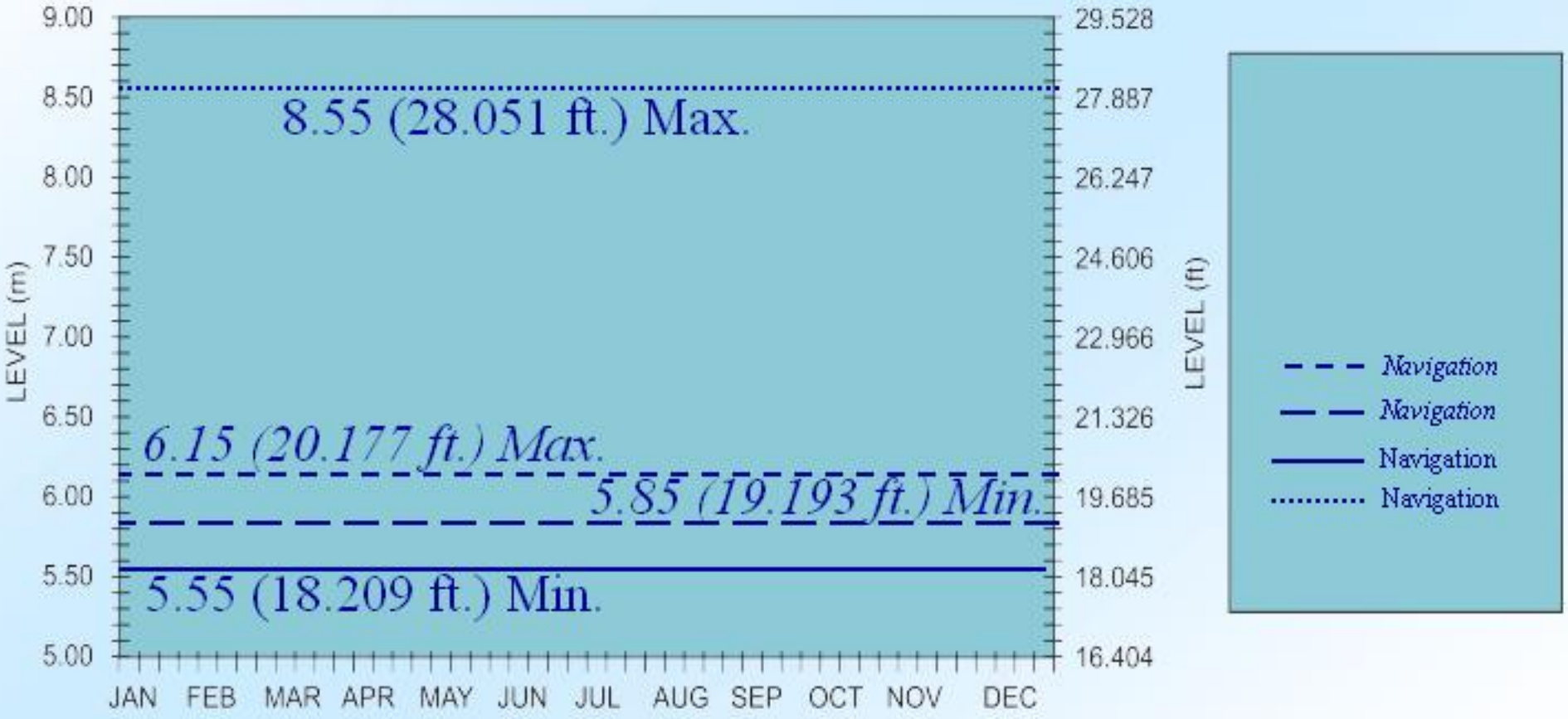
Montreal Harbor - Navigation



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Considered Water Levels
St. Lawrence River at Varennes

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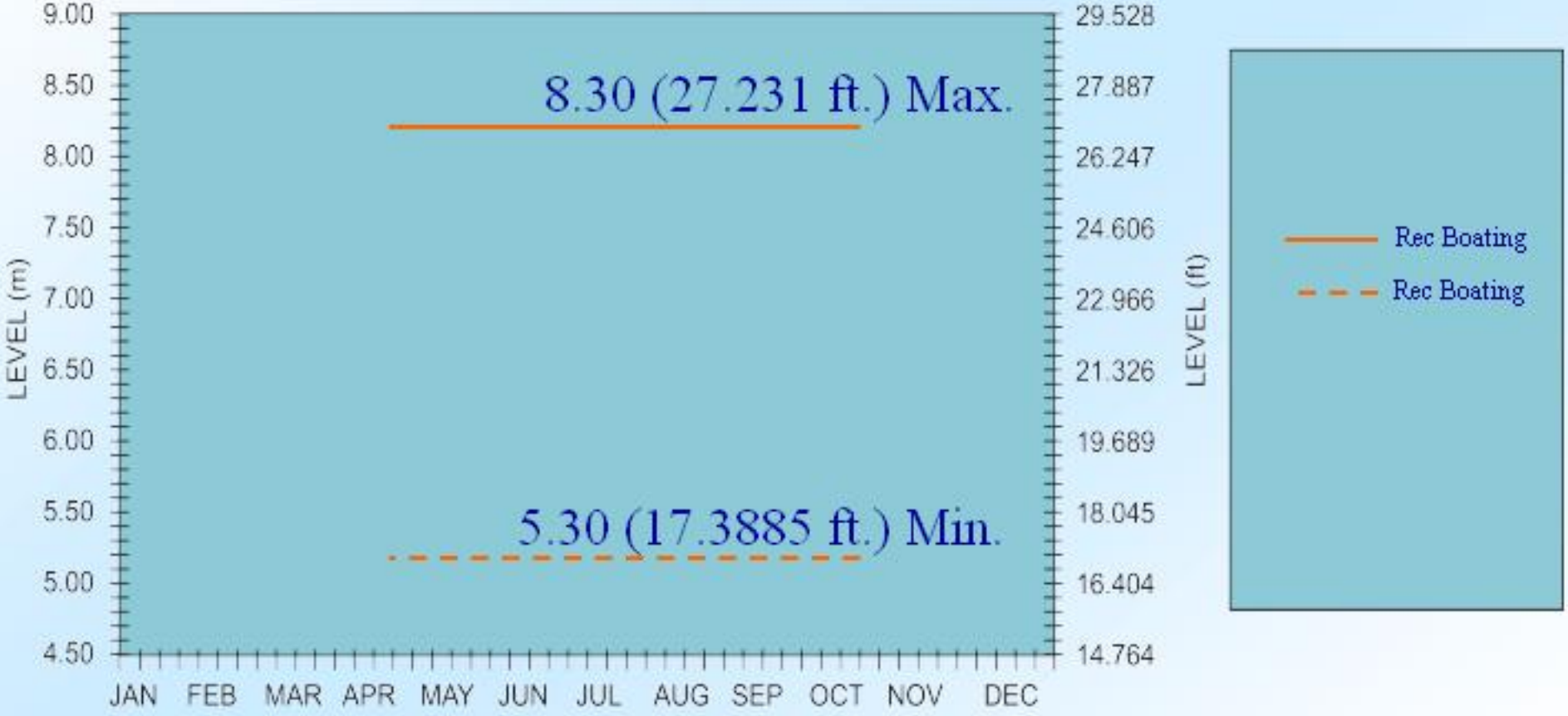
St. Lawrence River at Varennes – Recreational Boating



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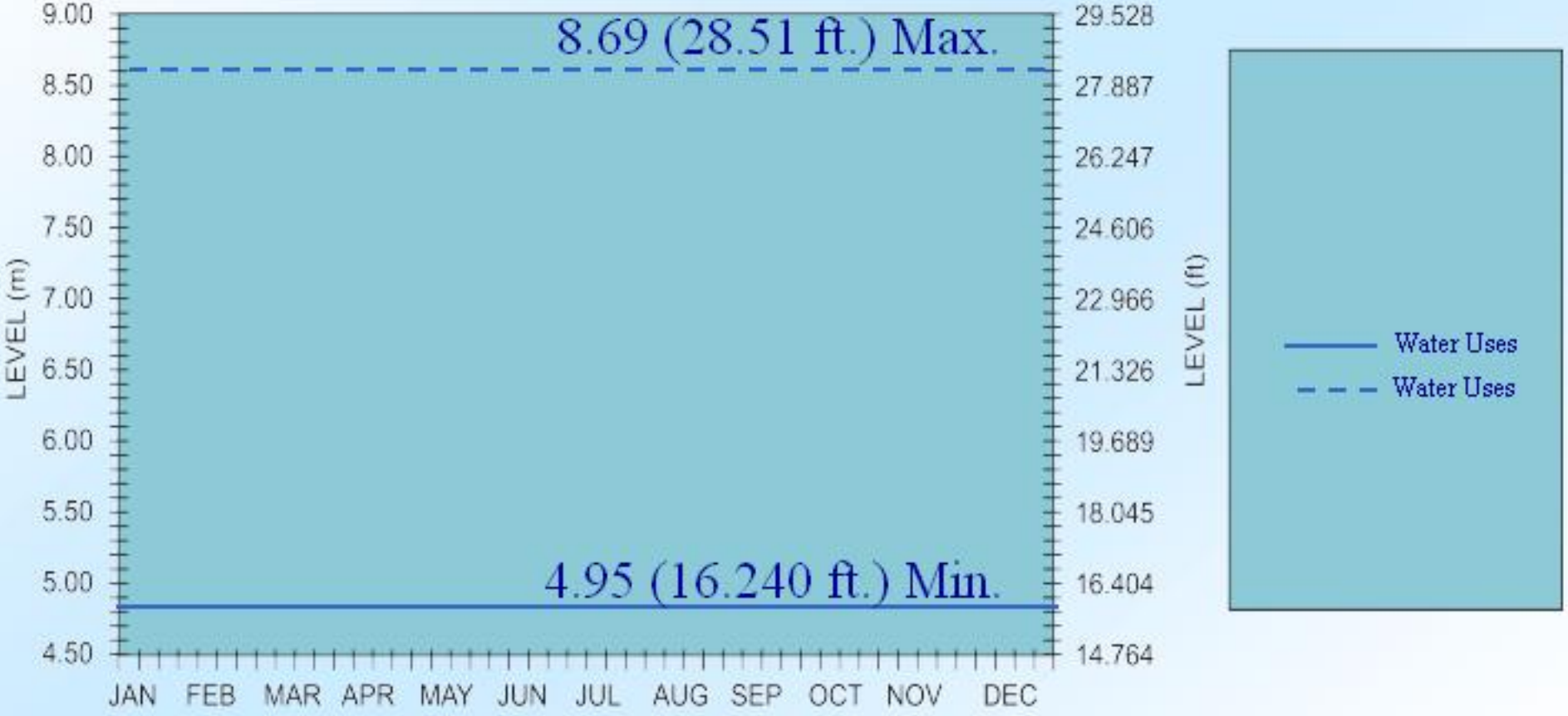
St. Lawrence River at Varennes – Water Uses



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Considered Water Levels
Sorel

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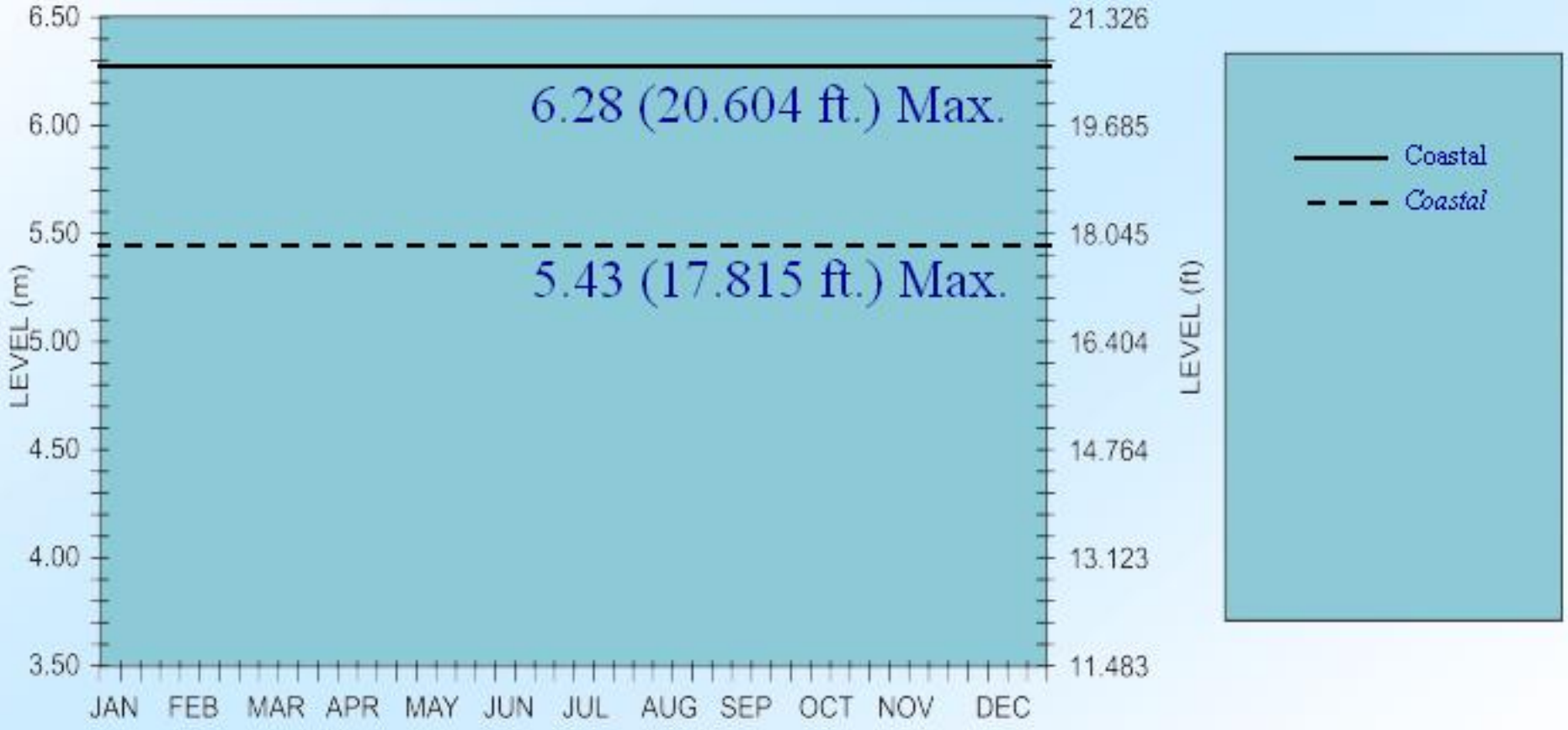
Sorel - Coastal



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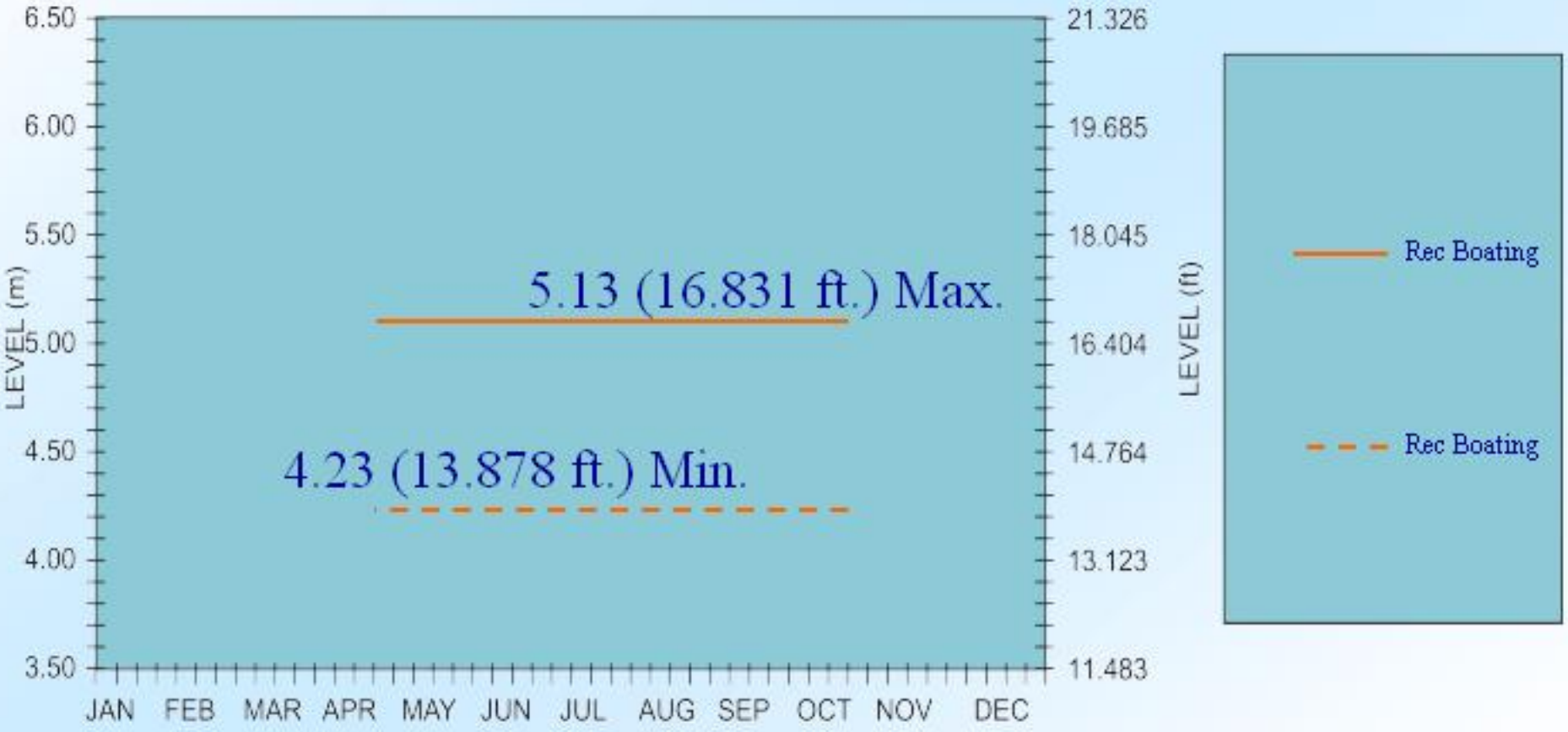
Sorel – Recreational Boating



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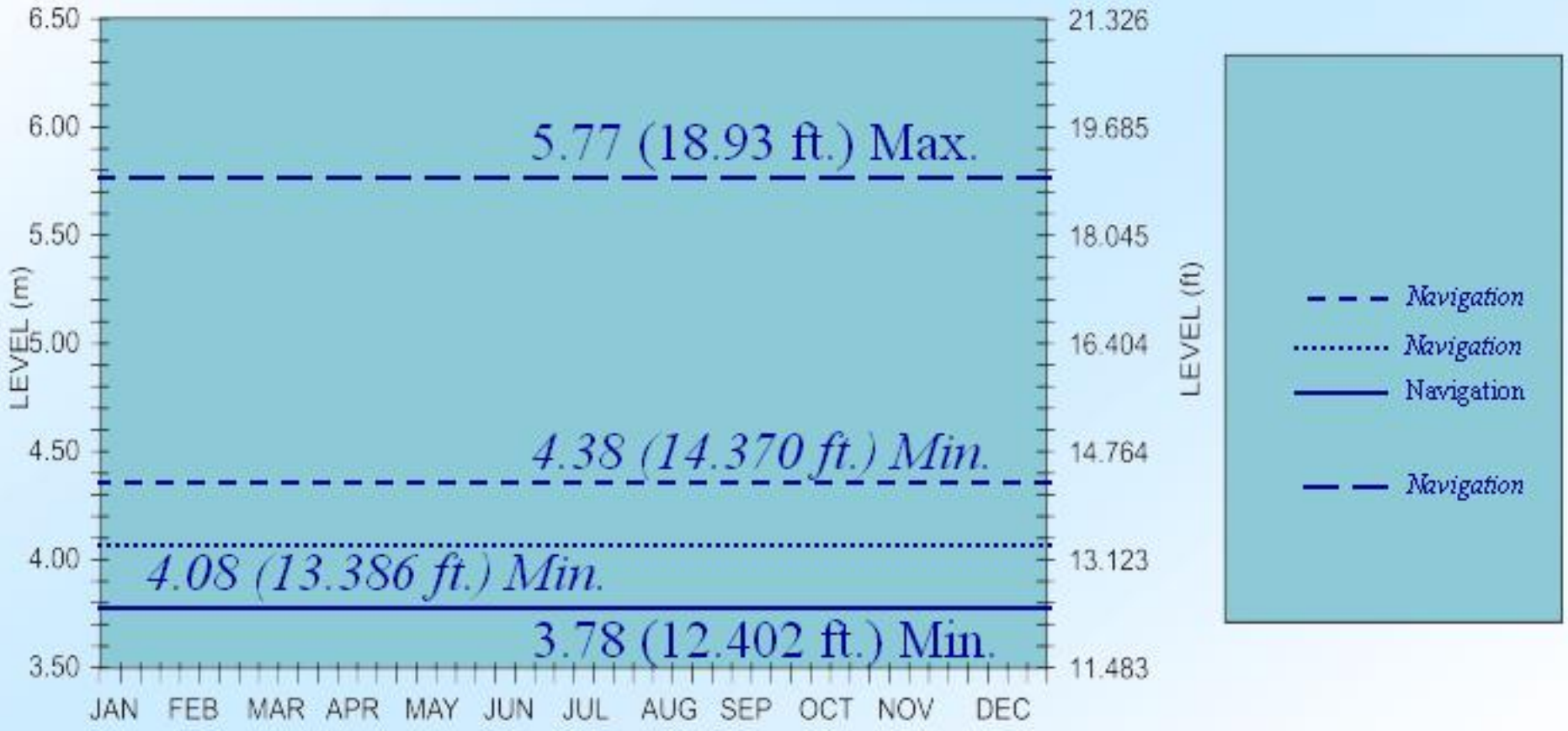
Sorel - Navigation



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What's next?

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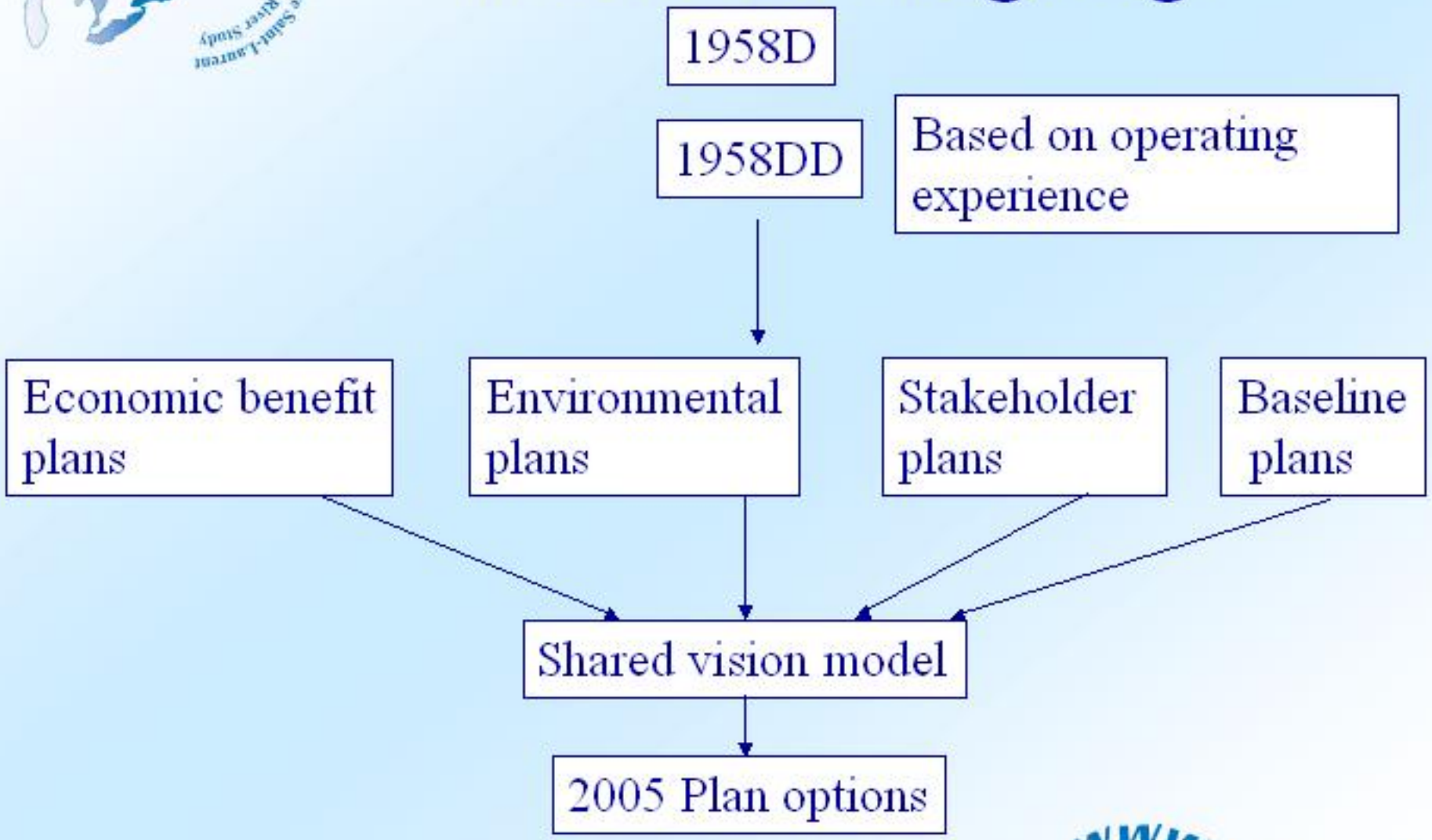
Where are we going?



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Tentative 2005 Meetings

	U. S.	Canada
• June 16		Cornwall Island
• June 22	Massena	Grimsby
• June 23	Alexandria Bay	Toronto
• July 13	Sackets Harbor	Belleville
• July 14	Oswego	Gananoque
• July 20	Sodus Bay	Cornwall
• July 21	Greece	Montreal
• July 22	Olcott	Sorel

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Étude internationale sur le lac Ontario et le fleuve Saint-Laurent
International Lake Ontario - St. Lawrence River Study

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Acknowledgements

We would like to acknowledge the contributions of the following current and past Public Interest Advisory Group members:

Dan Barletta – Rochester, New York
Bruce Carpenter – Rome, New York
Larry Field – Downsview, Ontario
Paul Finnegan – Albany, NY
Dalton Foster – Massena, New York
Michel Gagné – Verdun, Quebec
John Hall – Hamilton, Ontario
Marjorie Hare- Toronto, Ontario
Marc Hudon – Quebec, Quebec
Elaine Kennedy – St. Andrews, Ontario
Michel Lamontagne – Montreal, Quebec
Ivan Lantz – Montreal, Quebec
Sandra Lawn – Prescott, Ontario
Marcel Lussier – Brossard, Quebec
Thomas McAuslan – Oswego, New York
Tony McKenna – Amherst, New York
Jon Montan – Canton, New York
John Osinski – Albany, New York
Fred Parkinson – Montreal, Quebec
Sally Sessler – Liverpool, New York
Bea Schermerhorn – Hammond, New York
Henry Stewart – Rochester, New York
Max Streibel – Rochester, New York
Paul Thiebeau – Clayton, New York
Scott Tripoli – Mannsville, New York
Michel Turgeon – Montreal, Quebec
Paul Webb – North Augusta, Ontario
Stephanie Weiss – Clayton, New York
Al Will – Hamilton, Ontario

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Acknowledgements

We would like to acknowledge the contributions of the following current and past Study Board members:

Dan Barletta – Current Public Interest Advisory Group U.S. Co-Chair
Doug Cuthbert – Study Secretariat, Canadian Co-Director
André Carpentier – Ministry of Environment, Department of Hydraulics
Lynn Cleary – Environment Canada, Biosphere
Ian Crawford – Ministry of Natural Resources Ontario, Water Power Project
Tony Eberhardt – Study Secretariat, U.S. General Manager
Ed Eryuzlu – Study Secretariat, Canadian General Manager
Dalton Foster – Previous Public Interest Advisory Group U. S. Co-Chair
Elaine Kennedy – Previous Public Interest Advisory Group Canadian Co-Chair
Henry Lickers – Mohawk Council of Akwesasne, Department of Environment
Sandra LeBarron – New York State Department of Environmental Conservation for Erin Crotty

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Acknowledgements

We would like to acknowledge the contributions of the following current and past Study Board members:

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Marcel Lussier – Current Public Interest Advisory Group, Canadian Co-Chair
R. Shawn Martin – St. Regis Mohawk Tribe
Fred Parkinson – Previous Public Interest Advisory Group, Canadian Co-Chair
Frank Quinn – Retired Hydraulics Engineer
Steven Renzetti – Brock University, Environmental Economics Program
Frank Sciremammano – Rochester Institute of Technology, Department of Mechanical Engineering
James Snyder – St. Regis Mohawk Tribe, Environment Division
Gene Stakhiv – U.S. Co-Director; U. S. Army Corps of Engineers, Institute for Water Resources

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Thank You!

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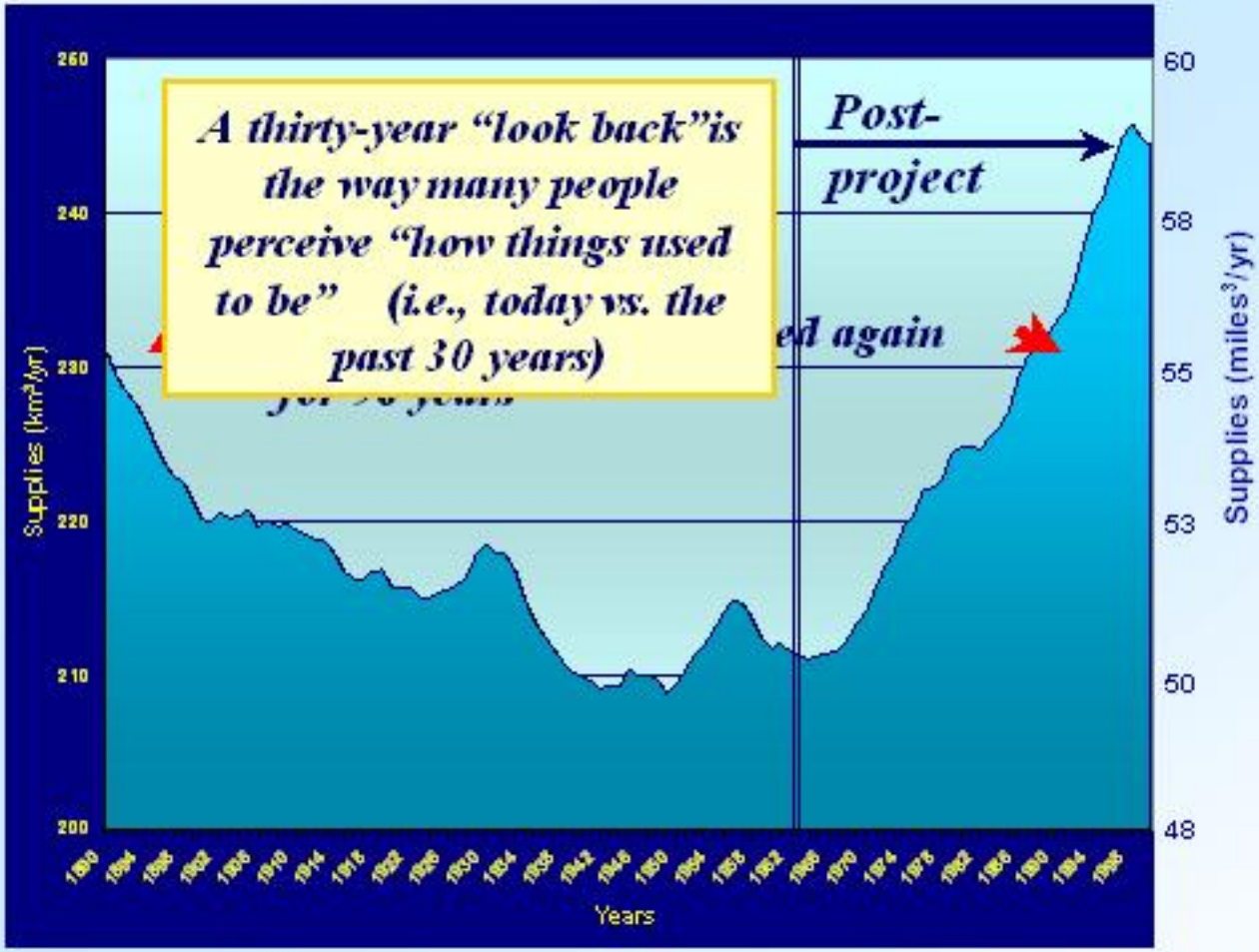
Supplies: Thirty-year Moving Average 1890-2000 (km^3/yr, $miles^3$/yr)



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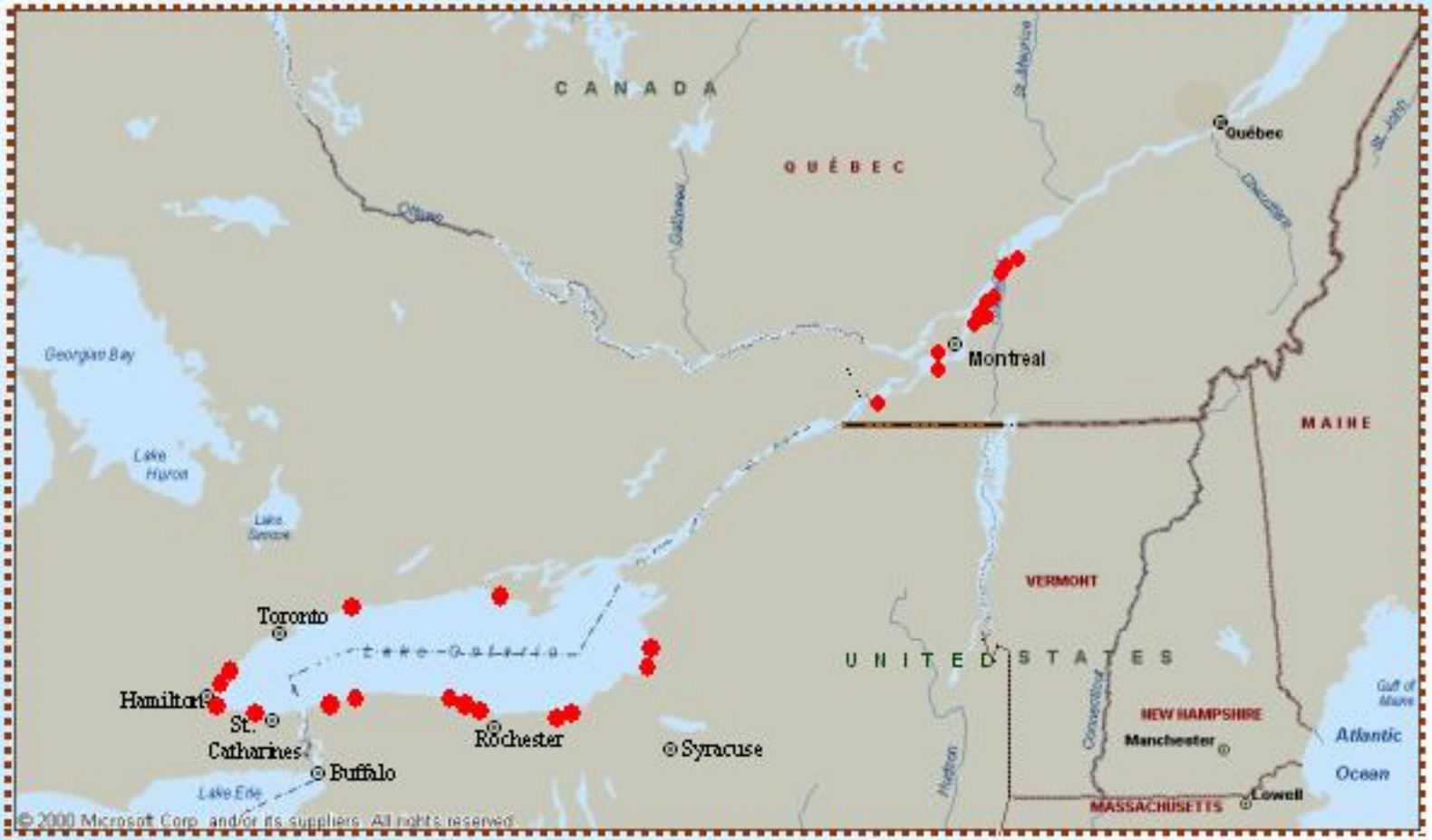
Coastal Processes



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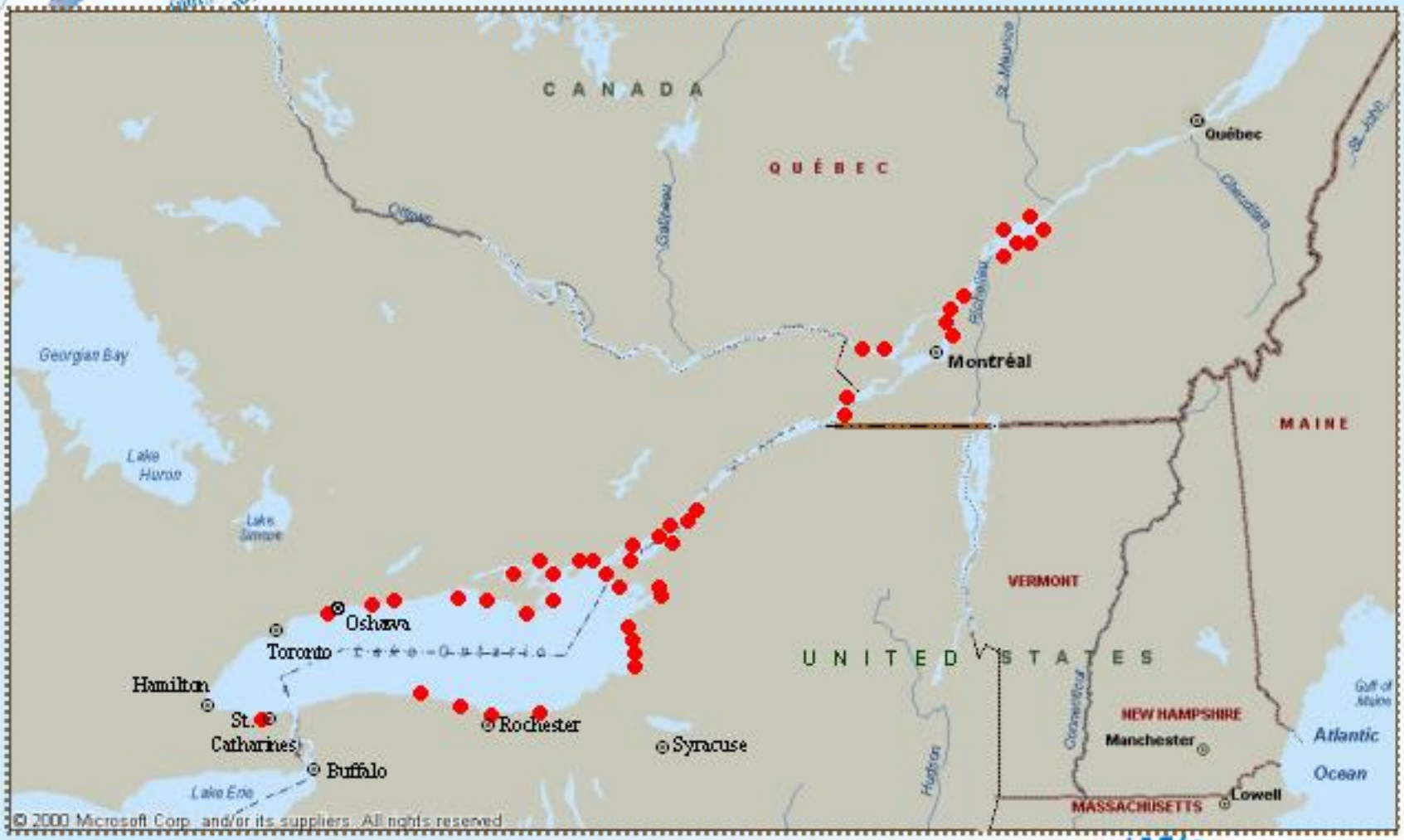
Wetlands studied by the Environment TWG



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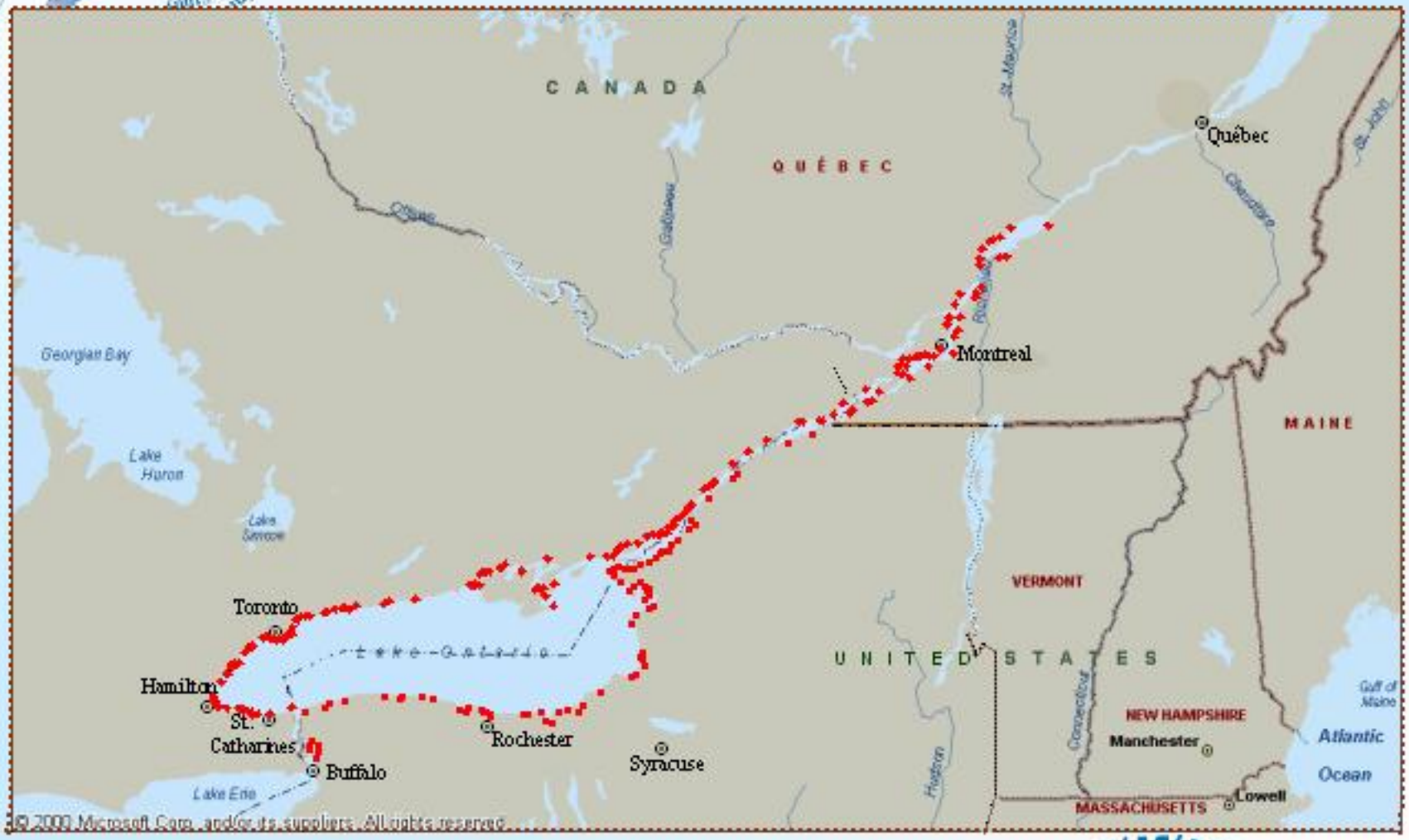
Marina locations studied by Rec. Boating and Tourism TWG



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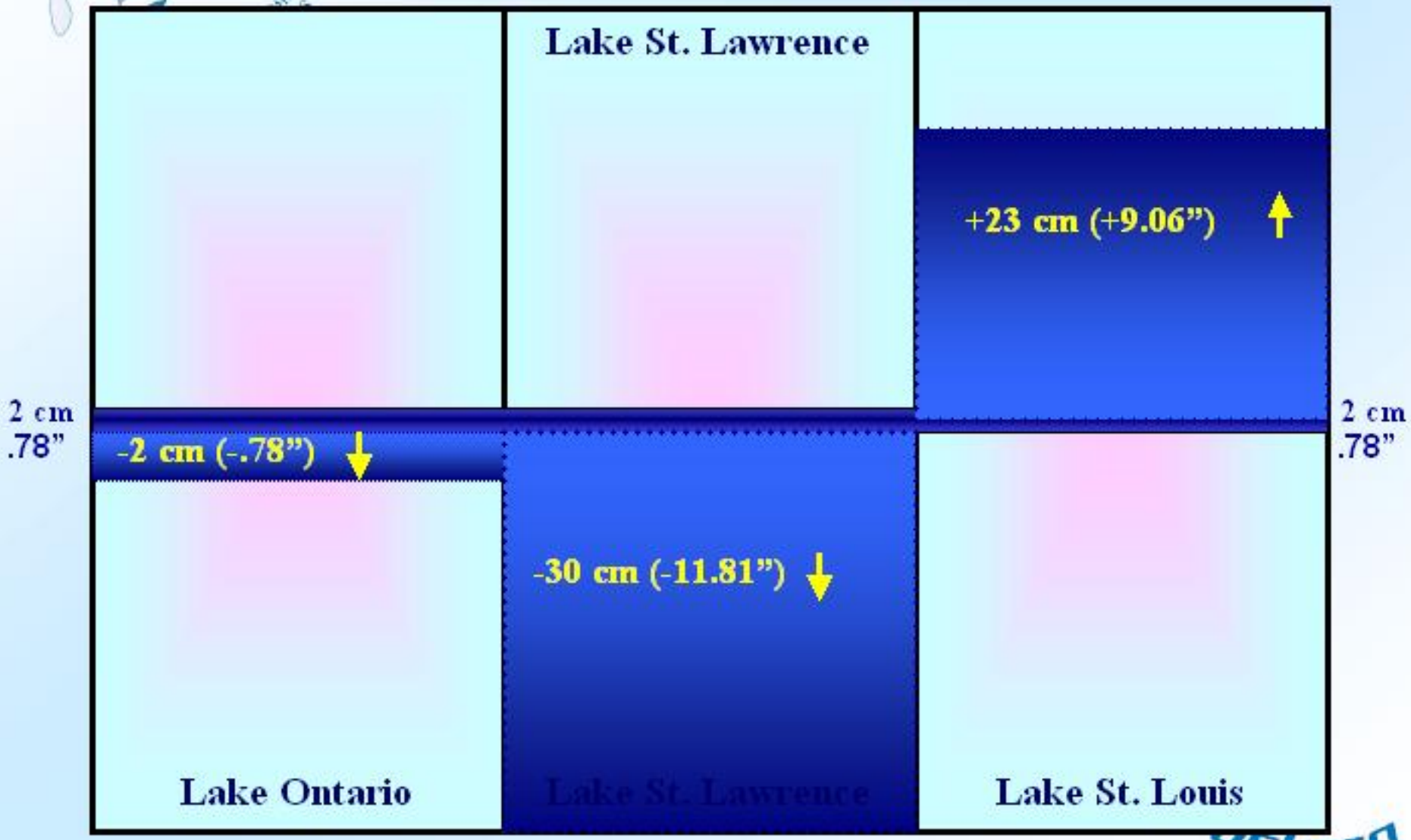
Changing the outflow at the dam for one week



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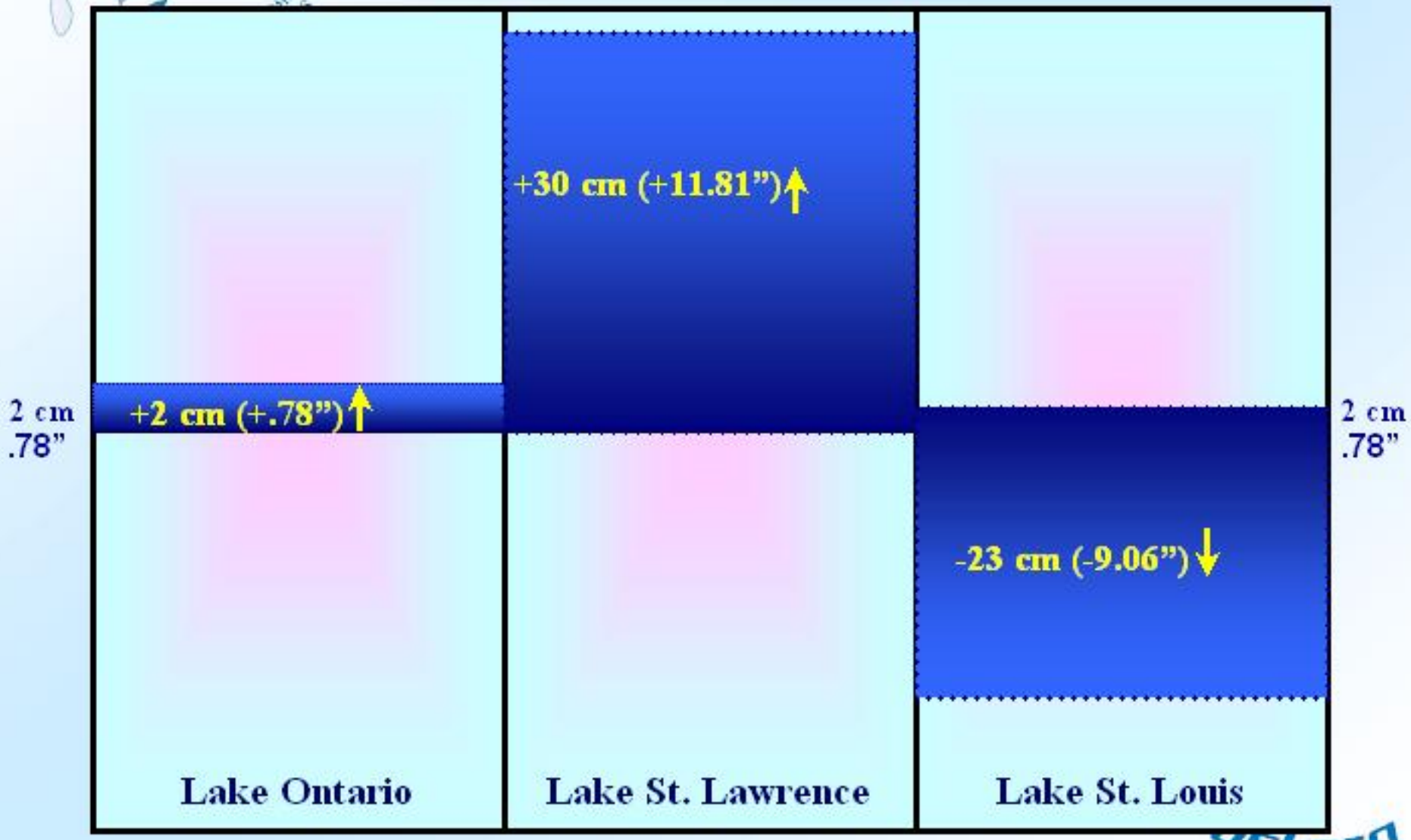
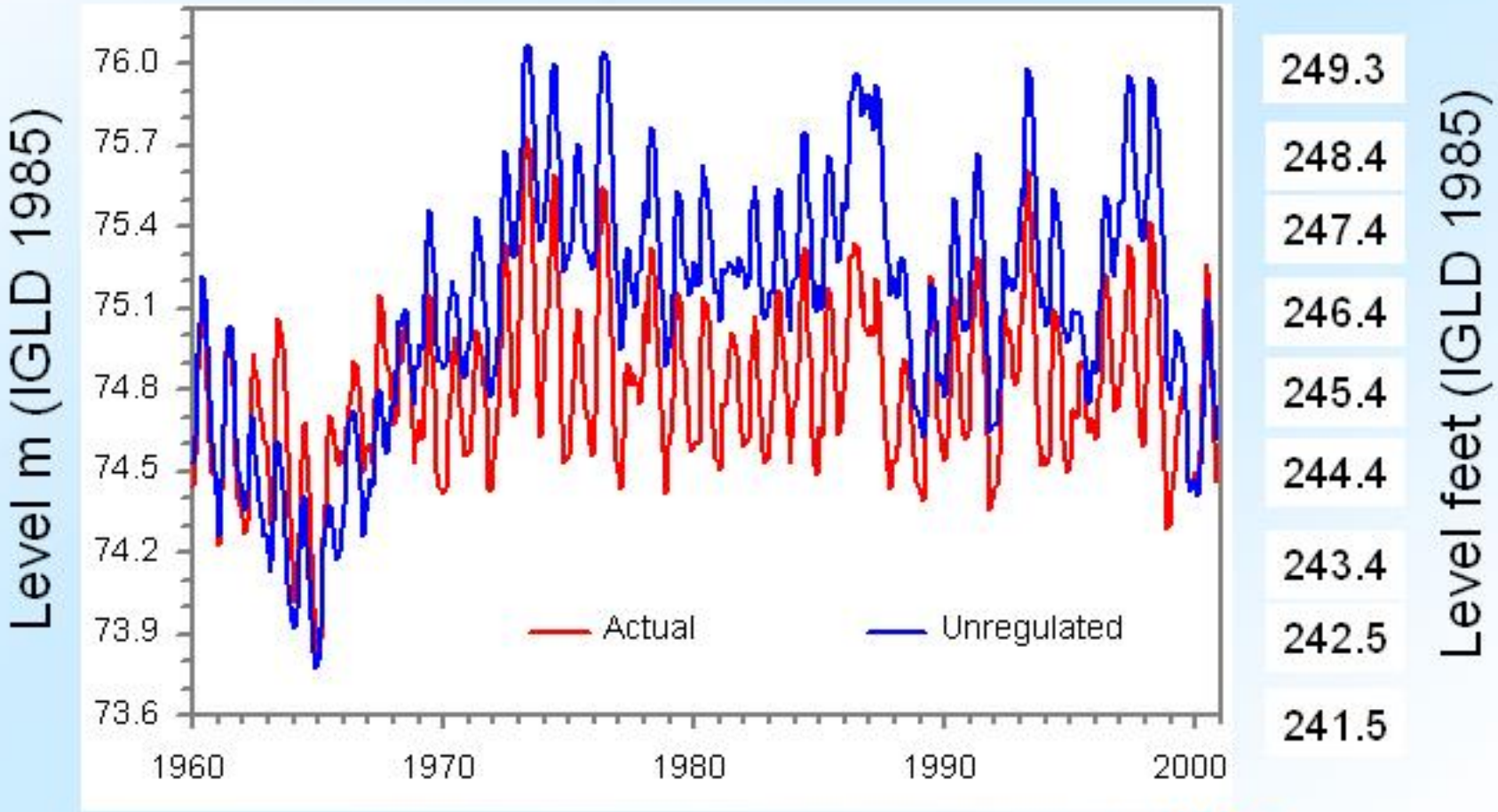


Lake Ontario Levels



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