Environment/Wetlands

"Due to Lake Ontario regulation, the extreme high water levels during the high water supply periods have been lowered, and the low levels during the very dry periods have been raised. "

How do water levels in Lake Ontario and the St. Lawrence River relate to the Environment?

Water level fluctuations are a natural occurrence of climatic variability. As a result, biological communities have evolved to adapt to the range of water levels and changes that occur daily, seasonally, even yearly. In fact, patterns of water level change are what determines the diversity and condition of wetland plant communities and the habitats they provide for a variety of invertebrates, amphibians, reptiles, fish, birds, and mammals.

High water levels may result in:

- loss of many shrubs, invading upland plant species, cattails and other canopy-dominating shallow water emergents.

Low water levels may result in:

- Exposure of near shore areas to the air and the loss of competitive submersed plant species; emergent plants then grow from the exposed seed bank.
- Loss of access to habitat used by fish for spawning, adult-feeding, and rearing of juveniles
- restricted use of wetlands by muskrats

Why was the Environmental Technical Working Group created?

The Environment TWG was formed to study and predict the response of selected environmental attributes to a variety of regulation scenarios. Their work will be used to identify the regulation scenario most suited to environmental needs and interests.

What are the Group's goals for the Study?

1. Ensure that all types of native habitats (floodplain, forested and shrubby swamps, wet meadows, shallow and deep marshes, submerged vegetation, mud flats, open water, and fast flowing water) and shoreline features (barrier beaches, sand bars/dunes, gravel/cobble shores, and islands) are represented in an abundance that allows for the maintenance of ecosystem resilience and integrity over all seasons.

2. Maintain hydraulic and spatial connectivity of habitats to ensure that fauna have access, temporally and spatially, to a sufficient surface of all the types of habitats they need to complete their life cycles.

How will the Group achieve these goals?

The Environment TWG will conduct several studies in the Year Three study period. Most studies are a continuation of work conducted in the previous study years. One unique and evolving project is aimed at creating an Integrated Ecological Response Model (IERM). The model will bring together the results from several Environment TWG projects to better demonstrate how different regulation plans may impact the ecosystems in Lake Ontario and the St. Lawrence River. In Year Three, the general focus of the Environment TWG will shift from data collection and analysis to data integration and modeling.

Planned activities to the end of March 2004 focus on:

1. The finalization of fauna and flora field data collection efforts,
2. Continued analysis of collected information, and
3. An increased effort surrounding modeling, model development, and data integration.

Canadian projects are in progress with Year Two products recently delivered in March 2003.

American Year Three projects will be completed by September 2003.

What are the Group's Year Three Objectives?

The TWG will finalize their data collection efforts and focus more on developing research results. Model development to integrate results from all Environmental TWG research will be emphasized. As research results come forth and their integration is initiated, greater interaction with the Plan Formulation and Evaluation Group (PFEG) will occur. This interaction will be used to ensure that the Environment TWG research results are integrated into a study framework that can be used to develop recommendations for a new regulation plan of best satisfaction to all interests.

What is the Group's Year Three Task Schedule?

At the last Environment TWG meeting (February 24-25, 2003) the group decided that an Integration Sub-group would be formed. This Sub-group will be used to make key decisions about the TWG's agenda. In addition, the group will also develop a framework and schedule

for integrating the research results of the Environment TWG. The Sub-group will develop a detailed Year Three schedule in the near future.