



Government of Newfoundland and Labrador
Department of Environment and Conservation
Water Resources Management Division

The Application of the CCME WQI as a Screening Tool to Evaluate the Suitability of Waters for Aquaculture



**Aquatic Toxicity Workshop
October 24th – October 27th, 2004
Charlottetown, PEI**

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NL Department of Environment and
Conservation

Overview

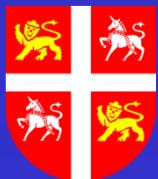
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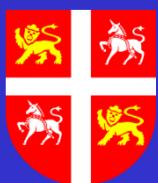
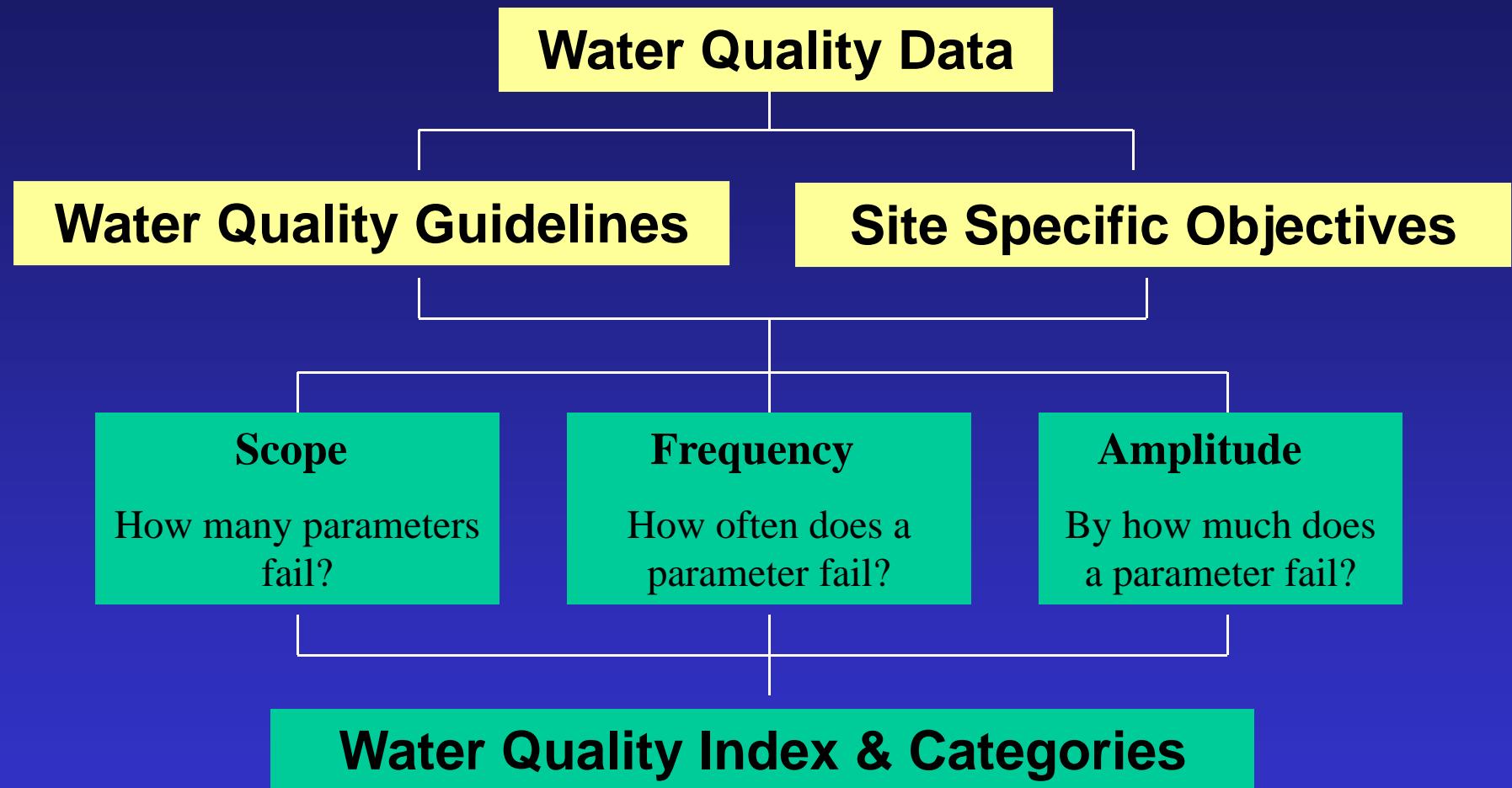
CCME Water Quality Index

- Developed by a sub-committee under the CCME Water Quality Guidelines Task Group
- Simplify the reporting of water quality data
- Provide meaningful summaries of data that are useful to both technical and non-technical individuals
- Not a substitute for statistical analysis of water quality data
- Provide a broad overview of environmental performance



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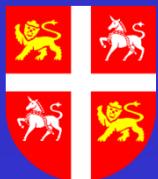
CCME Water Quality Index



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CCME Water Quality Index

- Three factors combine to produce a value between 0 and 100 that represents the overall water quality.
- Categorizations:
 - Excellent: 95 - 100
 - Good: 80 - 94
 - Fair: 65 - 79
 - Marginal: 45 - 64
 - Poor: 0 - 44



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Water Quality Index Calculator

- Available at www.gov.nl.ca/Env/env/water_resources.asp

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Disclaimer -The Canadian Water Quality Index has been developed by the CCME and has been adopted by the Water Resources Management Division for application in Newfoundland and Labrador. This has been programmed to run on Excel 2000 SR-1 or later using Visual Basic for Applications.

While every effort has been made to test the electronic spreadsheet, the Government of Newfoundland and Labrador makes no warranties expressed or implied, as to the performance of this spreadsheet. Users are expected to use professional judgment in the application of the spreadsheet.

If you have any questions regarding the use and application of CWQI 1.0, please contact Renee Paterson at (709) 729-1159.

Last Revision: May 2004



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Application of the CCME WQI

- . The CCME WQI tool has been applied successfully to evaluate the quality of water for various water uses and within numerous sectors:
 - ▲ Drinking Water
 - ▲ Protection of Aquatic Life
 - ▲ Recreational Water
 - ▲ Agriculture Sector (Alberta)
 - ▲ Forestry Sector (Newfoundland and Labrador)
- . International interest in the CCME WQI is growing



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Relevance to Aquaculture Industry

- Potential applications within the aquaculture industry:
 - 1) Used to assess the suitability of potential sites for establishment of aquaculture operations
 - 2) Used to assess the impact of aquaculture operations on receiving waters
 - 3) Used to evaluate the effectiveness of any best management practices that have been put in place for aquaculture operations



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Aquaculture Water Quality Index Calculator

Data

Criteria

Report

Manual

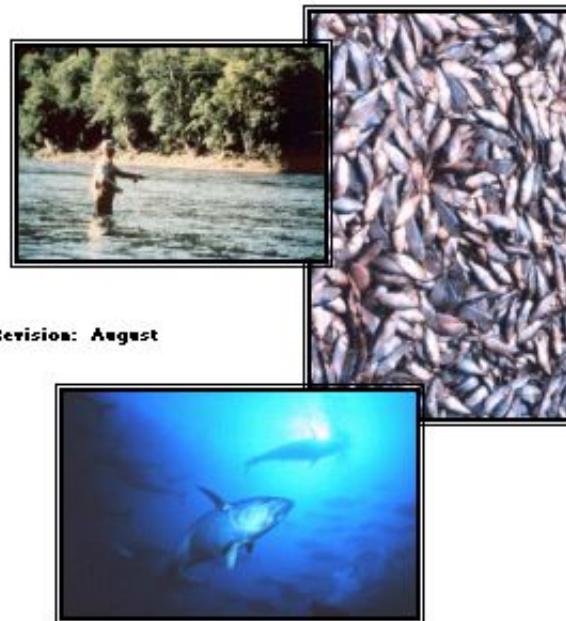
The AWQI

AWQI 1.0

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Last Revision: August



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Aquaculture Water Quality Index Calculator

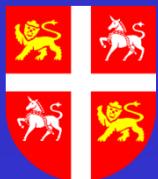
- Various types of guidelines within the aquaculture industry:
 - A Water Quality Guidelines for Optimal Fish Production (ie: influent water quality)
 - A Wastewater Guidelines for the Receiving Waters (ie: effluent water quality)
- Guidelines available from numerous sources



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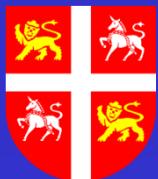
- The Aquaculture WQI Calculator needs to be reviewed and tested by individuals within the aquaculture industry
- Only by applying this tool in various scenarios will we be able to determine the success of the tool



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Conclusions / Recommendations

- There are countless possibilities in applying the CCME WQI to water quality data – promote the use of this tool
- Numerous potential applications for using this tool in the aquaculture industry
- The Aquaculture WQI calculator is currently being reviewed and tested by individuals within the aquaculture industry to determine strengths and weaknesses
- Need to perform case studies and test the usefulness of the WQI with respect to the aquaculture industry



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