



## Using Statistical Methods for Water Quality Management: Issues, Problems and Solutions

Graham B. McBride

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### DESCRIPTION

#### STATISTICS IN PRACTICE

A practical exploration of alternative approaches to analyzing water-related environmental issues

Written by an experienced environmentalist and recognized expert in the field, this text is designed to help water resource managers and scientists to formulate, implement, and interpret more effective methods of water quality management.

After presenting the basic foundation for using statistical methods in water resource management, including the use of appropriate hypothesis test procedures and some rapid calculation procedures, the author offers a range of practical problems and solutions on environmental topics that often arise, but are not generally covered.

These include:

- \* Formulating water quality standards
- \* Determining compliance with standards
- \* MPNs and microbiology
- \* Water-related, human health risk modeling
- \* Trends, impacts, concordance, and detection limits

In order to promote awareness of alternative approaches to analyzing data, both frequentist and Bayesian, statistical methods are contrasted in terms of their applicability to various environmental issues. Each chapter ends with a number of set problems for which full answers are provided. The book also encourages discussion between technical staff and management before embarking on statistical studies.

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## ABOUT THE AUTHOR

GRAHAM B. McBRIDE, MSc, is a Principal Scientist at the National Institute of Water and Atmospheric Research, Ltd. (NIWA) in Hamilton, New Zealand. He has written many refereed journal articles and textbook chapters on water quality assessment and management.

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