

Contents

Preface vii

Setting the Stage

The Notion of Natural and Cultural Integrity 3
Henry A. Regier

Considerations of Scale and Hierarchy 19
Anthony W. King

Applying Notions of Ecological Integrity 47
Robert Steedman and Wolfgang Haider

Choosing Indicators of Ecosystem Integrity: Wetlands as a
Model System 61
Paul A. Keddy, Harold T. Lee and Irene C. Wisheu

Applying the Concepts

Measuring Biological Integrity: Lessons from Streams 83
James R. Karr

Monitoring for Ecosystem Integrity 105
R.E. Munn

National and Regional Scale Measures of Canada's
Ecosystem Health 117
I.B. Marshall, H. Hirvonen and E. Wiken

National Environmental Monitoring: A Case Study of the
Atlantic Maritime Region 131
N.L. Shackell and B. Freedman

vi Ecological Integrity and the Management of Ecosystems

Monitoring and Measuring Ecosystem Integrity in
Canadian National Parks 155
Stephen Woodley

An Approach to the Development of Biological
Sediment Guidelines 177
Trefor B. Reynoldson and Michael A. Zarull

On the Nature of Ecological Integrity:
Some Closing Comments 201
James J. Kay

APPENDIX

List of Contributors and Advisors 215