

Water Quality Management Plan North Sea: Framework for Analysis

By

ROB KOUDSTAAL



A.A.BALKEMA / ROTTERDAM / BROOKFIELD / 1987



Table of contents

1 INTRODUCTION	1
1.1 Definition of terms	3
2 NATURE OF MARINE RESOURCES MANAGEMENT	5
2.1 Production of goods, services and wastes	5
2.2 Functions comprising marine resources management	9
2.3 Marine resources management system	11
2.4 Planning for marine resources management	13
2.5 Criteria for evaluating management strategies	14
2.6 Framework for analysis	17
3 NATURE OF THE NORTH SEA MANAGEMENT PROBLEM	21
3.1 Natural system of the North Sea	23
3.2 Human activities: Uses, conflicts, effects on ecosystem	25
3.3 Legal and institutional context	29
4 ANALYSIS FOR WATER QUALITY MANAGEMENT FOR THE DUTCH PORTION OF THE NORTH SEA	32
4.1 Goal for water quality management	32
4.2 Framework for analysis	33
4.3 Analysis conditions	34
5 METHODS OF ANALYSIS	39
5.1 Estimating discharges	39
5.2 Description of natural systems	46
5.3 Quantitative analysis	47
5.4 Estimating effects of pollution on organisms	67
5.5 Methods for assessment of the ambient water quality situation	72
6 RESULTS	75
6.1 Discharges in 1980	75
6.2 Discharges in 1990	76
6.3 Ambient water quality 1980	77
6.4 Development of ambient water quality	85
6.5 Methodological limitations	87

REFERENCES	89
ANNEX A: DESCRIPTION OF COWADAT – A COASTAL WATER DATA MANAGEMENT SYSTEM	93
A.1 Introduction	93
A.2 Background and purpose of COWADAT	94
A.3 Structure and lay-out of COWADAT	96
A.4 Illustrative examples	105