

THE ROYAL SOCIETY OF EDINBURGH



PROCEEDINGS Section **B** (Biological Sciences)

ISSN-0308-2113

PUBLISHED BY THE ROYAL SOCIETY OF EDINBURGH
22 GEORGE STREET, EDINBURGH EH2 2PQ

1987

EDITORIAL BOARD

J. HAWTHORN

University of Strathclyde

J. MORTON BOYD
Edinburgh

F. T. LAST
Longniddry

J. COOK
Eastern General and Leith Hospitals,
Edinburgh

J. A. MCFADZEAN
May & Baker Ltd, Dagenham, Essex

A. E. H. EMERY
University of Edinburgh

P. S. MAITLAND
Institute of Terrestrial Ecology, Edinburgh

J. C. GOULD
Central Microbiological Laboratory
Western General Hospital,
Edinburgh

N. F. ROBERTSON
Walkerburn

J. A. STRONG
Edinburgh

G. D. HOLMES
Edinburgh

K. VICKERMAN
University of Glasgow

R. C. KIRKWOOD
University of Strathclyde

A. C. WARDLAW
University of Glasgow

C. D. WATERSTON
General Secretary
Royal Society of Edinburgh

W. DUNCAN
Executive Secretary
Royal Society of Edinburgh

PROCEEDINGS
OF THE
ROYAL SOCIETY OF EDINBURGH

PROCEEDINGS
OF
THE ROYAL SOCIETY
OF EDINBURGH

Section B (Biological Sciences)

VOL. 92

1987

PUBLISHED BY
THE ROYAL SOCIETY OF EDINBURGH
22 GEORGE STREET
EDINBURGH EH2 2PQ

1987

THE ENVIRONMENT OF THE TAY ESTUARY

A Symposium organised by the Royal Society of Edinburgh and held in The Tower Building, University of Dundee on Saturday, 23 November 1985.

CONTENTS

Remote sensing of the Tay Estuary using visible and near-infrared data: mapping of the inter-tidal zone by A. P. CRACKNELL, L. W. B. HAYES and G. F. KELTIE	223
The general applicability of airborne thermographic surveys to the measurement of sea surface temperatures by J. M. ANDERSON and R. D. CALLISON	237
A model for tidal motion and level in the Tay Estuary by D. J. GUNN and O. YENIGUN	257
Partial validation of a numerical model for tidal motion in the Tay Estuary by D. J. GUNN, J. MCMANUS and O. YENIGUN	275
A mathematical model for salt intrusion in the Tay Estuary by V. NASSEHI and D. J. A. WILLIAMS	285
Potential longshore transports on the coasts north and south of the Tay Estuary by E. SARRIKOSTIS and J. MCMANUS	297
The ecology and reproductive cycle of a population of <i>Marenzelleria viridis</i> (Annelida: Polychaeta: Spionidae) in the Tay Estuary by S. M. ATKINS, A. M. JONES and P. R. GARWOOD	311
The ecology and physiology of anaerobic bacteria isolated from Tay Estuary sediments by S. M. KEITH, MOYA A. RUSS, G. T. MACFARLANE and R. A. HERBERT	323
Shell fragments as indicators of bed sediment transport in the Tay Estuary by M. A. M. AL-DABBAS and J. MCMANUS	335
Variations in marsh surface levels in the upper Tay Estuary by J. MCMANUS and S. A. K. ALIZAI	345

The nature and distribution of the suspended load of the middle Tay Estuary by FRED H. HUBBARD and MAJID H. A. HASHIM	359
The River Tay: ecological changes from source to estuary by PETER S. MAITLAND and IAN R. SMITH	373
Index	393

(Issued 30 September 1987)