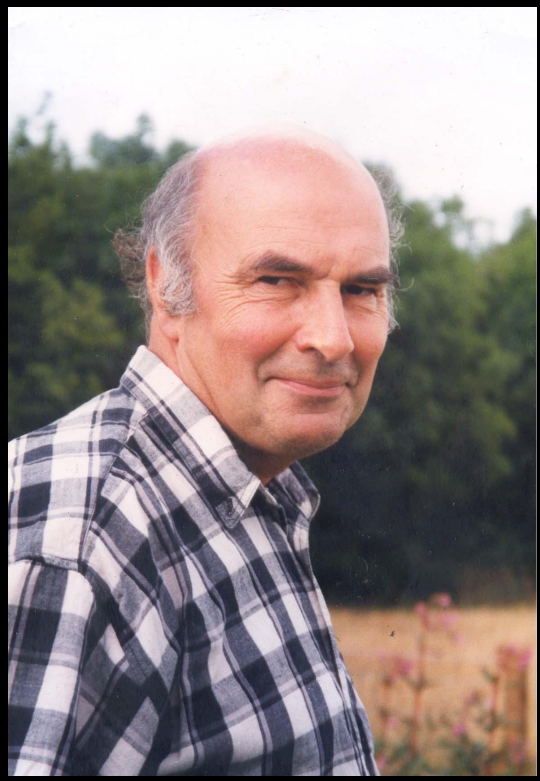
The Science of Prof Peter Maitland

Colin Adams

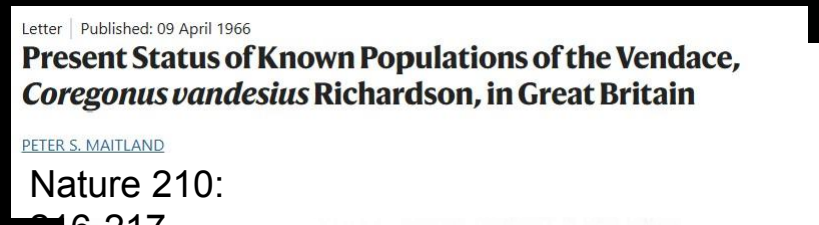
Scottish Centre for Ecology and the Natural Environment

University of Glasgow



Scientific Contributions

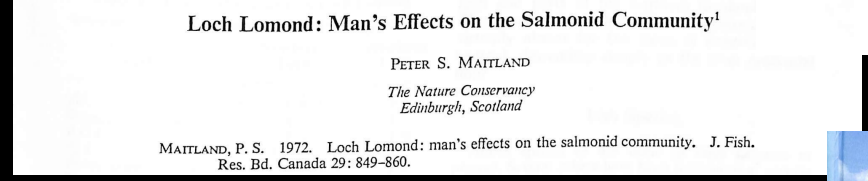
- 260 scientific papers
- 15 books and monographs
- 42 committees in a science capacity
- Countless reports


Letter | Published: 09 April 1966

Present Status of Known Populations of the Vendace, *Coregonus vandesius* Richardson, in Great Britain

PETER S. MAITLAND

Nature 210: 216-217


Loch Lomond: Man's Effects on the Salmonid Community[1]

PETER S. MAITLAND

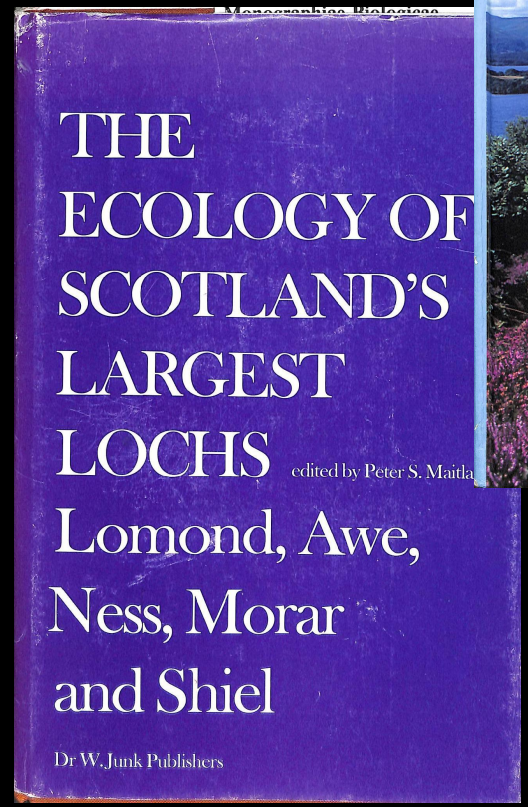
The Nature Conservancy Edinburgh, Scotland

MAITLAND, P. S. 1972. Loch Lomond: man's effects on the salmonid community. J. Fish. Res. Bd. Canada 29: 849–860.


The Conservation of Freshwater Fishes in the British Isles

PETER S. MAITLAND, Ph.D. (Glasgow) 1976

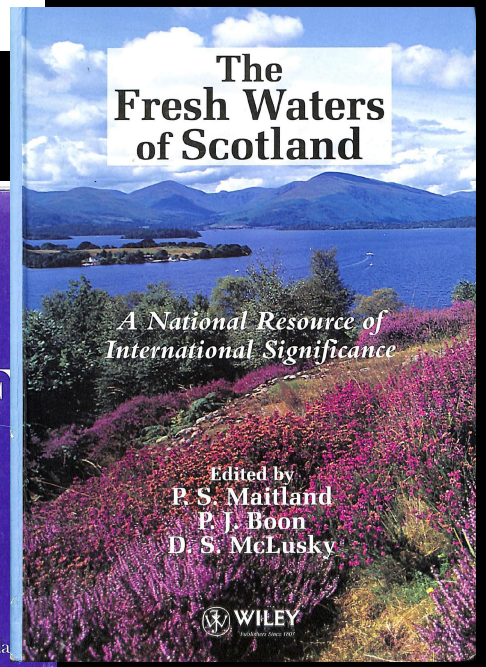
The Institute of Terrestrial Ecology, 12 Hope Terrace, Edinburgh, Scotland

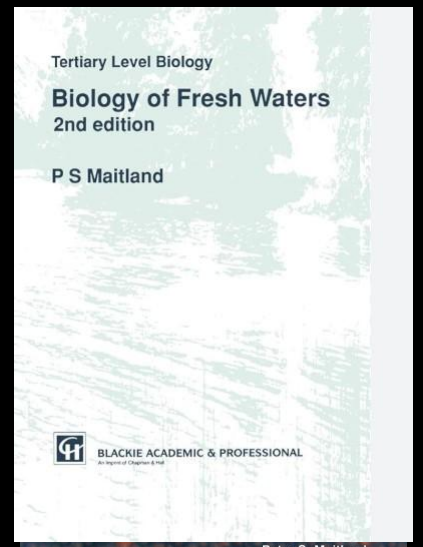

THE ECOLOGY OF SCOTLAND'S LARGEST LOCHS

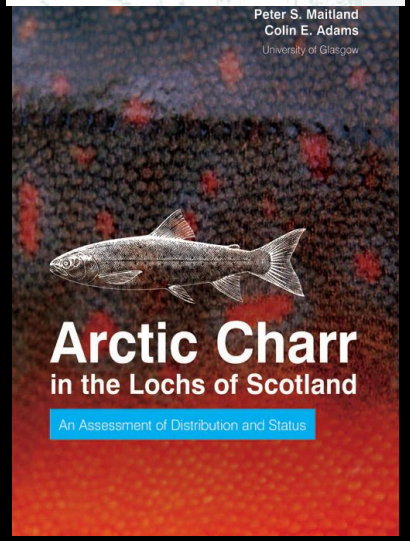
edited by Peter S. Maitla

Lomond, Awe, Ness, Morar and Shiel

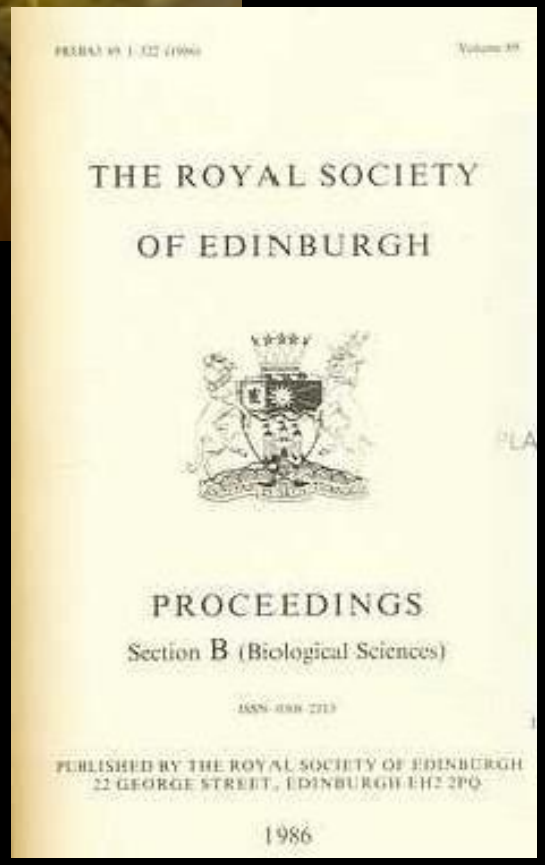
Dr W. Junk Publishers

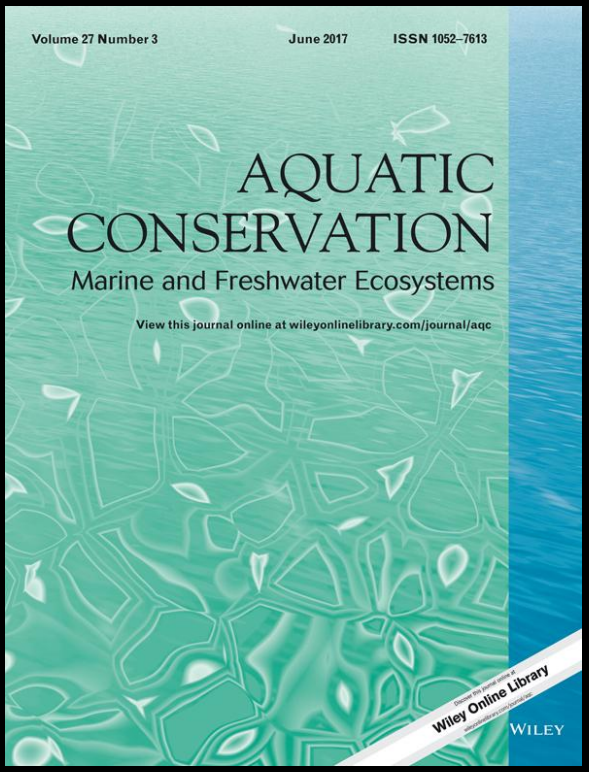






Editor -
3 major international journals





File Copy.

SCOTTISH FRESHWATER GROUP

The 1st Meeting of this Group will be held on Thursday 5th September, 1968, in the Department of Biology at the University of Stirling (situated on the A9, between Stirling and Bridge of Allan). All those interested are invited to attend and are requested to complete and return the attached slip so that appropriate arrangements can be made for the numbers participating.

Peter S. Maitland,
The Nature Conservancy,
12 Hope Terrace,
EDINBURGH, 9.

Programme

1030. Introductory remarks by Mr. K.A. Pyefinch, Chairman of the 1st Meeting.

1045. Mr Andrew Miller. 'Auto analysis in river pollution prevention work'. ~~Mr. J. Ian Waddington. 'Physico-chemical aspects of some research in the Clyde area'.~~

1130. Dr. D.H.N. Spence. 'Light and the distribution of freshwater macrophytes'.

1215. Lunch, followed by an opportunity to view the University Buildings and Estate.

1430. Dr. H.D. Slack. 'The occurrence of Chironomus anthracinus in Loch Lomond'.

1515. Dr. H.J. Egglishaw. 'Estimates of the production of Salmon and Trout in highland streams'.

1600. Open discussion on the function and value of the Group.

I intend to be present at the 1st Meeting of the Scottish Freshwater Group at the University of Stirling on 5th September, 1968.

Name:

Founder of the Scottish Freshwater Group

Chair 1968 to 1998

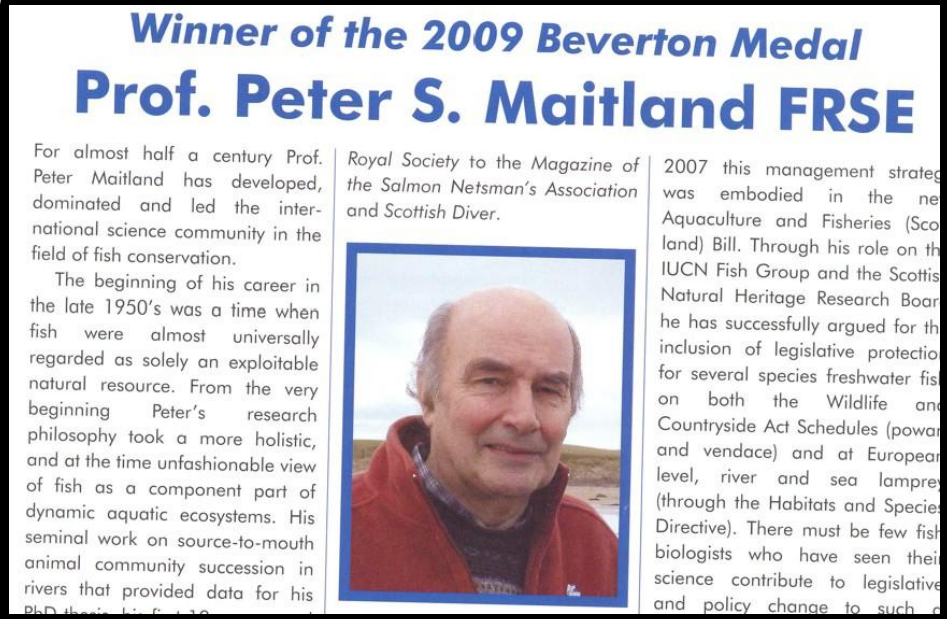
- 60 meetings
- 250 lectures
- 255 posters

Programme of the very first meeting 5th Sept 1968 in the
Dept of Biology, University of Stirling

Maitland Building: University of Glasgow's Scottish Centre for Ecology and the Natural Environment,

Awards

- Marsh Award (Zoological Society of London) 1999
- Fellow of the Royal Society of Edinburgh 1996
- Fellow of the FBA 1996
- FSBI Beverton Medal 2009



Winner of the 2009 Beverton Medal

Prof. Peter S. Maitland FRSE

For almost half a century Prof. Peter Maitland has developed, dominated and led the international science community in the field of fish conservation.

The beginning of his career in the late 1950's was a time when fish were almost universally regarded as solely an exploitable natural resource. From the very beginning Peter's research philosophy took a more holistic, and at the time unfashionable view of fish as a component part of dynamic aquatic ecosystems. His seminal work on source-to-mouth animal community succession in rivers that provided data for his

Royal Society to the *Magazine of the Salmon Netsman's Association* and *Scottish Diver*.

2007 this management strateg was embodied in the ne Aquaculture and Fisheries (Sco land) Bill. Through his role on th IUCN Fish Group and the Scottis Natural Heritage Research Boar he has successfully argued for th inclusion of legislative protectio for several species freshwater fis on both the Wildlife an Countryside Act Schedules (powa and vendace) and at Europea level, river and sea lampre (through the Habitats and Specie Directive). There must be few fis biologists who have seen thei science contribute to legislative and policy change to such

1982: Voted in to the International Society of Arctic charr Fanatics

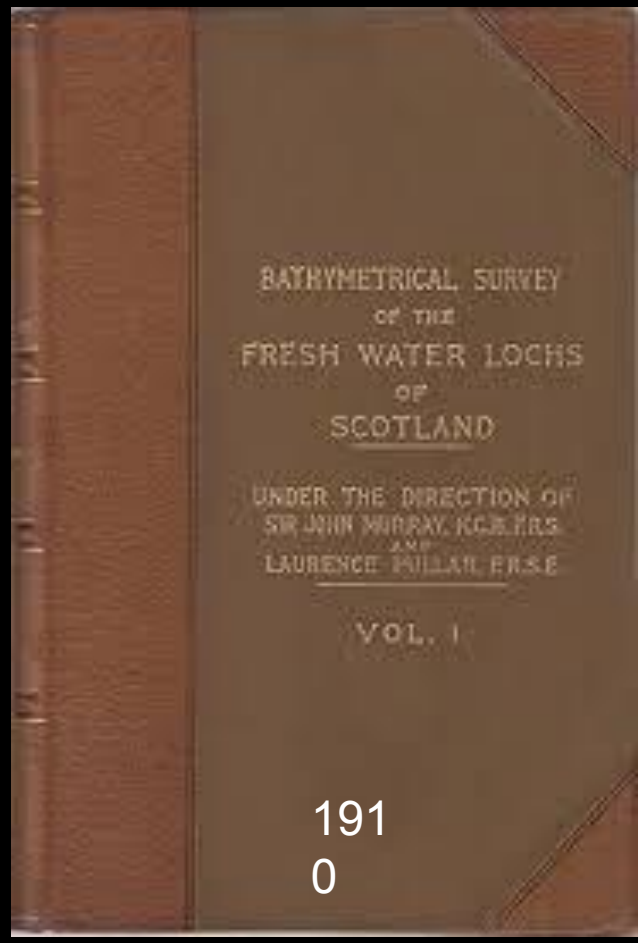
ISAC members in Scotland in

Research

- Keywords: Fresh waters / conservation / management / fundamental / applied
- Wide taxonomic interests

Empirical work:

- Field studies
- Synoptic approach
- Influenced by Murray and Pullar “catalogue quantify and contrast” approach
- Adopted similar approach to empirical research

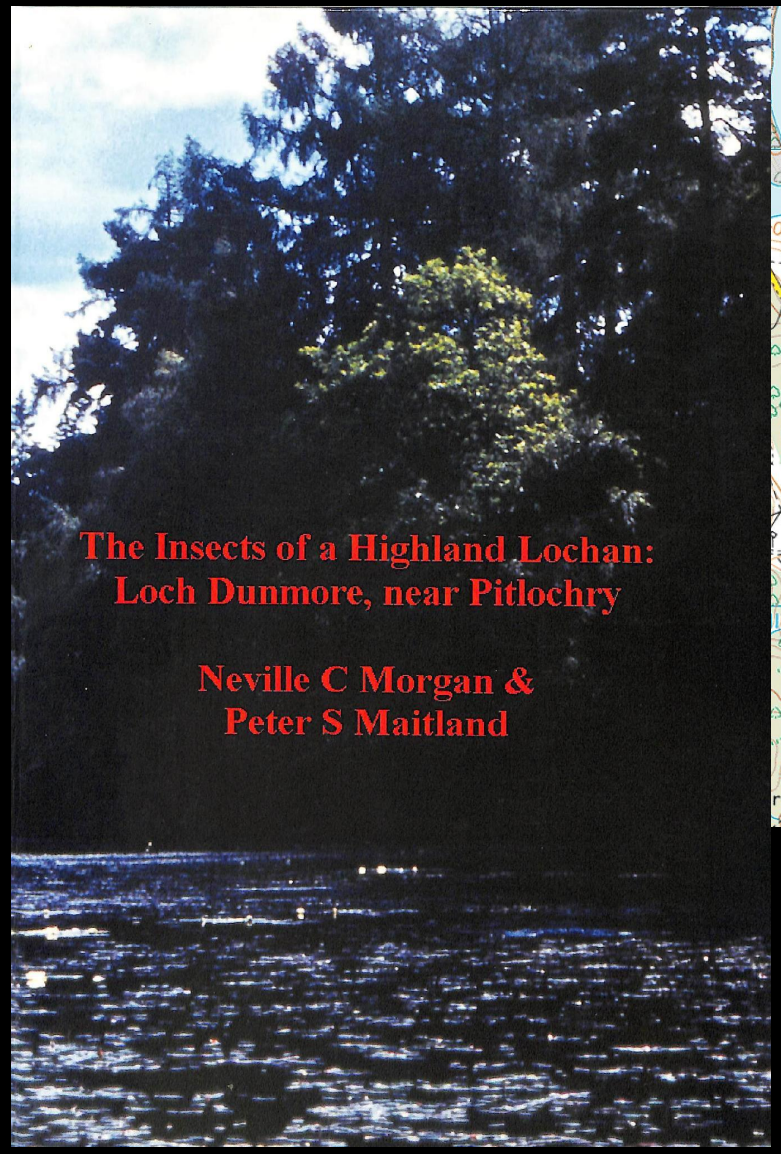


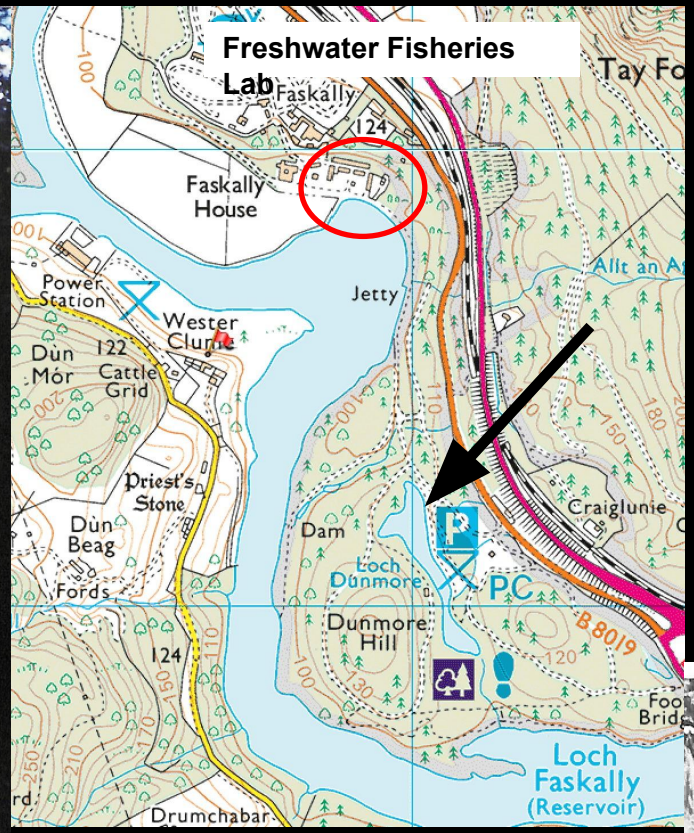
1910

The fresh waters of Shetland: I. The strategy of a synoptic resource analysis

P. S. Maitland & R. H. Britton

1985





1957/58 Internship

at “Brown Trout Research Lab”

Multi-year quantitative characterisation of whole ecosystem

- Durnal and seasonal patterns of invert emergence
- Chironomid numbers up to 21,000 m^{-2}
- Density 28 $g.m^{-2}$

Loch Dunmore
- Dystrophic
- chironomid dominated,
- kettle lake

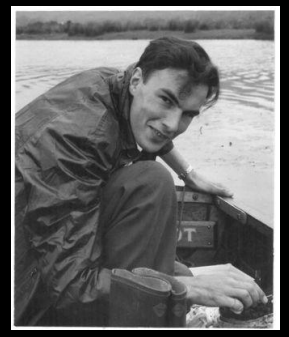
Morgan & Maitland 2013, Fastprint Publishing; Peterborough pp271

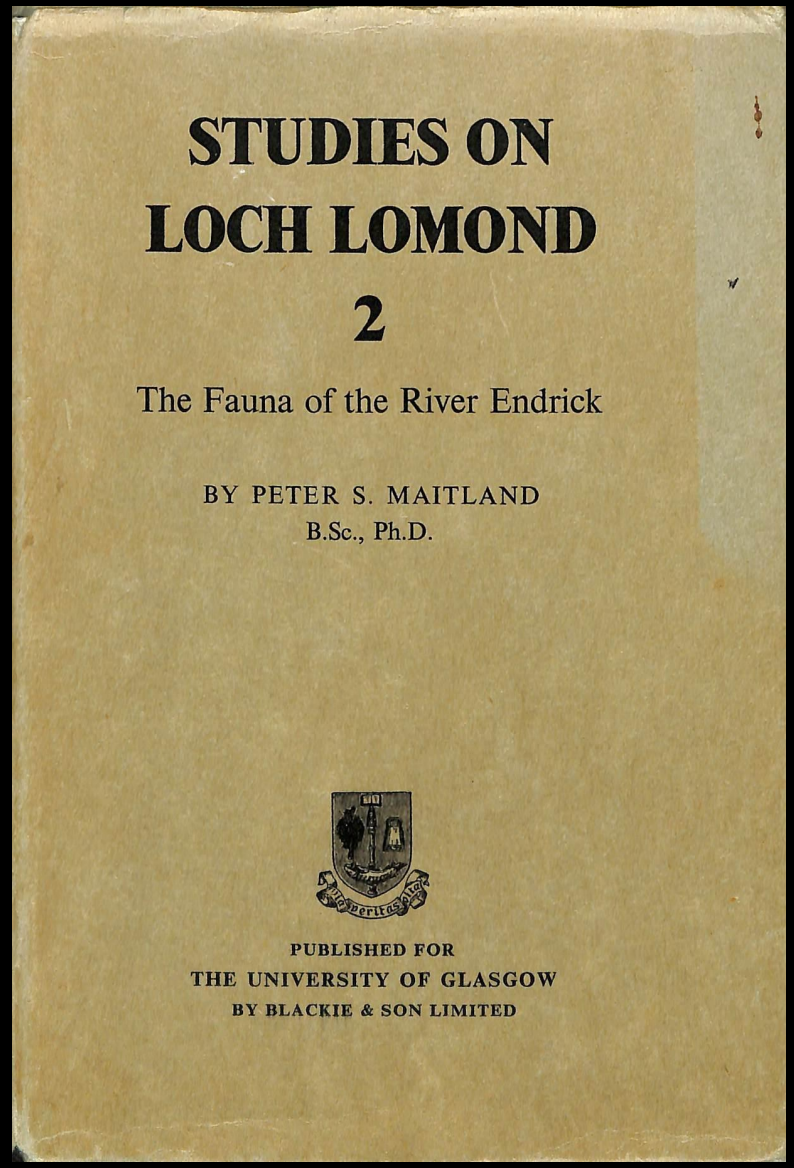
PhD thesis 1963

Ecological studies on the fauna of the River Endrick

Single ecosystem study of the River Endrick
Made very significant contributions to:

- Temporal and spatial patterns of variation in river fauna
- Intra-specific competition





196
6

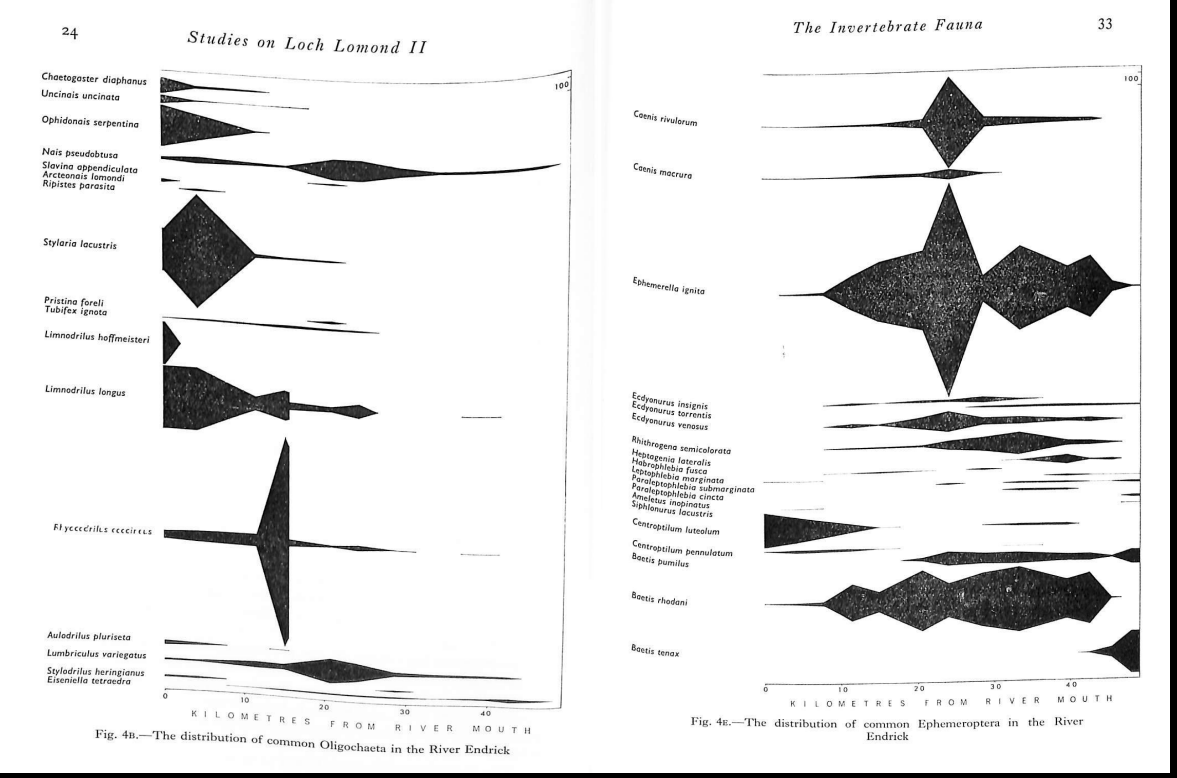


Fig. 4B.—The distribution of common Oligochaeta in the River Endrick

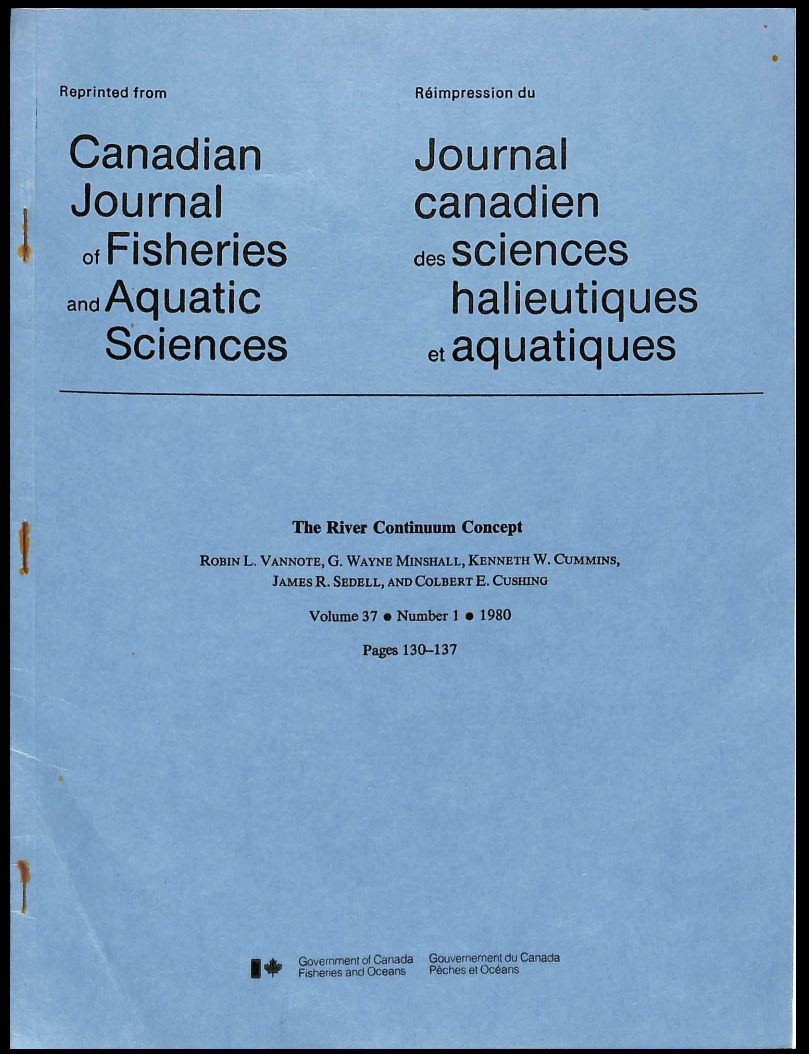
Fig. 4E.—The distribution of common Ephemeroptera in the River Endrick

Oligochaetes

Ephemeroptera

X-axis distance – Endrick mouth to headwaters

Peter Maitland
1966



Robin Vannote –
River Continuum Concept 1980

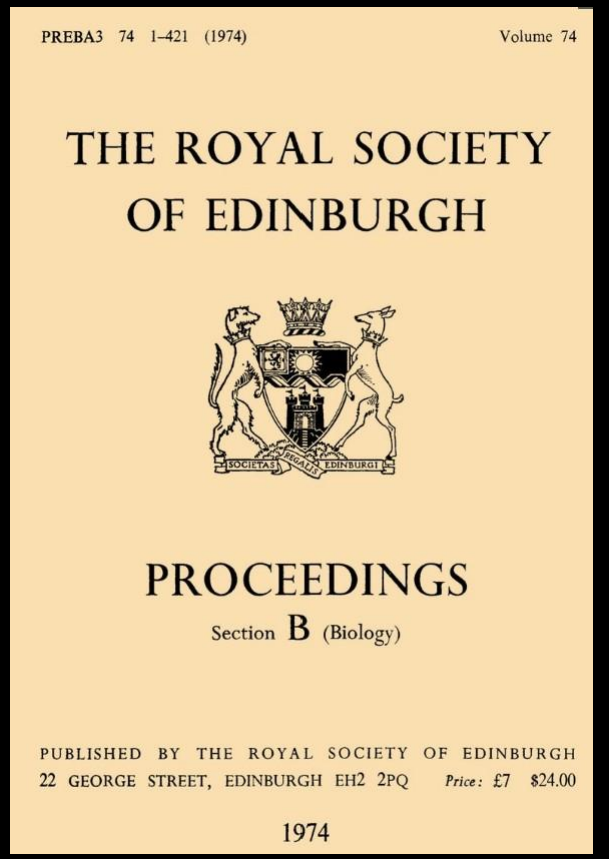
International Biological Programme 1967-73

Ambitious programme of work to:

- Measure biological productivity
- Understand energy and nutrient flow

In Scotland Loch Leven was the main study site
Results: Proc Royal Soc of Edinburgh
B

- 1974 Vol 74
- 24 Papers



The Zoobenthos of Loch Leven, Kinross, and Estimates of its Production in the Sandy Littoral Area during 1970 and 1971

Published online by Cambridge University Press: **05 December 2011**

Peter S. Maitland and Patricia M. G. Hudspith Show author details

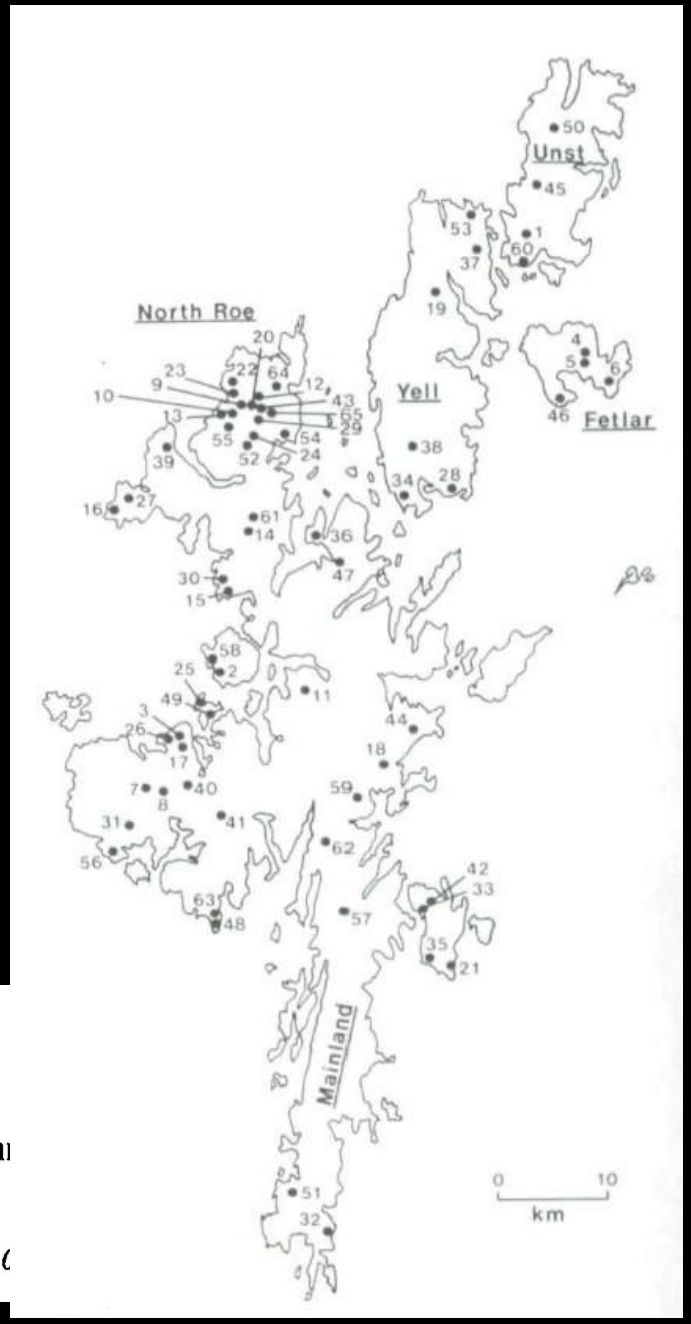
estimates of macrobenthos production in medium sized lake 47 $g.m^2$

Fresh waters of the Shetland Isles

1577 lochs
946 flowing waters

Categorised:
- Water types
- Water chemistry
- Invertebrate communities
- Fish communities

1974
65 lochs sampled
54 running waters



Series of 5 papers

The fresh waters of Shetland: II resources and distributio

Freshwater Biology (1984) **14**, 95–107

A. A. Lyle & R. H

–221 (1987)
ers, Dordrecht – Printed in the Netherlands

's of Shetland: Chemical characteristics of runi

rial Ecology, Bush Estate, Penicuik, Midlothian EH26 (

The fresh waters of Shetland: physical and morphometric characteristics of lochs

D. G. GEORGE and P. S. MAITLAND Institute of Terrestrial Ecology, Edinburgh, Scotland

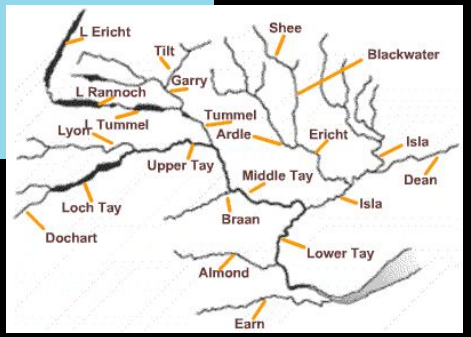
Similar studies:

Outer Hebrides

Waterston, Holden, Campbell & Maitland 1979. The inland waters of the Outer
Hebrides. Proc Roy Soc Edin 77 329-351.

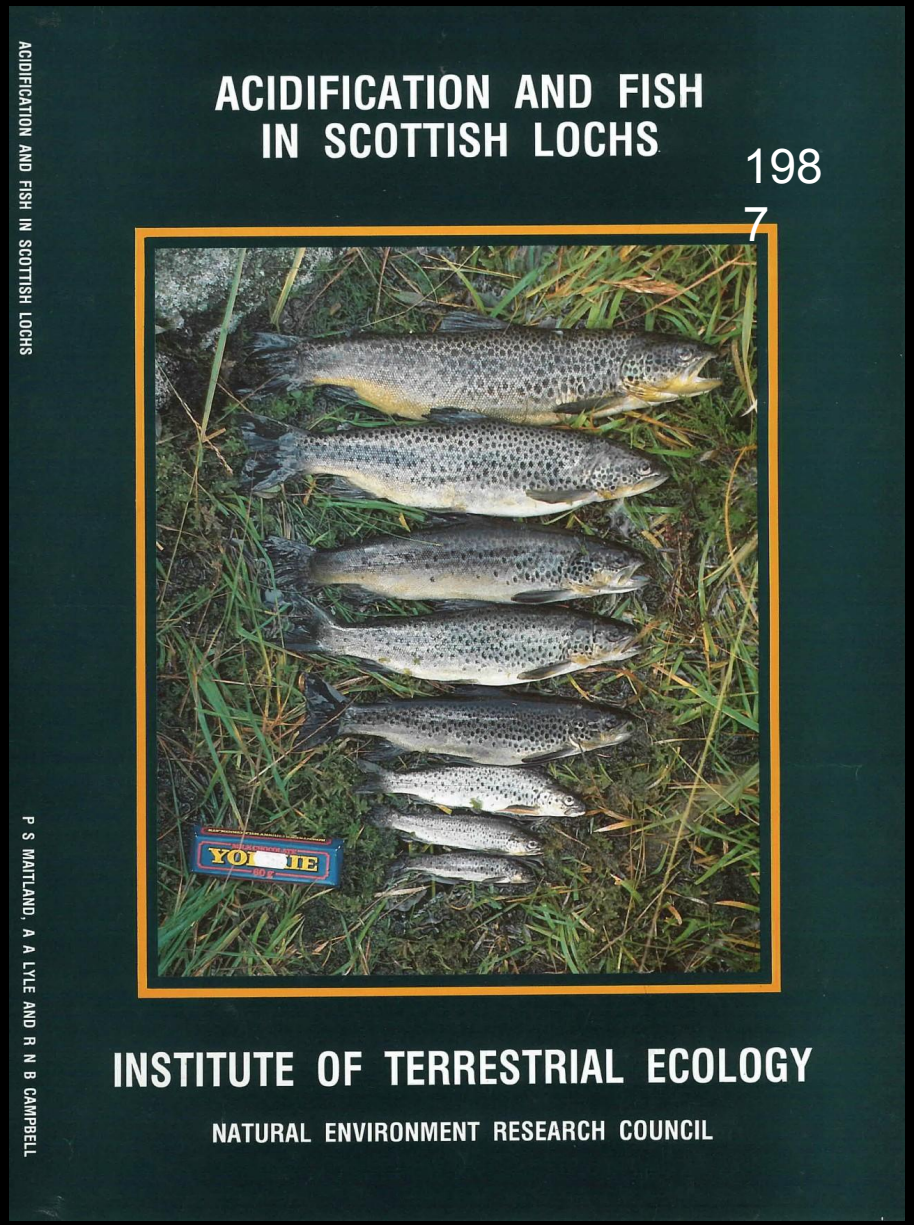
Tay catchment

Maitland et al. 1981. The fresh waters of Tayside. ITE: Edinburgh.



Inner Hebrides

Maitland and Holden 1983. Inland waters of the Inner Hebrides.
Proc Roy Soc Edin 83:229-244.



1983 - 1986

Context:

1) pH 1.87 Inverpoly
2) Thatcher recognises acid rain effects
3) Scottish fish populations extinction –acid rain

Synoptic approach:

- Identified base-poor lochs at risk (N=377)

Empirical follow-up:

- 83 lochs surveyed (incl. control sites)
- Galloway lochs: of 11 studied all acidified; 6 fishless
- Inflowing/outflow tribs ca 32% fishless

Hydrobiologia **290**: 105–120, 1994.
K. J. Murphy, M. C. M. Beveridge & R. Tippett (eds), The Ecology of Loch Lomond.

The ecology of lampreys (Petromyzonidae) in the Loch Lomond area

Peter S. Maitland[1], Kenneth H. Morris[2] & Kenneth East[3]
[1] *Fish Conservation Centre, Easter Cringate, Stirling FK7 9QX, UK*
[2] *Bankton Park East, Murieston, Livingston EH54 9BN, UK*
[3] *27a Greenhill Gardens, Morningside, Edinburgh EH10 4BL, UK*

Discovery of a non-anadromous parasitic lamprey in Loch Lomond 1992

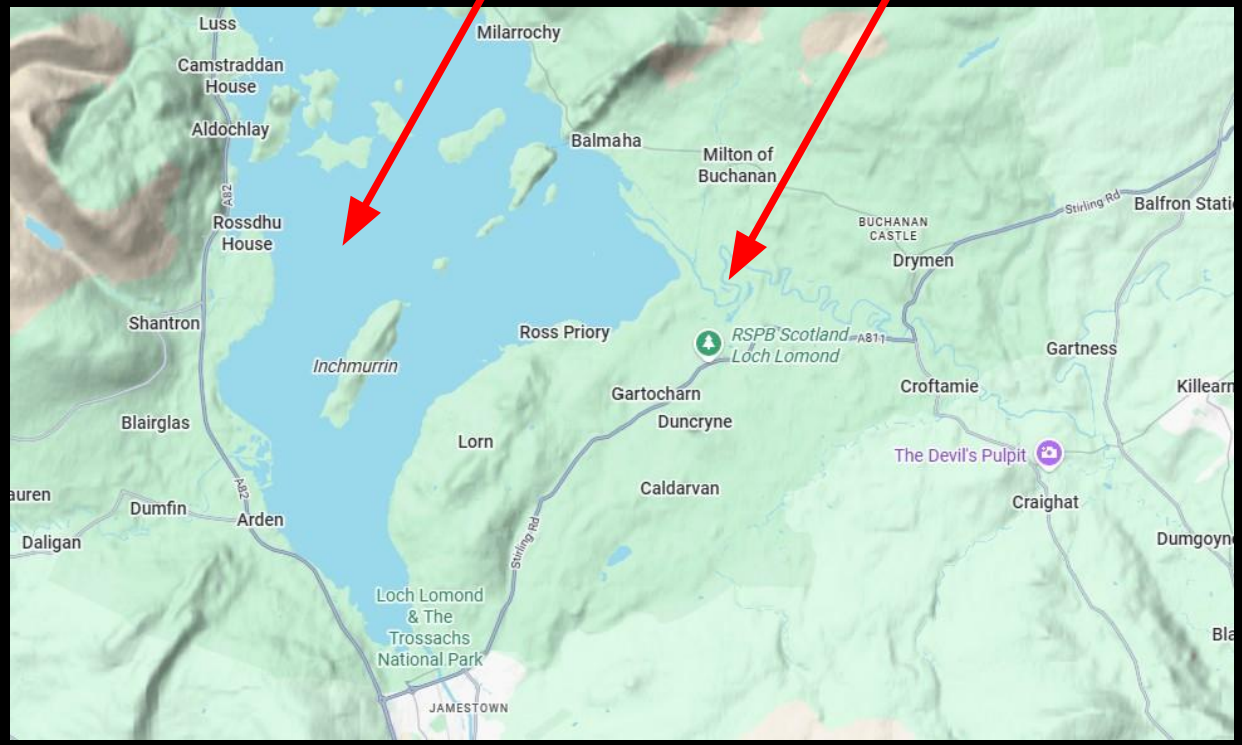
Brook lamprey
Lampetra planeri

Freshwater feeding parasitic form

River lamprey
Lampetra fluviatilus

Loch parasite feeding

Spawning site



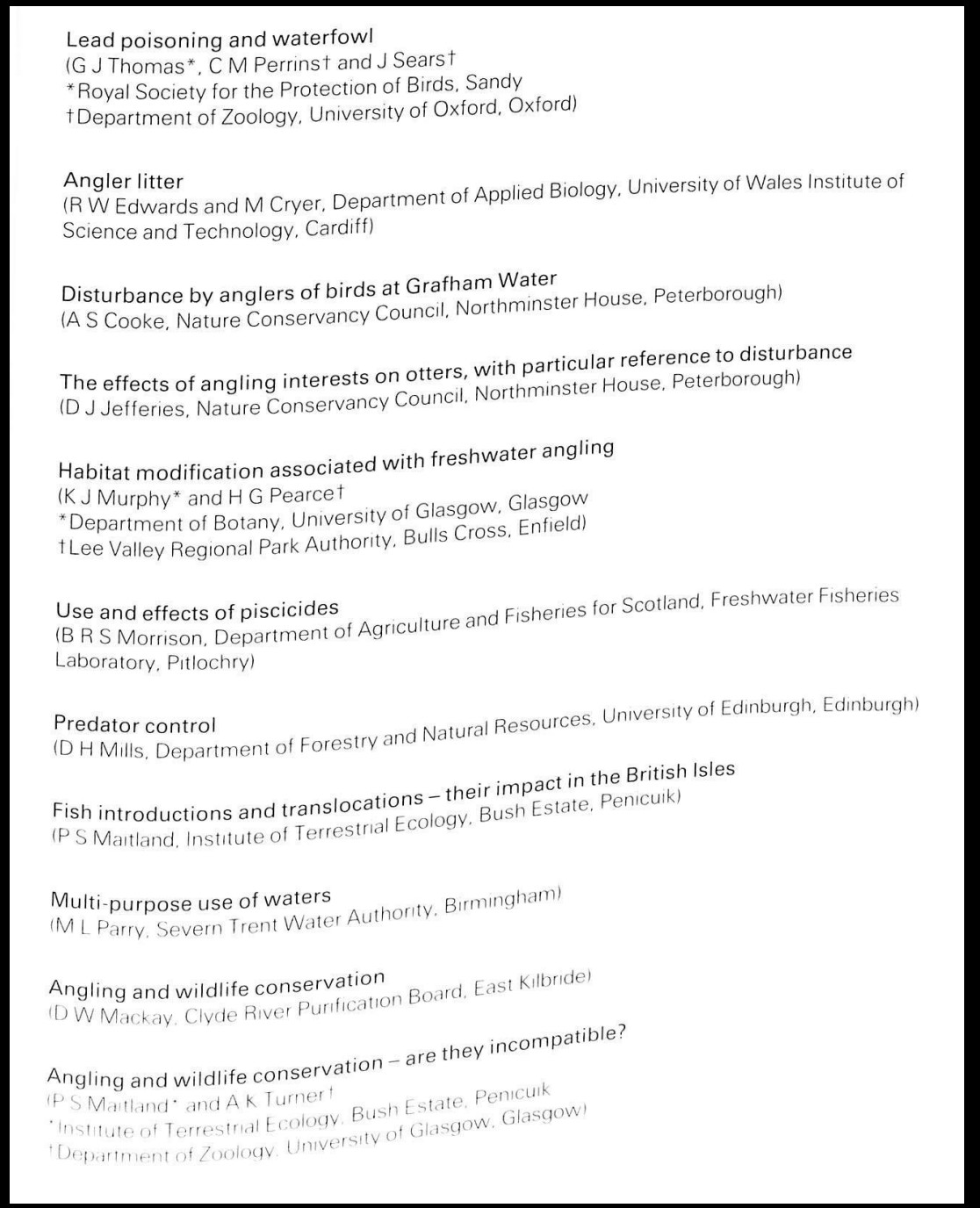
Led directly to the Special Area of Conservation status

Scientific Advocacy

Angling and Wildlife Interactions workshop Oct 1985

146 participants

- Policy
- management
- Anglers
- Scientists



Lead poisoning and waterfowl
(G J Thomas*, C M Perrins† and J Sears†
*Royal Society for the Protection of Birds, Sandy
†Department of Zoology, University of Oxford, Oxford)

Angler litter
(R W Edwards and M Cryer, Department of Applied Biology, University of Wales Institute of Science and Technology, Cardiff)

Disturbance by anglers of birds at Grafham Water
(A S Cooke, Nature Conservancy Council, Northminster House, Peterborough)

The effects of angling interests on otters, with particular reference to disturbance
(D J Jefferies, Nature Conservancy Council, Northminster House, Peterborough)

Habitat modification associated with freshwater angling
(K J Murphy* and H G Pearce†
*Department of Botany, University of Glasgow, Glasgow
†Lee Valley Regional Park Authority, Bulls Cross, Enfield)

Use and effects of piscicides
(B R S Morrison, Department of Agriculture and Fisheries for Scotland, Freshwater Fisheries Laboratory, Pitlochry)

Predator control
(D H Mills, Department of Forestry and Natural Resources, University of Edinburgh, Edinburgh)

Fish introductions and translocations – their impact in the British Isles
(P S Maitland, Institute of Terrestrial Ecology, Bush Estate, Penicuik)

Multi-purpose use of waters
(M L Parry, Severn Trent Water Authority, Birmingham)

Angling and wildlife conservation
(D W Mackay, Clyde River Purification Board, East Kilbride)

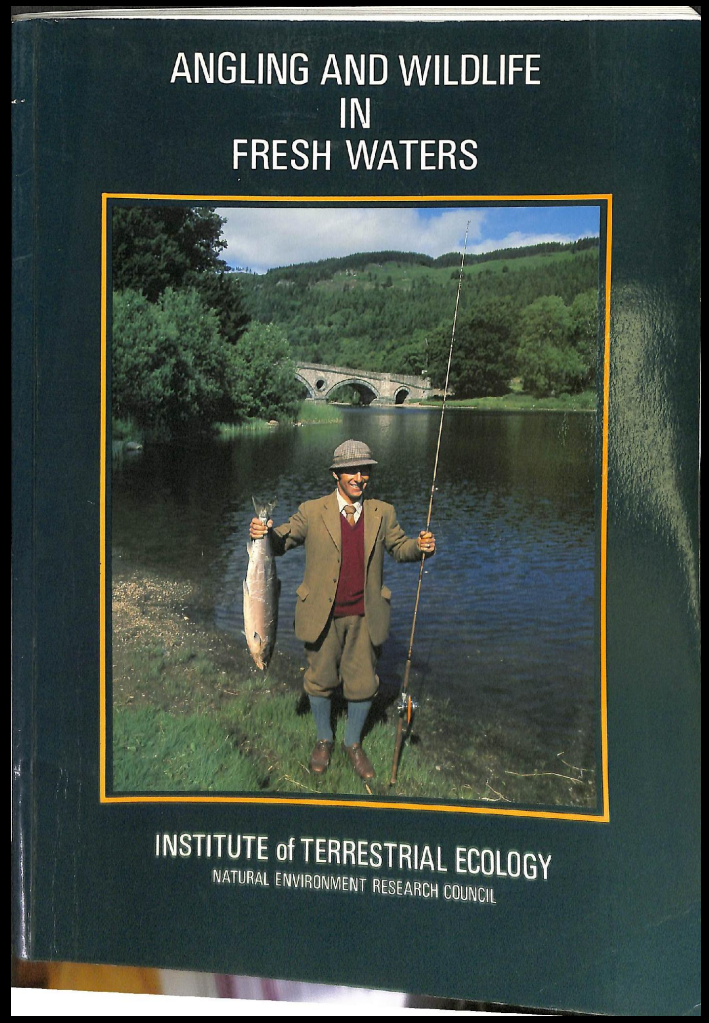
Angling and wildlife conservation – are they incompatible?
(P S Maitland* and A K Turner†
*Institute of Terrestrial Ecology, Bush Estate, Penicuik
†Department of Zoology, University of Glasgow, Glasgow)

Angling and wildlife conservation – are they incompatible?

P S MAITLAND* and A K TURNER†
*Institute of Terrestrial Ecology, Bush Estate, Penicuik
†Department of Zoology, University of Glasgow, Glasgow

Introductions – 2008 prohibition of fish introductions in the Aquaculture and Fisheries (Scotland) Act 2007

Lead use by anglers: banned in the Control of Pollution
(Anglers' Lead Weights) Regulations 1986



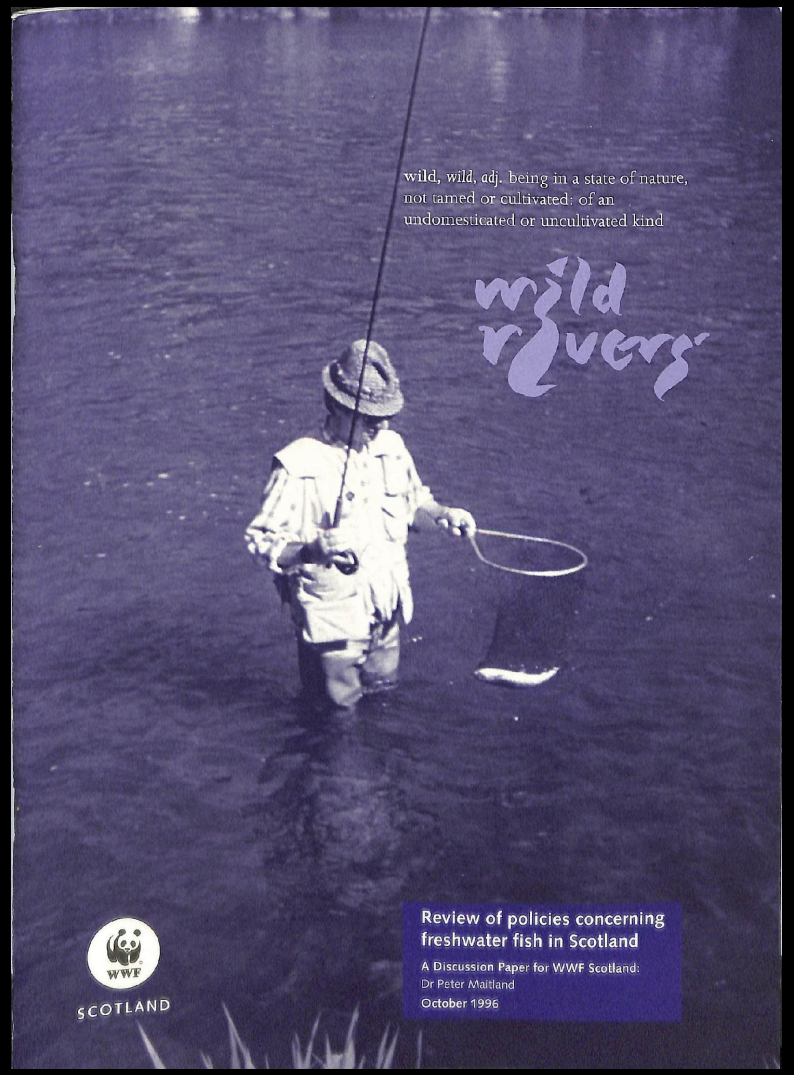
Scientific Advocacy

Review of Policies Concerning Freshwater fish in Scotland

1965 Hunter Report
1971 White paper "Salmon and Freshwater Fisheries in Scotland“

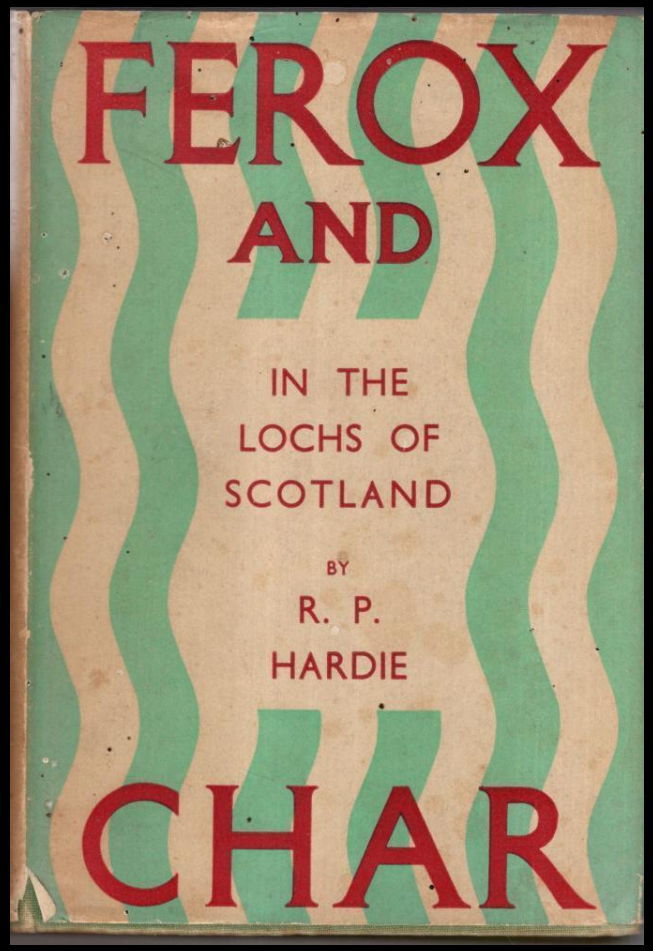
……. 25 years ……

1996 Wild Rivers WWF Report -
clear and erudite statement of the problems and vision for the future
expressed in forthright terms



Maitland 1996 published WWF

Scholarship



Robert P. Hardie
Edinburgh University Reader – Greek philosophy
Died 1942
Part II thought to be lost

Part II Manuscript emerged 2010
Passed to Niall Campbell
Passed to Peter by Ronald Campbell

Part I. 1940 Cost: 5/- (25p) Oliver and Boyd

Over the next year:

- Text reconstructed
- Developed as was intended (but with correctional footnotes)
- Published – Perfect Publishers

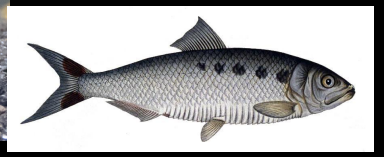
Part 1 & 2 Re- published as a box set by Coch-y-Bonddu Books

Cost:
£75

Sea lamprey
Peteromyzon marinus

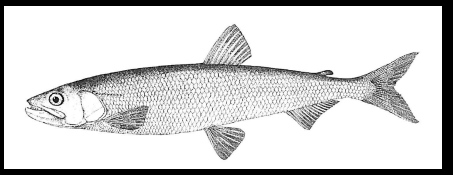
River lamprey
Lampetra fluviatilus

Brook lamprey
Lampetra planeri



Allis shad
Alosa alosa

Twaite shad
Alosa fallax



Sparling
Osmerus eperlanus

Powan
Coregonus lavaretus

Vendace
Coregonus albula

Arctic charr
Salvelinus alpinus

Medicinal leech
Hirudo medicinalis

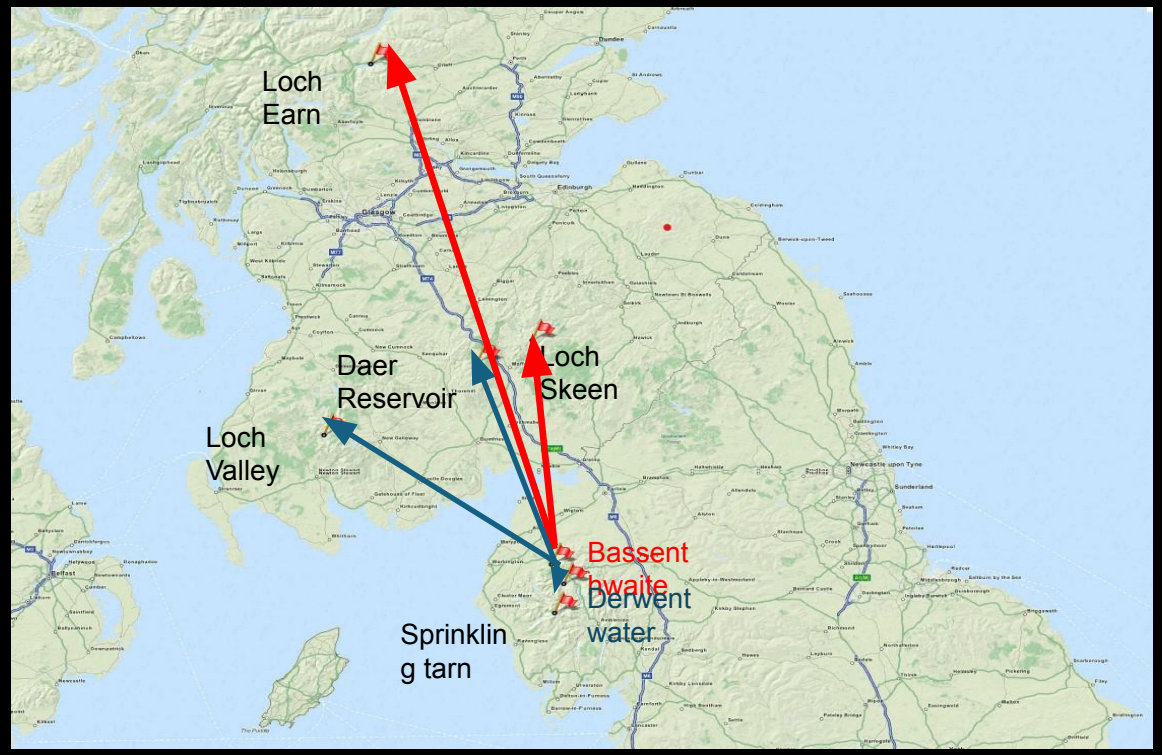
Tadpole shrimp
Triops cancriformis

Active conservation actions

Practical Conservation Acti

Vendace

Coregonus albula

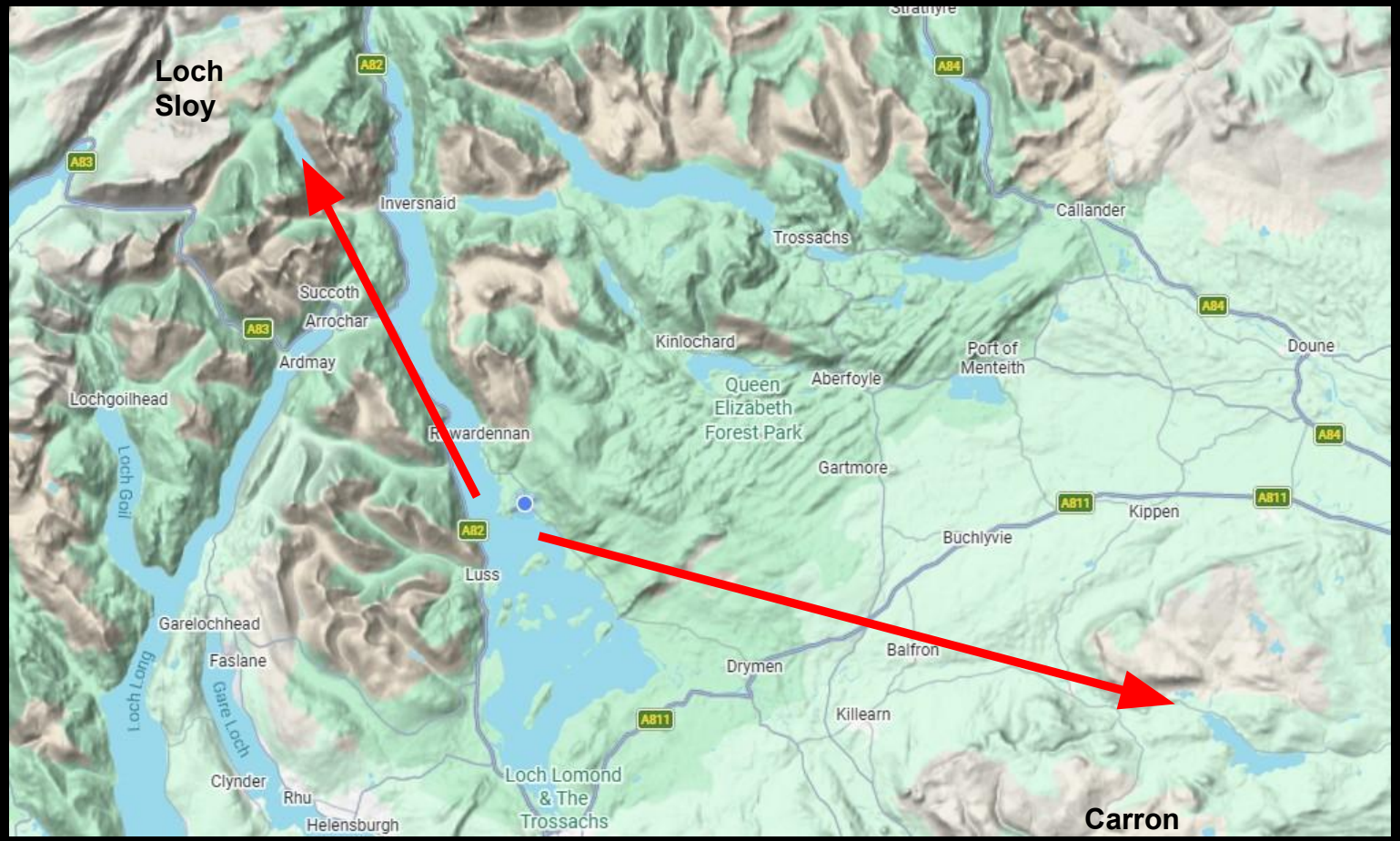


Conservation refuge translocations
Loss of 2 native populations in Scotland by 1970s
Initiated conservation translocations to 4 Scottish sites

Powan
Coregonus lavaretus

Arctic charr
Salvelinus alpinus

Two conservation refuge sites for powan 1980's



Two refuge populations for Loch Doon charr in Megget and Talla

Engaging with a wider audience

Accessible books on fish