

## Wildfowl 38

EDITED BY G.V.T. MATTHEWS

Published by the Wildfowl Trust, Slimbridge 1987





## Cover painting Greenland White-fronted Geese by Sir Peter Scott. This race was first described in 1948 by C.T. Dalgety and Peter Scott (Bull. Brit. Ornith. Club 68:109-121).

Line illustrations by Sir Peter Scott, Paul Johnsgard, Tobias Salathé, Robert Gillmor and Joe Blossom.

The Mallard above and the Shoveler on the back cover graced the first volume in 1948.

Editorial address: The Wildfowl Trust, Slimbridge, Gloucester, GL2 7BT, England.

Enquiries concerning purchase, exchange or back numbers to: The Administrative Officer at the above address.

Price £8.00, including postage and packing.

Text set in 9/10 Times Roman, printed and bound at the Nimsfeilde Press Ltd., Nympsfield, Glos., England.

## Contents

Editorial	5		
Spring migration of Greenland White-fronted Geese through Iceland. I.S. Francis and A.D. Fox	7		
Autumn staging of Cackling Canada Geese on the Alaska Peninsula. James S. Sedinger and Karen S. Bollinger	13		
The significance of the Lake Neusiedl area of Austria for migrating geese. Gerald Dick			
Movements of Tufted Duck ringed in Britain: a preliminary assessment. M.A. Ogilvie			
Population turnover in groups of wing-moulting waterbirds: the use of a natural marker in Great Crested Grebes. <i>Theunis Piersma</i>	37		
The use of models to influence the grazing sites chosen by Barnacle Geese on Islay, Scotland. Xian Zhu, David C. Houston and Stephen Percival	46		
Do Tufted Duck and Pochard select between differently sized mussels in a similar way? <i>Dirk Draulans</i>	49		
Observations on the time budget and diving ecology of Long-tailed Ducks in Eqal- ungmiut Nunaat, West Greenland. <i>Peter Reynolds</i>	55		
Food and foraging of Coot Fulica atra on fish ponds during autumn migration. Dirk Draulans and Linda Vanherck	63		
Territoriality and time budget of breeding Coots. Tobias Salathé and Vincent Boy	70		
Vigilance levels in European Wigcon - sexual differences. Peter W. Mayhew			
Canada Goose foods: their significance to weight gain. T.S. Coleman and D.A. Boag	82		
Nutritional characteristics of grains fed to Canada Geese. David E. Joyner, Bruce N. Jacobson and Robert D. Arthur	89		
The food habits of Greylag and Barheaded Geese in the Keoladeo National Park, India. Beth A. Middleton and A.G. Van der Valk	94		
Body and organ weights, and carcass composition of breeding female White-winged Scoters. <i>Patrick W. Brown and Leigh H. Fredrickson</i>	103		
Weights and measurements of wintering Tundra Swans. Roland J. Limpert, Hubert A. Allen Jr. and William J.L. Sladen	108		
Infertile eggs: a reproductive cost to female dabbling ducks inhabiting unpredictable habitats. <i>Juan A. Amat</i>	114		
Clutches, broods, and brood care behaviour in Chestnut Teal. F.I. Norman and F. McKinney	117		
Distribution, dispersion and regulation in a population of Common Shelduck. John Hori	127		
Liming of acidified lakes in southwestern Sweden: short-term effects on waterbird densities. <i>Mats O.G. Eriksson</i>	143		
The use of X-ray for quantifying lead shot pellets in substrate samples. <i>H. Milne and N.F. Ramsay</i>	150		
Wildfowl Counts in the British Isles. D.G. Salmon	153		
Ringing by the Wildfowl Trust, 1986. Carl Mitchell			
Wildfowl Trust Avicultural Report, 1986.			
Publications, 1986, by, or with the assistance of, Wildfowl Trust staff and facilities.			
Forty Years of Publications in Wildfowl, 1948 – 1987			

The Wildfowl Trust				
Patron	HER MAJESTY THE Q	UEEN		
President	HIS ROYAL HIGHNESS THE PRINCE OF WALES, T.G., K.T., P.C., G.C.B.			
Vice Presidents	Sir Isaac Wolfson, BL, F.R.S Dr. John Berry, C.B.E., LL, *Mrs. E.G. Kleinwort, M. *The Lord Brassey of Ap Dr. Luc Hoffmann E.M. Nicholson, C.B., C.V.C Sir James Steel, C.B.E., D.C. Ravi Tikkoo The Duke of Norfolk, C.B General Sir John Hackettt Sir William Shapland, F.C.	D., F.R.S.E. B.E., J.P., D.L. ethorpe, J.P., D.I D. L., J.P., D.L. , C.B.E., M.C.		
Trustees	The Lady Herries The Earl of Mansfield, J.P. R.J. Berkeley, J.P., D.L. The Lord Buxton of Alsa R.E.M. Pilcher, F.R.C.S. *Keith Shackleton The Lord Dulverton of B	<b>,</b> M.C., D.I	.D., D.L.	
Hon. Director	*Sir Peter Scott, C.H., C.B.E., D.S.C., F.R.S., LL.D.			
Deputy Directors	*Prof. G.V.T. Matthews, O.B.E. *D.J. Billingham, F.C.A.			
Treasurer	*Sir Kenneth Kleinwort,	Bt.		
Council	*Sir John Harvey-Jones, M. Prof. David Bellamy Prof. Denis Bellamy P.R. Booth M. Boulton Sir Ralph Carr-Ellison, T. Dr. P.R. Evans *R.K.H. Gaskell Mrs. J.G. Glyn Sir Jack Hayward, O.B.E. P.P. Mackie W.A. Makins J.J.C. Mallinson W.E. Oddie		*R. O'D. Poulden *Ian Prestt, C.B.E. B.L. Rathbone David Russell Dr. Dafila Scott *Lady Scott Jeffrey R. Short, Jr. Julian Taylor Mrs. A.J.M. Teacher Prof. J.J. Thompson C.G. Tracey The Hon. Vincent Weir *Sir Max Williams	
Advisory	Dr. P.R. Evans (Chairma J.E. Cooper, F.R. C.V.S. Dr. A.J. Goldsmith Dr. J.P. Harradine Dr. D.C. Houston	n)	Dr. R.L. O'Connor Dr. M.W. Pienkowski Dr. D. Scott Dr. P.I. Stanley Dr. G. Thomas	

\*Members of the Executive Committee



## Editorial

The fortieth year of the Wildfowl Trust's existence is a good time to consider the origin and achievements of one of its especial contributions to conservation, the annual publication of WILDFOWL.

A first volume was published in 1948 as the Annual Report of the Wildfowl Trust. This was no dry pamphlet reporting to a membership of then just over a thousand. Of its 72 pages, 24 were high quality photographs, there were numerous vignettes by Peter Scott and a full-colour cover painted by him. The standard had been set out and this scarce volume is now a costly collectors piece. The second volume was similarly embellished and also contained 48 pages of the "Key to the Wildfowl of the World", a black-and-white version of the "Key" which has now become a classic and this year enters another new and revised edition. The third to sixth volumes contained between them 14 full colour plates of paintings of 'The Swans, Geese and Ducks of the British Isles', together with accompanying texts. These were also subsequently published in book form. Such lavishness could not be maintained, though the superb cover paintings have remained a hallmark of the publication ever since.

By the sixth volume (1954), Hugh Boyd had been brought in to share the editorship with Peter Scott and this team continued to produce an ever more prestigous series. Authored research papers, as opposed to reports on various Trust activities, had put in an appearance by the third volume and now assumed more and more importance. By the thirteenth volume (1962) they were firmly grouped into a "Yearbook" section.

In 1967 Peter Scott's increasing commitments led him to withdraw from the editorship. Hugh Boyd was joined by Malcolm Ogilvie for the eighteenth volume. The very next year, however, Hugh left for a post in Canada and it fell to me to pick up the reins. I was fortunate in having Malcolm to provide continuity. This seemed to be an appropriate moment in which to complete the transformation to a fully-fledged research journal. The 'annual report' was dropped from the title and the nineteenth volume became WILDFOWL 19. The pages of fine photographs, which had continued to be a feature of the series, had hitherto been grouped in a separate section at the end of each volume. It was said that many members looked only at the cover painting and the photographic section. To encourage them to delve more deeply in the treasures concealed in the rest of the volume, the plates were now spread throughout the text (and where possible made relevant to it).

As the inflationary spiral was entered, consideration of cost, which did not seem to have troubled the early volumes, became more pressing. Photographs *qua* photographs were harder to justify in a research journal, yet there was by now a large lay membership whose requirements were not met by pages of text and diagrams. The dilemma was solved by upgrading the membership bulletin, hitherto a simple broadsheet. This became an illustrated pamphlet (1969), next a booklet with monochrome covers (1973) and then a full publication, 'Wildfowl News' in 1977. Finally this evolved into 'Wildfowl World' in 1980, with full colour as well as monochrome photographic plates and informative articles. The annual report had become a simple, factual pamphlet, though last year this too received a facelift. WILDFOWL meantime forged ahead as a journal, publishing papers about research on and the conservation of waterfowl and wetlands all over the world. While maintaining high standards, we endeavoured to present papers which were understandable to readers from a wide spectrum of interests. Papers that were severely technical and over-

tabled were referred to other, more specialised journals. Though some still thought our production "too scientific" it did seem to be widely appreciated and became a main vehicle for the spreading of the Wildfowl Trust's name and influence abroad.

In 1986, Malcolm Ogilvie left the Trust to take up a post on Islay, so WILDFOWL 37 was our last joint production. A very sincere tribute is due to him for all the effort he put into the journal over two decades. Just how much he did was brought home to me when I had to carry the full burden of the present volume. Malcolm did a sterling job for us and for wildfowl conservation and we wish him well in his new enterprise.

The present volume sees two important developments. First there was a decision to embark upon a full system of peer review for all papers submitted. The opinions of two researchers in the same or a related field are now sought before a decision is made to accept a paper for publication. This does increase the editorial workload, imposes on the goodwill of the referees and adds to the processing time. But it is now a *sine qua non* for a reputable research journal. Papers published in an "unrefereed journal" tend to be looked down upon by the *cognescenti*, so authors have accepted this process with good grace. The Editor's decision remains final.

Another major development has been made possible by the advance of computer technology. Papers are now entered into word-processors and checked and double-checked for errors in house. The computer discs are then transferred to the printer's equipment which sets them directly into type. Printer's errors, so familiar in the past, are thus, hopefully, avoided. It is a pleasure to acknowledge the technical expertise and hard work, at the Slimbridge end, of Myrfyn Owen, Carl Mitchell, Joyce Portlock and Helen Inglefield. The skill and forebearance of the Nimsfeilde Press and its genial Director, Bill Jackson, are also vital. Not only have they carried out the somewhat automatic tasks of transferring text, but to them falls the more creative work of layout. I hope that the end product will reflect the efforts that have gone into its production.

Over the years, many people have asked whether we could not publish an index of the papers which have appeared in WILDFOWL. It is such a mine of information that even Editors forget what has been published and in which volume. A full word-based index is not a feasible project because of the cost. However, to celebrate our fortieth year, we are offering a simple list of all the papers that we have published. These are grouped under authors' names, the titles generally giving a clear indication of contents. However, a degree of analysis to enable cross-referencing has been undertaken, as explained in the section concerned. But, again, considerations of costs prevent this being set out in full, though it is available to enquirers. It may, incidently, be a matter for some puzzlement why 40 years has not resulted in 39 volumes. The answer lies in the mists of time when editorial delays meant that the sixth volume covered two years.

We have included in Wildfowl 38 papers on a wide selection of subjects. They come from 11 countries ranging from Greenland to Australia, from Alaska to India. They involve swans, geese, ducks, coots and grebes. The subjects cover migration, feeding behaviour, food and energetics, breeding biology and habitat management.

Once again we are indebted to Sir Peter Scott for creating a painting to embellish the cover. It is particularly appropriate that this one is of "his" goose, the Greenland White-fronted Goose, which he described to science just on forty years ago. The first paper in the volume also deals with this handsome bird, whose population has recovered somewhat under protection but still remains very small, at around 22,000 individuals. As we go to press it has been announced that Sir Peter has added to his many honours and awards one of the highest and most select, that of Companion of Honour. He has also achieved the distinction of being elected a Fellow of the Royal Society. The Trust is delighted with these further recognitions of his outstanding and unique achievements in the service of conservation.