

Catalogue of the papers and correspondence of

**ALEXANDER STUART WATT FRS**

(1892 - 1985)

Compiled by Timothy E. Powell and Peter Harper

Deposited in Cambridge University Library

NCUACS 38/6/92

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**THE ROYAL COMMISSION ON HISTORICAL MANUSCRIPTS**

Report on the notebooks, correspondence and papers

of

ALEXANDER STUART WATT

(1892-1985)

plant ecologist

in Cambridge University Library, Department of Manuscripts  
and University Archives, West Road, Cambridge CB3 9DR

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under the guidance of the Royal Society's National Committee for the History of Science, Medicine and Technology

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## GENERAL INTRODUCTION

### PROVENANCE

The papers were received in April 1992 from Dr Oliver Rackham of the Cambridge University Botany Department via Cambridge University Library.

### OUTLINE OF THE CAREER OF A. S. WATT

Alexander Stuart Watt was born in Aberdeenshire in 1892. Educated at local schools, he went on to Aberdeen University where he studied for the BSc (in Agriculture) and MA, graduating in 1913. He obtained a Carnegie Scholarship to study in Germany but his plans were frustrated by the outbreak of war. Instead he entered Cambridge University to study for a BA by research under A. G. Tansley, his subject being the failure of regeneration of British oakwoods. In 1915, after the statutory year in Cambridge, Watt returned to Aberdeen to take up the post of Lecturer in Forest Botany and Forest Zoology. In March 1916 he joined the Royal Engineers. His army service ended early in 1918 when he was badly gassed, an experience from which he never fully recovered - thereafter he had only one functional lung.

Watt went back to Cambridge to complete the residence requirements for his BA, which he received in 1919, before returning to his post at Aberdeen. Having been assured there would be no further residence requirements for the newly introduced PhD degree, he then registered with Cambridge as a PhD student. Watt was awarded the degree in 1923. He left Aberdeen in 1929, to take up a post at the Imperial Bureau of Entomology, Farnham Royal, Buckinghamshire, before a few months later accepting an invitation to become Gurney Lecturer in Forestry at Cambridge University. He was transferred to the Botany Department in 1933 as Lecturer in Forest Botany, a post he held until retirement in 1959. He continued active research into the 1970s. In 1957 Watt was made a Fellow of the Royal Society and in 1960 an Honorary Fellow of the British Ecological Society. He died in 1985.

Watt's first research began at Cambridge on the failure of regeneration in British oakwoods. He received the Cambridge BA for this work and then went on to study the same phenomenon in beechwoods and yew woods at Aberdeen. This research widened into interest in the general ecology of woodlands. On his move back to Cambridge in 1929 Watt began research into the ecology of the Breckland area of north west Suffolk and south west Norfolk studying the soil factors determining the composition of vegetation and later the effects of grazing by rabbits. Over an extended period from the 1930s to 1973 he made detailed study of the changes affecting different types of grassland. In the course of this work Watt became interested in the behaviour of bracken

and studied the stages by which it advanced into grassland. From this work he was to develop a general concept of 'dynamic stability' in the plant community, envisaging it as a patchwork of vegetation at different stages of a repetitive cycle of composition.

#### DESCRIPTION OF THE COLLECTION

The collection is presented in the order given in the List of Contents. The collection as a whole provides good documentation of over forty years of research in Breckland ecology.

Section A, Notebooks, is the largest in the collection. Most date from Watt's work in the Breckland area from 1931 to the 1970s but there are also notebooks recording earlier research on the regeneration of British woodlands and a few from visits overseas, including a visit to Germany in 1931, also documented by a series of photographs (Section E), and a visit to the Sudan in 1965-66.

Section B, Notes and drafts, consists almost entirely of material relating to Breckland from 1931 (an early research proposal) to 1975. The largest single component of the section is the collected notes, data and correspondence for an article by Watt 'Rare species in Breckland: their management for survival', published in the *Journal of Applied Ecology* in 1971. There is also a little material from Watt's visit to the University of Colorado in 1963.

Section C, Nature Conservancy, principally documents Watt's service on the Breckland Committee of the Nature Conservancy from 1958, and his involvement with work carried out 1966-c.1970 by Mrs G. Crompton on collating the results of previous studies of Breckland.

Section D, Correspondence, is very slight.

Section E, Photographs, comprises a variety of photographic material 1931-73, principally relating to Watt's Breckland research. Of particular interest is a set of photographs taken by Watt on a visit to the heathland of north west Germany in 1931.

Section F, Maps, includes detailed plans of a number of the Nature Reserves in the area of Breckland in which Watt worked, including some of Lakenheath Warren, the site of most of his experiments and observations.

There is also an index of correspondents.

**SECTION A NOTEBOOKS**

**A.1 - A.49**

Although dates and locations of work are generally given, there are very few subject titles in these notebooks. Intercalated material in the volumes may include Watt's own page markers, notes and data, and pressed plants. Some of the notebooks have soil samples smeared on the pages. The nature of Watt's research entailed observing plots of vegetation over an extended period of time. This is reflected in Watt's use of his notebooks. Many were used to record data over many years, and include subsequent reassessment and correlation of data.

- A.1            Hardback notebook used from the front for notes on the literature 1915; draft of progress report on investigation of 'Ecology of Beechwood with special reference to their Regeneration'; notes on the literature 1933-34; notes on lectures by Dahl; notes 1963 and analysis of data 1959-73.
- A.2            Hardback pocket notebook inscribed on spine 'DENMARK 1925'. Used from the front for notes on visit to Denmark July 1925, and miscellaneous notes various dates 1925-46 and nd, and from the back for jottings.
- A.3            Hardback pocket notebook labelled on front cover 'S.Downs. 1925' and inside front cover 'Yew Woods'. Used for notes on yew 4-18 September 1925.
- Watt's work on yew extended his earlier studies on failure of regeneration in oak and beech woods.
- A.4            Hardback pocket notebook inscribed on first page '[...] Sept. 1926' and 'Sowings of Continentals in Grassland A'. Used from the front for data from experiments in root cutting with beech trees and rainfall data 1926-30, and notes and analysis of data from Breckland work 1956-68, and at the back for notes 1966-67.
- A.5            Hardback pocket notebook inscribed on spine 'CHILTERNNS 1930-1931' and on first page '[...] 25.6.30 Chilterns Yew measurements 15/4/31'. Used from the front for data chiefly on beechwoods 25 June - 27 September 1930 and 2 - 15 April 1931, and from the back for notes June - August 1930.
- A.6            Hardback pocket notebook inscribed on spine 'GERMANY 1931'. Used for notes on visit to Germany 1 - 21 August 1931 and Scotland 24 August - 13 September 1947.
- For photographs taken by Watt on visit to Germany see E.1-E.8.
- A.7            Softback pocket notebook used for data from Breckland work December 1931 - July 1933.

### Notebooks

- A.8-A.14 'Breckland' notebooks.
- Set of seven hardback pocket notebooks inscribed on spine 'BRECKLAND ...', used for notes and data from Breckland work 1931-48.
- Watt began his investigations on the ecology of the Breckland on his return to Cambridge as Gurney Lecturer in the Department of Forestry in 1929. The research concentrated on Lakenheath Warren, an area of Breckland affording a variety of soil types. This work was to occupy most of his research career thereafter.
- A.8 'I'. Used 2 January - 18 December 1931.
- A.9 'II'. Used 15 December 1931 - 6 July 1932 and at the back for ideas for further thought.
- A.10 'III'. Used 8 July - 26 August 1932.
- A.11 'IV'. Used 9 December 1932 - 8 May 1934 and 9 December 1935 and at the back for ideas for further thought.
- A.12 'V'. Used 25 May 1934 - 25 March 1936 and at the back for ideas for further thought.
- A.13 'VI'. Used 31 March 1936 - 2 April 1940.
- A.14 'VII'. Used 11 July 1940 - 28 June 1948.
- A.15-A.25 Bracken notebooks.
- Set of eleven hardback notebooks numbered and dated on spine. Used for notes and data on the advance of bracken into grassland 1932-75. All but the final two are paginated but the numbering does not always extend to the end of the notebook
- A.15 'BOOK I 1932-34'. Paginated 1-80 with incomplete list of contents at the front.
- A.16 'BOOK II 1934-36'. Paginated 1-66 (later pages not numbered) with list of contents at the front. Miscellaneous notes, diagrams on unpaginated pages at back.
- A.17 'BOOK III 1936-38'. Paginated 1- 79 with list of contents at the front.

### Notebooks

- A.18 'BOOK IV 1938-1940'. Paginated 1-79 with list of contents at the front.
- A.19 'BOOK V 1941-1948'. Paginated 1-45 (later pages not numbered). Loose material intercalated.
- A.20 'BOOK VI 1947-52'. Paginated 1-72 with list of contents at the front.
- A.21 'BOOK VIIA 1952'. Paginated 1- 72 with list of contents inside front cover. A little loose material intercalated.
- A.22 'VIIB 1957' and inscribed on front cover 'Seasonal records Gr[assland]. A 1961-5'. Paginated 1-42 (later pages not numbered) with incomplete list of contents at the front. A little loose material intercalated.
- A.23 'VIII 1958 - 1959' and inscribed on front cover 'Grassland A 1958-62 Control to 1966 & 1965, 1964'. Paginated 1-57 with list of contents at front.
- A.24 '1965 - 1970 IX CHARTED PLOTS' and on front cover 'Emily's Wood'. A little loose material intercalated.
- A.25 'BK X'. Used 1970-75. A little loose material intercalated.
- A.26 Canvas-backed foolscap notebook. Paginated 1-283 with list of contents at front. Used for tables of data from Breckland work covering the period 1932-75. Loose material intercalated.
- A.27 Canvas-backed pocket notebook used for data from Breckland work April 1934 - July 1939.
- A.28 Hardback notebook paginated 1-18 (most pages not numbered) with incomplete list of contents of pages inside front cover. Used on right hand pages for notes on the literature (latest bibliographical reference 1935), and at the back and on left hand pages for meteorological data 1933-74.

### Notebooks

- A.29            Hardback pocket notebook inscribed on spine 'KILLARNEY 1936. ALGIERS 1947' and on first page '[...] Grassland B in this book'. Used for notes on visit to Ireland 5 August - 26 September 1936, and for miscellaneous notes various dates 1937-48 including Algeria May 1947.
- Watt visited Killarney to study oakwoods with J. S Turner's 'Cambridge Botanical Expedition'.
- A.30            Softback pocket notebook used from the front for notes 1945, and data ?from root cutting experiments various dates 1936-42, and at back for miscellaneous notes 1940-41.
- A.31            Hardback notebook inscribed on spine 'GRASSLANDS 1936-'. Paginated 1-80 with list of contents at the front. Used for notes and data ?on the effects of grazing by rabbits June 1936 - June 1948. A little loose material intercalated.
- A.32            Hardback notebook labelled on front cover '100 Osborne Place. ABERDEEN'. Printed pagination (pp1-28 have been cut from notebook). Used for data covering period 1936-48 but most pages not used. A little loose material intercalated
- A.33            Hardback pocket notebook used for notes and data 1941-49, 18 - 23 June 1954 (Cornwall) and 1960-62.
- A.34            Hardback pocket notebook inscribed on spine 'SAMPLE PLOTS 1940'. Used 15 August - 27 September 1940, 17 June 1941 and nd.
- A.35            Hardback pocket notebook inscribed on spine 'BRACKEN 1944' and inside front cover a note by Watt dated 22 March 1984 'Hurried survey of Bracken during war in summer 1944 August - to end September'. Also includes notes 1972, and at back 'Suggestions' for further study.
- A.36            Softback pocket notebook used various dates 1947-79. Intercalated letter from D. Ockenden *re* introduction of *Linum anglicum* to Lakenheath Warren, 17 January 1979.
- A.37            Softback pocket notebook inscribed on first page 'EMILY'S WOOD'. Used for notes and data June 1948, March 1949 and June 1951, and jottings *re* expenses incurred on visit to Norway.

### Notebooks

- A.38 Softback pocket notebook inscribed on spine 'IRELAND 1949'. Used for notes on visit to Ireland, and on Madingley Wood Easter 1952.
- A.39 Hardback pocket notebook inscribed on spine 'PURBECK 1952'. Used for notes on visit to Isle of Purbeck 17-22 June 1952.
- A.40-A.43 Series of hardback notebooks 1954-66, dated on spine.
- A.40 '1954 - 1955'. Paginated 1-57 with 'Plan of Expts' facing first page. Used for notes 26 June 1954 - 20 December 1955 and later notes various dates 1956-68. A little intercalated material.
- A.41 '1955'. Paginated 1-54 (later pages not numbered) with list of contents at front. Used 25 May 1955 - 30 August 1956. A little intercalated material.
- A.42 '1956' and inscribed on front cover '1956 and BRACKEN 1957 add 1960'. Paginated 1-73 (later pages not numbered) with list of contents at the front. Used for notes and data 1956-61, 1964, 1970. A little intercalated material.
- A.43 'BRACKEN 1957 - 1966' and inscribed on front cover 'BHATIA BOOK'. Paginated 1-76 with incomplete list of contents inside front cover. Used for notes and data by K. K. Bhatia 1956, and by Watt 1957-67.
- A.44 Hardback pocket notebook used from the front and from the back for miscellaneous notes and data 1955-59.
- A.45 Hardback notebook. Paginated 1-48. Used for data over period 1951-73 (principally 1964-73). Work recorded in this notebook may follow that in A.32.
- A.46 Hardback pocket notebook inscribed on first page 'Beginning 30/6/70 About 1/3 along book'. Used for miscellaneous notes 11 August - 3 September 1964, 5 May 1965, 15 November 1969, and for notes on bracken 30 June 1970 - 4 October 1973.
- A.47 Hardback pocket notebook used during visit to Sudan and journey home December 1965 - April 1966.

Watt spent a term at the University of Khartoum as a Visiting Professor, giving a course in plant ecology.

### Notebooks

- A.48            Hardback notebook used from the front for calculations and data 1965, notes on 'Galium', 'Luzula', 'Rumex' and 'Festuca ov[ina]', draft 'Future observations on population changes in acidiphilous grass-heath' c.1967, and rainfall data, and from the back for draft 'The management of plant communities with particular reference to the rare species in Breckland', and data and calculations over period 1951-62.
- A.49            Softback pocket 'memo book' used during visit to Denmark 1968.

SECTION B NOTES AND DRAFTS

B.1 - B.36

- B.1 'Guide to Cavenham & Tuddenham Heaths (Breckland)' by H. Godwin, prepared for an excursion during the Fifth International Botanical Congress, Cambridge, August 1930; 'Memo on Research in Breckland' by Watt, 3pp typescript, 9 March 1931.

Watt's memo argues that the Forestry Commission activities in planting pine in the Breckland area 'may be considered an experiment on a gigantic scale presenting an unrivalled opportunity for the study of the development of the life of heath to the life of forest' and sets out broad outline of proposed research.

- B.2 'Eriswell Warren 6" Composite samples' BL/B. B. C.' Contents of Watt's envelope so inscribed: data on soil composition, June 1936.

- B.3 'Brean Down Helianthemum polifolium, Koeleria vallesiana. Notes on Brean Down from David W. P. Greenham'. Contents of Watt's envelope so inscribed, August 1937.

- B.4 'National Parks Committee (England and Wales) and Wildlife Conservation Special Committee. Memo on Breckland' by Watt, 10pp typescript, 'Sept. 1945'.

Among the recommendations in the memo are the suggestions that a National Park be created in Breckland and that two Nature reserves be established at Cavenham Heath and Lakenheath Warren.

- B.5 'Report on Breckland Heaths' by Watt and A. G. Tansley, 3pp ms, nd but probably written shortly after the end of the Second World War.

The report is annotated 'On the invitation of C. Cadbury, Prof. A. G. Tansley F.R.S. and Dr A. S. Watt visited certain heaths in Breckland for the purpose of considering and reporting on their suitability for the preservation of the distinctive features of the area'.

- B.6 'Rabbits' by Watt, 9pp ms, nd but notes on the literature found therewith have a latest date of 1959.

The draft considers the effect of grazing by rabbits on the plant community.

- B.7 'Ms. Litter & Change in Height and Notes'. Contents of Watt's folder so inscribed: graphs 1947, data covering period 1933-59.

Notes and drafts

- B.8-B.11 'Colorado'. Contents of Watt's folder so inscribed divided into four for ease of reference.

Watt visited the University of Colorado in 1963. He delivered some lectures and studied plant responses to subalpine and alpine environments at the University's Institute of Arctic and Alpine Research.

- B.8 List of US and Canadian contacts for Watt.

- B.9 Watt's pencil sketches of plants showing their root formations.

- B.10,B.11 Notes, bibliographical references, data and graphs chiefly *re* the *Kobresietum* of the Rocky Mountains. 2 folders.

- B.12 'Extract from letter received from Mr Eric Swann. 23.7.63' *re* phanograms found on Weeting Heath, 1p typescript; photocopy of ms note by Watt on soils and vegetation of Weeting Heath, nd.

Both items bear the reference 'GA/115/FL/1'.

- B.13-B.29 'Rare species in Breckland: their management for survival'.

Draft of and notes and data for article by Watt published in the *Journal of Applied Ecology* 8 (1971).

- B.13 19pp photocopied ms draft.

- B.14-B.29 'Mss notes on rare species, incl. soil tests in 1930's - 1950's collected for this paper'.

The material is 'A. S. Watt & M. Southwell Originals of notes on rare & local species in Breckland'. It was found in Watt's folders and has been arranged according to Watt's list (presented at B.14). The catalogue entries reproduce the subject titles in this list.

Mrs M. Southwell is acknowledged in Watt's article as having 'kept notes on the numbers and behaviour [of rare species] in localities within cycling distance of Mildenhall'.

- B.14 Watt's list of the contents of his folders.

'ASW Introductions 2pp'.

'Artem[isia] cam[pestris]'.

'Carnex eri[cetorum]'.

Notes and drafts

- B.15 'Crassula (Tillaea) muscosa'.  
'Galium anglicum'.  
'Gnaphalium lut[eo]-alb[um]'.
- B.16 'Herni[aria] gla[bra]'.  
'Medic[ago] fal[cata]'.
- B.17 'M[edicago] min[ima]'.  
'Musca[ri] atl[anticum]'.
- B.18 'Ornit[hogalum] umb[ellatum]'.  
'Phleu[m] phl[eoides]'.  
'Scler[anthus] per[ennis]'.
- B.19 'Silen[e] con[ica]'.  
'S[ilene] otites'.  
'Veron[ica] pra[ecox]'.
- B.20 'V[eronica] spi[cata]'.  
'V[eronica] tri[phyllos]'.  
'V[eronica] ver[na]'.
- B.21 'Watt & Southwell: Local species folder'.
- B.22-B.24 'Watt Rare species notes, bibl. corresp'. Contents of Watt's folder divided into three for ease of reference.  
  
B.24 is correspondence 1963-71. That 1964 principally *re* protection of *Artemisia* transplants.
- B.25,B.26 'Watt. Continental element notes'. Contents of Watt's folder divided into two for ease of reference.

Notes and drafts

- B.27-B.29 'Southwell. LIST & Corresp'. Contents of Watt's folder divided into three for ease of reference.  
  
B.27 is principally correspondence from Southwell 1951-53.
- B.30-B.34 'A. S. Watt Grassland A Notes & graphs - recd 10.2.83'. Contents of Watt's folder so inscribed divided into five for ease of reference.
- B.30,B.31 'Working graphs from Grassland A 1936-73'. Contents of Watt's envelope so inscribed. Some graphs annotated on verso.
- B.32-B.34 Notes and data on Grassland A covering period 1936-73.  
  
Include pages of incomplete draft on the relationship between climate and dominant species in Grassland A.
- B.35 Book review of *The Scientific Management of Animal and Plant Communities for Conservation*, ed. Watt and E. Duffey (Blackwell, 1971).  
  
Untitled ms draft on grassland grazing by rabbits, 2pp, 7 March 1975.
- B.36 Miscellaneous material.

SECTION C NATURE CONSERVANCY

C.1 - C.16

Watt served on the Nature Conservancy's Breckland Committee as a representative of the Norfolk Naturalists' Trust. The Committee was established 'with the dual responsibility of providing management advice for the Breckland Nature Reserves, as well as advising generally upon questions affecting Nature Conservation throughout Breckland'. It held its first meeting on 24 July 1958.

- C.1 1958. Papers of committee meetings 24 July, 27 August and 24 October, and joint meeting with representatives of other Breckland interests 24 October.
- C.2 1959-60. Memo on 'Ash Plantation, Cavenham Heath, W. Suffolk' by Watt *et al*, 3pp typescript, 'sent to E. A. Duffy 20.12.59'; 'Report on preliminary investigation into the lichen communities, their ecology and status on Thetford Heath' by P. W. James and A. C. Jermy, 4pp typescript, sent to Watt for comment 21 March 1960; agenda of committee meeting 14 September 1960.
- C.3 1961. Papers for Committee meeting 23 March and agenda for 15 September; correspondence from E. Duffey *re* 'recording the effects of rabbit grazing and collecting data on rare Breckland plants', April - September.
- C.4 1963. Brief correspondence and illustrative map *re* proposal for gravel excavation January, February; minutes of committee meeting 28 May and papers of 17 October (includes 'Management Plan Weeting Heath National Nature Reserve Norfolk').
- C.5 1964-65. Agenda of committee meeting 18 February 1964; two slightly different duplicated typescript copies of 'Draft plan for Breckland' by Watt and 'Summary of ecological problems concerning rare invertebrate species in Breckland' by E. Duffey, 2pp typescript. Both papers prepared for meeting of committee 14 October 1965.
- C.6 1966-69. Includes 'Conservation of invertebrate animals in Breckland: the position in 1966' by M. G. Morris, 2pp typescript, for committee meeting 16 May 1966; letter from P. A. Wright *re* 'Thetford Heath Grazing Proposals', 18 September 1968.
- C.7-C.10 'G. Crompton. Breckland Survey'. Contents of folder so inscribed divided into four for ease of reference.
- Mrs G. ('Gigi') Crompton was supported by an NERC grant 1966-68 for 'the documentation of previous studies on the natural features of the Breckland'. On her completion of this work she was re-appointed to undertake more detailed studies. See also E.18, E.34 and F.15.
- C.7,C.8 Correspondence and papers *re* terms of the appointment 1965-66. 2 folders.

### Nature Conservancy

- C.9 Papers *re* re-appointment 1968.
- C.10 Miscellaneous historical etc. material, probably assembled by Crompton.
- C.11 1970. Brief correspondence from Crompton, including her 'Report on land-use study of Lakenheath Warren, Weeting Heath and Icklingham (Dead Mans Grave), 1968-70', sent to Watt 9 October; letter from G. F. Peterken, 1 June, enclosing copy of O. Rackham's notes on and map of Fakenham Wood.
- C.12 1971. Duplicated typescript papers by G. Crompton on 'Weeting Heath', 2pp+maps and 'History of Lakenheath Warren', 8pp.
- C.13 1973-74. Correspondence *re* damage to the Grassland 'A' enclosure on Lakenheath Warren.
- C.14 Nd. 'Memo on Breckland Research: our needs in the field', 4pp duplicated typescript and 'Comments on [?research proposal] E/M/59/79 The Nene Reserves as research areas for conservation and other ecological studies', 3pp typescript by Watt; 'The evolving concept and practice of conservation' by B. Forman, 15pp duplicated typescript.
- C.15,C.16 Miscellaneous background material found with Watt's Nature Conservancy papers. 2 folders.

SECTION D CORRESPONDENCE

D.1 - D.4

- |     |   |            |
|-----|---|------------|
| D.1 | Briscoe, G.<br><i>re</i> analysis of soil samples.  | 1954       |
|     | Davy, A. J.<br><i>re</i> data from Watt's Grassland A plots at Lakenheath Warren.   | 1980       |
|     | Forestry Commission<br><i>re</i> Emily's Wood ecological reserve.   | 1948       |
| D.2 | Hellum, A. K. and Wagner, W. H.<br><i>re</i> bracken research.  | 1962-63    |
|     | Lethbridge, T. C.<br><i>re</i> analysis of soil samples, archaeological sites in the Brecklands.                                  | 1940, 1947 |
|     | McIntyre, G. I.<br><i>re</i> bracken research.  | 1958       |
| D.3 | Thurston, J. M.<br><i>re</i> Park Grass experiments.  | 1967       |
|     | Wort, S.<br>First page of letter missing.   | Nd         |
| D.4 | Unidentified<br>Letter and data from unidentified colleague at Zentralstelle für Vegetationskartierung, Stolzenau-Weser, Germany. | 1949       |

SECTION E PHOTOGRAPHS

E.1 - E.34

E.1-E.22 PHOTOGRAPHS, NEGATIVES, SLIDES

E.23-E.34 PHOTOGRAPHIC PLATES

PHOTOGRAPHS, NEGATIVES, SLIDES

- E.1-E.8 University of Cambridge Department of Forestry envelopes containing photographs by Watt of heathland in northwest Germany, taken during visit in 1931 (see A.6). The envelopes (retained) are inscribed with the subjects of the photographs and these are reproduced in the catalogue entries. The photographs themselves are identified on verso in German. Related correspondence found therewith is at E.1.
- E.1 Brief correspondence *re* photographs, 1985, 1992.
- E.2 'Arrhenatherion'.  
'Bromion'.
- E.3 'Moor, Sphagnetum, Rhynchosporetum, Ericetum'.  
'Nupharetum, [?]Scirpeto-phragmitelum, Caricetum etc'.
- E.4 'Querceto-betuletum and Q-b degenerating to Heath'.
- E.5 'Querceto-betuletum -> Heath'.
- E.6 'Querceto-Carpinetum'.  
'Rendzina'.
- E.7 'Sand-dunes and development of the vegetation'.
- E.8 'Soil profiles in Heath'.  
'Thymus angustifolium - Festuca ovina and succession to Calluna'.  
'Miscellaneous'.

### Photographs

- E.9-E.17 'PHOTOS - VARIOUS'. Contents of Watt's envelope so inscribed.
- The envelope contained loose photographs, smaller envelopes (retained) of photographs and negatives usually with the subject inscribed thereon, and negatives in 'wallets' made by Watt. Watt's subject titles are reproduced in the catalogue entries.
- E.9 Unidentified aerial photographs, 16 May 1932. Found loose
- E.10 'Turner & Watt Photos J. Geol. 27'. Refers to 1939 joint publication 'The oakwoods of Killarney, Ireland'. Photographs identified on verso.
- 'Photos from Bradshaw'. Photographs taken during group visits to various sites (identified on verso), ?1930s.
- Untitled envelope. Photographs and negatives of 'KING BILLY PINE TREES' from Tasmania.
- Watt visited Australia 1950-51.
- E.11 '?Pt[eridium] & Call[una]'. Includes photographs for 'Watt J. Ecol 43', a 1955 article 'Bracken versus heather, a study in plant sociology'.
- 'Grass A + F'. Identified by Watt on verso. 1957.
- E.12 'Bracken'. Includes aerial photographs ?of Lakenheath Warren.
- '?P. expts on soils from Bracken Ring'.
- E.13 'Misc'. Some photographs identified by Watt on verso.
- E.14 'Photos: Soil Profiles Maidscross Hill Aerial Photo: Stone Stripes'. Some photographs identified by Watt on verso.
- E.15 'Maidscross Hill [...]'.  
'Thetford Heath Stone Stripes'.  
Untitled envelope. Photographs of Eriswell Warren.

### Photographs

- E.16,E.17      Negatives.
- E.16            '1 - 6 / 1951 28/6/ '.
- 'Calluna + Pteridium 6 - 12 28/6/51'.
- '12-18 28/6/51'.
- '18-36 28/6/51'.
- 'C-B-C'.
- 'Calluna Expt Area'.
- E.17            'April, 1956. Frame nos. 2-7'.
- 'April, 1956. Frame nos. 8-11'.
- '11/7/57'.
- 'Sept. 1957. Nos 1-6'.
- 'Sept. 1957. Nos 7-12'.
- E.18            'Gigi [Mrs G. Crompton] Photos L. Warren. Site of Aerodrome' and '+ lck. Dunes'. Contents of Watt's envelope so inscribed (not retained). The photographs are identified on verso, most originally date 1932-33. Photographic plates for some of these are at E.34.
- 'Gigi'. Unidentified colour photograph found in envelope so inscribed (not retained).
- For Crompton's work in the Breckland area see also C.7-C.12.
- E.19            Photographs, some identified by Watt as taken during visit to Scotland and in Suffolk, 1951.
- E.20            'Hailey Wood + Stone Stripes'. Aerial photograph found in envelope so inscribed (retained).
- E.21            Miscellaneous photographs.
- E.22            Two colour slides of 'Oxslips. Hayley Wood Easter 1962'.
- Two colour slides of 'Silene conica - on soil-bed Lancaster 1973'.

## Photographs

### PHOTOGRAPHIC PLATES

- E.23-E.33 Watt's photographic boxes, principally containing glass photographic plates but also photographs and negatives.
- E.23 'CALLUNETUM TUDDENHAM' and 'Breckland Photos July-Aug 1932'.
- E.24 'GRASSLAND A- G Veg. & D/E & G' and 'July 1935'.
- E.25 'ENCLOSURES against RABBITS' and 'Dr Watt Aug 10th 37'.
- E.26 'GRASSLANDS Slides graphs & figs Rec 4/2/57'. The plates are mounted and labelled.
- E.27 'Box 1. From Top Grassland. F.G etc Slides of publ. tables & graphs'. c.1958. The plates are mounted and labelled.
- E.28 'Box 2. From Top GRASSLANDS graphs & figs'. c.1958. The plates are mounted and labelled.
- E.29 'Grasslands A F etc Slides: graphs & figs'. c.1958. Some of the plates are mounted and labelled.
- E.30 The box bears a number of inscriptions, most crossed out. The latest are 'Breckland 1963 BES Norwich Oct 1966 [...]'. The plates are mounted and labelled. Box also contains two photographs of Lakenheath Warren 12 August 1949.
- E.31 'LAKENHEATH EROSION COMPLEX'.
- E.32 'EROSION COMPLEX LAKENHEATH'.
- E.33 'Erosion beginning L'heath Warren Wangford Dune [...]'.  
.
- E.34 Packet of plates inscribed 'Gigi'. The plates are mounted and labelled. For photographs made from the plates see E.18.

**SECTION F MAPS**

**F.1 - F.21**

These maps vary considerably in format, ranging from very small scale and detailed plans of individual nature reserves to larger scale maps of groups of reserves.

- F.1 'South East Region Visiting Group April 1966'. Map of south east England indicating National Nature Reserves, Proposed National Nature Reserves etc. Probably prepared for Nature Conservancy.
- F.2 Map of Cambridgeshire indicating Nature Reserves and Sites of Special Scientific Interest (SSSIs). Nd but pre-1974.
- F.3 'Reconnaissance Soil Survey' of Thetford area, scale 1:63,360. Nd.
- F.4 Photocopy of Ordnance Survey map of Breckland indicating Nature Reserves and SSSIs. 18 July 1958.
- F.5 'Soils of The Breckland Forest Sheet 2 (Brandon)', Soil Survey of England and Wales, scale 1:25,000. 1969.
- F.6 Photocopy of Ordnance Survey map 52/03 of Ampthill area (Bedfordshire), scale 1: 25,000, indicating SSSIs. Prepared for the Nature Conservancy.
- F.7 'Church Stretton', Soil Survey of England and Wales, scale 1:63,360. 1964.
- F.8-F.21 Maps of individual Breckland reserves and associated sites.
- F.8 'Buxton Heath', scale 25":1 mile. 1954.
- F.9 'Cavenham Heath' vegetation map. 1972.
- F.10 'The Icklingham Heaths', scale 2½":1 mile. Nd.
- F.11 'Kingsley Vale Management Plan Map 1'. 31 December 1958.
- F.12 'Kingsley Vale Management Plan Map 2'. 31 December 1958.
- F.13 Lakenheath Warren, scale 2½":1 mile. Prepared by Nature Conservancy to indicate site of Proposed National Nature Reserve. 1950s.

### Maps

- F.14           Lakenheath Warren, scale 1:8,000. June 1968 'revised 19.1.70'.  
  
Includes sites of Watt's Grassland enclosures.
- F.15           Historical maps of Lakenheath Warren and surrounds, possibly prepared by Mrs G. Crompton (see C.7-C.12).  
  
'Distribution of *Carex arenaria* and charter warrens in NW Suffolk'.  
  
Two maps of Lakenheath Warren, showing land use during the seventeenth and eighteenth, and the nineteenth centuries, scale 2½":1 mile.
- F.16           'Monks Wood National Nature Reserve Management Plan' maps showing topography, management, geology, experiment sites, soil and compartments. 27 October 1964.
- F.17           'Thetford Heath Management Plan' maps 2 and 3, scale 12":1 mile. 28 April 1961.
- F.18           'Wangford Warren', scale 6":1 mile. 10 January 1961.
- F.19           'Weeting Heath', scale 12":1 mile. 2 January 1963.  
  
Annotated by Watt.
- F.20           'Weeting Heath' soil map. 30 January 1963.
- F.21           Unidentified.

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AGNEW, Andrew David Quentin	B.17
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RACKHAM, Oliver	E.1
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SOUTHWELL, Miriam	B.27 See also B.13-B.34

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WORT, S.	D.3
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