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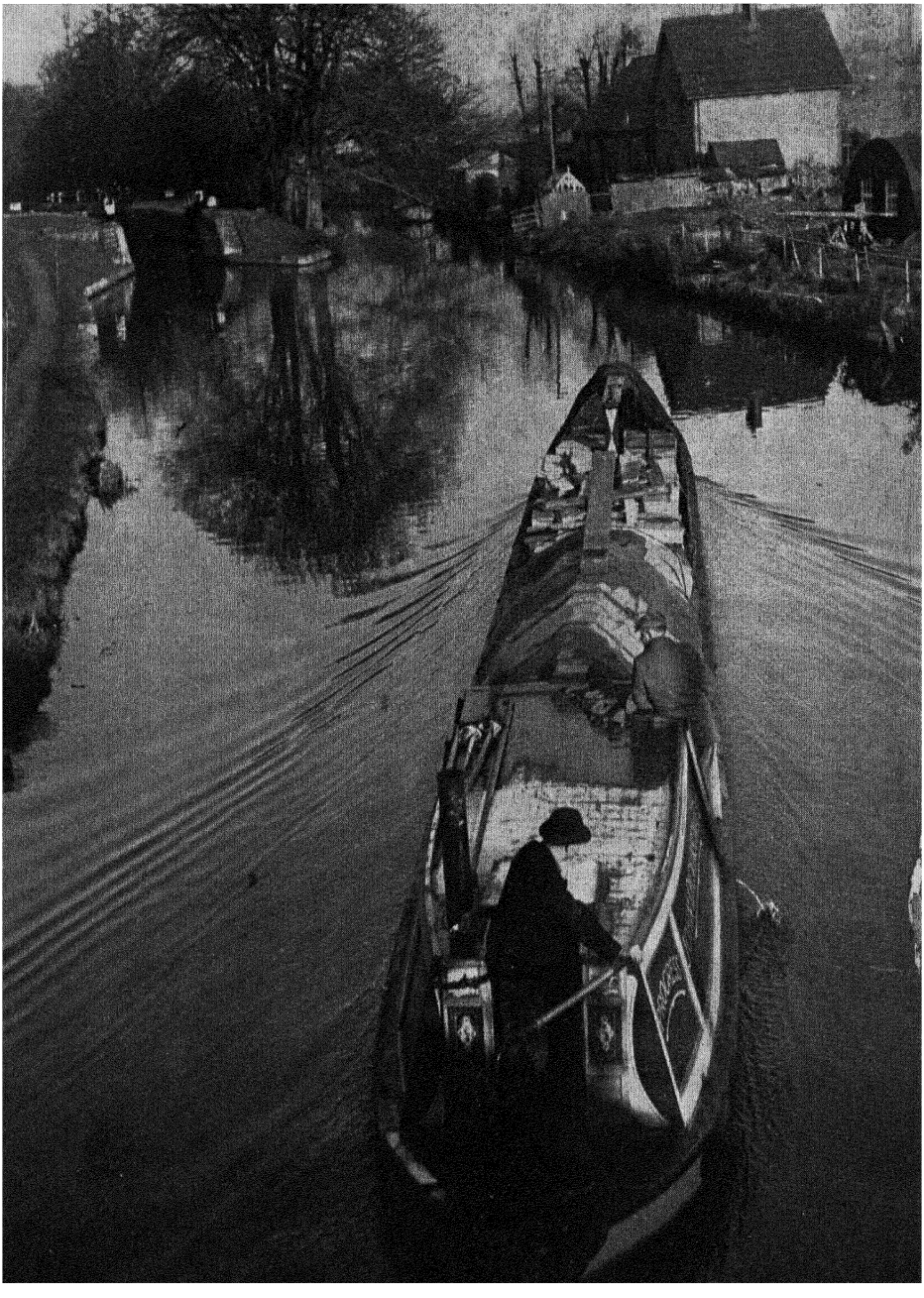
INLAND WATERWAYS OF GREAT BRITAIN AND NORTHERN IRELAND



CANAL TRANSPORT: A NARROW BOAT NEAR WATFORD, HERTFORDSHIRE

By courtesy of "Mirrorpic"

INLAND WATERWAYS OF GREAT BRITAIN AND NORTHERN IRELAND

Compiled by

LEWIS A. EDWARDS

Hon. Secretary of
The Inland Waterways Association

IMRAY, LAURIE, NORIE, & WILSON, Ltd.
London & St. Ives (Hunts.)
1950

NOTE.

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FOREWORD

By

ROBERT FORDYCE AICKMAN

Chairman of The Inland Waterways Association

It is highly desirable that we view our waterways system with new eyes. Over the last 100 years, through public inertia and the destructive activities of those responsible for competing forms of transport, British inland waterways have fallen largely into ruin and almost entirely into oblivion. It is now true to say, modifying Mr. Churchill, that about no subject so large is so little known by so many.

By purchasing sections of the system, a bit here and a bit there, in all about 35 per cent. of the whole, the railway companies early acquired a stranglehold, from the ill consequences of which few waterways have escaped. The system has been kept at the disastrous turnpike road stage of development, with standards, alike of maintenance and of charges, varying widely, and little or no attempt made to attract traffic, indeed, in many instances elaborate schemes to remove and divert it. It is a major tribute to the fundamental cheapness and efficiency of canal transport that any traffic has remained. A series of Public Enquiries has brought out the damning facts and unfailingly recommended major changes in the national interest. Never has one of these recommendations been implemented.

The Inland Waterways Association exists to urge that all navigable rivers and canals in Great Britain be restored to the level of maintenance from which by law they should never have departed; and that they be fully used by both commercial and pleasure traffic. The obvious and only wise policy is to manage the waterways, like the roads, as a system: if traffic diminishes on a by-road the surface is not then allowed to go to pieces with a view to abandoning the road on the ground of "No Demand!" That is exactly what happens with canals. An entirely new national policy is now both possible and required. It is *possible* because many waterways have now been nationalized, so that if they continue to be mismanaged, starved and destroyed as hitherto, then it is the public, as new owners, who lose directly as well as indirectly. It is *required* for two new reasons in addition to the many old ones: our impovished economy can no longer afford to ignore what is the cheapest form of transport for a wide range of loads; and holidays with pay for millions require that the waterways be made available for pleasure boating on a vastly increased scale.

The family man cannot suddenly take a holiday on the sea; but the 2,000 surviving miles of navigable river and canal offer an alternative which calls for

just the right amount of initiative and exertion, and provides just the right allowance of adventure, novelty and excitement. By definition the waterways tend to connect the most densely populated areas with the loveliest parts of the countryside. The possibilities are unlimited, and the potential revenue from tolls and other sources enormous. What has been done on the Norfolk Broads can be done throughout the country. In the past, pleasure traffic (in accordance with the general policy) has been actively discouraged, and suitable boats are acutely lacking. The demand is not lacking, as our Association has the best of reasons for knowing. Given encouragement, it is hard to set any bounds to what could be done: to enrich alike the investor in this new field and the managements of the waterways; to enrich still more the lives of the multitude who could enjoy this most wonderful of holidays. All interested should join The Inland Waterways Association (annual subscription: one guinea, including receipt of a Bulletin about every second month). The address is 11, Gower Street, London, W.C.1.

Prominent among the many needs of the case has long beeen a complete and accurate handbook of information. Here, at last, it is: prepared by Colonel Wilson, with the assistance of Mr. L. A. Edwards, an indefatigable member of the Association's Council. I am closely acquainted with the long hours of nocturnal toil that Mr. Edwards has contributed to the volume; and with the strange and unexpected sources of information his entire refusal to be defeated by research difficulties has in many cases led him to. The resulting book should be a godsend to all investigators, intending navigators and navigators in imagination. Circumstances make it an important pioneering work. It has my warmest good wishes.

December, 1950. Robert Fordyce Aickman.

PREFACE

The Transport Bill became an Act on January last, 1948, and approximately 2,000 miles of navigable rivers and canals have become national property. This factor, coupled with the efforts of The Inland Waterways Association, has begun to arouse public concern, and at long last the nation's conscience has been stirred by the failure to maintain our waterway assets to the required statutory standard to the detriment of our national economy.

This book contains information relating to all our waterways, together with details of the Northern Ireland Navigations. Some of the navigations listed are not now navigable, due to lack of maintenance, but no doubt they will be restored to working order as a large percentage are now State-owned.

The national water shortage, coupled with serious flooding in many areas is an anomaly the nation can ill afford, but it is the reward we are reaping for failing to see that our waterways were in the right hands and played their proper part in our national life. This policy of neglect can be seen to the full in the case of the Kennet and Avon Canal. This waterway was not abandoned by Parliament some years ago, although lack of maintenance had driven all traffic from it as it formed a valuable drainage area. For years it has kept in employment an army of men, almost as large as that employed on the Caledonian Ship Canal, which has for many years been State-owned. Now that both waterways are nationally owned, the Kennet and Avon Canal should become as easy to navigate as the Caledonian Canal.

The value of this volume to yachtsmen has been greatly enhanced by the addition of Distance Tables and a Glossary of Canal Terms. For the bulk of these, taken from "Bradshaw's Canals and Navigable Rivers" (1928 Edition), compiled by the late Rodolph de Salis after a personal survey, I am very much indebted to Messrs. Henry Blacklock and Co., Ltd., Manchester, and Major Count A. de Salis for their permission to reproduce these.

My grateful thanks are due to many people for their kind assistance in supplying information for this book. First and foremost I would like to express my appreciation to Colonel W. E. Wilson, D.S.O., for his help and encouragement at every stage of the work. It is regrettably impossible for me to acknowledge individually all members of The Inland Waterways Association who have helped me, but I would like here to offer particular thanks to the following: The Chairman, Mr. R. F. Aickman, and Mr. L. T. C. Rolt of The Inland Waterways Association, also Colonel The Rt. Hon. The Earl of Lucan, M.C., the Association's Vice-Chairman. To Mr. I. L. Wright for information about the South Wales Waterways. To Mr. T. Whitley for information about Navigable

Drains in the Boston Area. To Mr. H. M. Comber (Secretary, Inland Waterways Association, North-Western Branch) for information about the North-Western Waterways. To Mr. H. S. Brooker (Blakes (Norfolk Broads Holidays), Ltd.), for information regarding the Norfolk and Suffolk Broads. To Mr. H. J. Lincoln (Appleyard, Lincoln and Co. (Boatbuilders), Ltd.), Ely, Cambs., for information concerning the Fenland Waterways. To Mr. A. R. Daniell, D.S.O., D.S.C. (East Coast Yacht Agency, Ltd.), Waldringfield, Suffolk, for information about East Anglian Rivers. To Mr. D. G. Russell (Assistant Secretary of the Scottish Tourist Board), for details of the Scottish Waterways. Also to Mr. John Knill, for the photograph of his Narrow Boats, and to Miss Patricia J. Brown, for carrying out the large amount of secretarial work involved. Finally, to the Staff of the Docks and Inland Waterways Executive at Dorset Square, their four Divisional Officers, and the many canal and river owners, whose co-operation has been of great value.

This volume incorporates all the information (with revisions) which was in the 1947 edition of "Inland Waterways of Great Britain," by Colonel W. E. Wilson, D.S.O.

Ashtead, Surrey.
December, 1950.

Lewis A. Edwards.

CONTENTS

	Page
LIST OF CANALS & RIVERS	xi
NATIONALIZED WATERWAYS	1
CANALS AND RIVERS—ENGLAND AND WALES	7
„ „ „ **—SCOTLAND**	369
„ „ „ **—NORTHERN IRELAND**	387
APPENDIX (For Contents See page 401)	402

LIST OF CANALS AND RIVERS

ENGLAND AND WALES

Number of Waterway.		Page
No. 1 ..	Adur, River	7
No. 2 ..	Aire and Calder Navigation	9
	Wakefield Section	10
	Barnsley Section	10
	Selby Canal	11
	River Aire	11
No. 3 ..	Aire and Calder and Sheffield and South Yorkshire Junction Canal	16
No. 4 ..	Alde, River	18
No. 5 ..	Ancholme, River	20
See Norfolk Broads ..	Ant, River	223
No. 6 ..	Arun, River	22
No. 7 ..	Ashby Canal	26
No. 8 ..	Ashton, Peak Forest and Macclesfield Canals ..	28
No. 9 ..	Avon, River (Bristol)	35
No. 10 ..	Avon, River (Lower Navigation)	37
No. 11 ..	Basingstoke Canal	39
No. 12 ..	Beaulieu River	41
No. 13 ..	Beverley Beck	42
No. 14 ..	Birmingham Canal Navigations	43
No. 15 ..	Black Sluice Drainage	53
No. 16 ..	Blyth, River	54
No. 17 ..	Brecon and Abergavenny Canal	55
See Norfolk Broads ..	Breydon Water	215
No. 18 ..	Bridgewater Canal	57
No. 19 ..	Bridgwater and Taunton Canal	63
See Norfolk Broads ..	Bure, River	219
No. 20 ..	Bude Canal	65
No. 21 ..	Calder and Hebble Navigation	67

Number of Waterway.		Page
No. 22 ..	Cam, River	69
	Bottisham Lode	71
	Burwell Lode	70
	Reach Lode	70
	Swaffham Lode	71
No. 23 ..	Chelmer and Blackwater Navigation	72
No. 24 ..	Chesterfield Canal	74
See Norfolk Broads ..	Chet, River	215
No. 25 ..	Chichester Canal	76
No. 26 ..	Colne, River	77
No. 27 ..	Coventry Canal	78
No. 28 ..	Cromford Canal	81
No. 29 ..	Crouch, River	83
No. 30 ..	Dart, River	84
No. 31 ..	Dartford and Crayford Navigation	86
No. 32 ..	Deben, River	87
No. 33 ..	Dee, River	88
No. 34 ..	Derby Canal	90
No. 35 ..	Derwent River	92
No. 36 ..	Don, River (Yorkshire)	94
No. 37 ..	Driffield Navigation	96
No. 38 ..	Exeter Ship Canal	98
No. 39 ..	Foss, River	100
No. 40 ..	Fossdyke Canal (Lincolnshire)	101
No. 41 ..	Fowey, River	103
No. 42 ..	Frome, River	104
No. 43 ..	Glamorganshire Canal	105
No. 44 ..	Glen, River (Lincolnshire)	106
No. 45 ..	Gloucester and Sharpness Ship Canal	108
No. 46 ..	Grand Union Canal	111
No. 47 ..	Grand Western Canal	127
No. 48 ..	Gravesend and Rochester Canal	128
No. 49 ..	Grosvenor Canal	129
No. 50 ..	Ham Dock	130
No. 51 ..	Hamble, River	131
No. 52 ..	Helford River	132

Number of Waterway.		Page
See Grand Union ..	Hertford Union Canal	115
No. 53 ..	Huddersfield Broad Canal	133
No. 54 ..	Huddersfield Narrow Canal	134
No. 55 ..	Hull, River	136
No. 56 ..	Humber, River	138
No. 57 ..	Idle, River	140
No. 58 ..	Kennet and Avon Navigation	141
No. 59 ..	Kensington Canal	145
No. 60 ..	Kyme Eau	146
No. 61 ..	Lancaster Canal	147
See River Great Ouse	Lark, River	236
No. 62 ..	Lee, River	149
No. 63 ..	Leeds and Liverpool Canal	154
	Leigh Branch	155
	Rufford Branch	155
No. 64 ..	Lydney Canal and Harbour	160
See Ashton Canal ..	Macclesfield Canal	33
No. 65 ..	Manchester, Bolton and Bury Canal	161
No. 66 ..	Manchester Ship Canal	163
	Runcorn and Latchford Canal	167
	Mersey and Irwell Navigation	166
No. 67 ..	Market Weighton Drainage Navigation	172
No. 68 ..	Medina, River	173
No. 69 ..	Medway, River	177
No. 70 ..	Mersey, River	180
No. 71 ..	Middle Level Navigations	183
No. 72 ..	Monmouthshire Canal	188
No. 73 ..	Neath, River	190
No. 74 ..	Nene, River	192
See Norfolk Broads ..	New Cut or Haddiscoe Cut	211
No. 75 ..	North Walsham Canal	197
No. 76 ..	Norfolk and Suffolk Broads	198
No. 77 ..	Nottingham Canal	229

Number of Waterway.		Page
See River Great Ouse	Old River	233
See Norfolk Broads	Oulton Broad	204
No. 78	Ouse, River Great	230
See River Great Ouse	Ouse, River (Little or Brandon River)	236
No. 79	Ouse, River (Sussex)	239
No. 80	Ouse, River (Yorkshire)	241
No. 81	Oxford Canal	245
No. 82	Parrett, River	248
See Ashton Canal	Peak Forest Canal	31
No. 83	Pocklington Canal	250
See Grand Union	Regent's Canal	114
No. 84	Ripon Canal	84
No. 85	Roach, River	253
No. 86	Rochdale Canal	254
No. 87	Roding, River	258
No. 88	Royal Military Canal (Hythe, Kent)	259
No. 89	St. Helen's Canal	260
No. 90	Salcombe River	262
See Aire and Calder Nav.	Selby Canal	11
No. 91	Severn, River	263
No. 92	Sheffield and South Yorkshire Navigation	269
No. 93	Shropshire Union Canal	274
	Middlewich Branch	275
	Norbury Branch	275
	Welsh Branch	276
	Prees Branch	276
	Llantisilio and Llangollen Branch	277
See Sheffield and South Yorkshire Navigation	Stainforth and Keadby Canal	269
No. 94	Staffordshire and Worcester Canal	281
See River Lee	Stort, River	151
No. 95	Stour, River (Dorset)	285

Number of Waterway.		Page
No. 96 ..	Stour, River (Kent)	286
No. 97 ..	Stour, River (Suffolk)	288
No. 98 ..	Stourbridge Canal	290
No. 99 ..	Stourbridge Extension Canal	292
No. 100 ..	Stover Canal	293
No. 101 ..	Stratford-on-Avon Canal	294
No. 102 ..	Stroudwater Canal	296
No. 103 ..	Surrey Canal	297
No. 104 ..	Tamar, River	298
No. 105 ..	Tees, River	300
No. 106 ..	Teign, River	302
No. 107 ..	Thames, River	304
No. 108 ..	Thames and Severn Canal	327
See Norfolk Broads ..	Thurne, River	226
No. 109 ..	Trent, River	329
No. 110 ..	Trent and Mersey Canal	334
No. 111 ..	Tyne, River	341
No. 112 ..	Ure River Navigation	343
No. 113 ..	Wandsworth Cut	345
No. 114 ..	Wash, The	346
See Norfolk Broads ..	Waveney, River	208
No. 115 ..	Weaver, River	347
No. 116 ..	Welland, River	349
Shropshire Union Canal	Welsh Canal	276
No. 117 ..	Wey, River	351
No. 118 ..	Wharfe, River	355
No. 119 ..	Witham Navigable Drains	356
No. 120 ..	Witham, River	360
No. 121 ..	Worcester and Birmingham Canal	363
See River Great Ouse	Wissey, River	237
No. 122 ..	Wye, River	366
See Norfolk Broads ..	Yare, River	212
No. 123 ..	Yealm, River	368

Number of Waterway. Page

SCOTLAND

No. 124 .. Caledonian Canal 371
No. 125 .. Clyde, River 375
No. 126 .. Crinan Canal 376
No. 127 .. Forth and Clyde Canal 378
No. 128 .. Forth, River 381
No. 129 .. Monkland Canal 383
No. 130 .. Tay, River 384
No. 131 .. Union Canal 385

NORTHERN IRELAND

No. 132 .. Coalisland Canal 388
No. 133 .. Lagan Navigation 389
No. 134 .. Lower Bann 392
No. 135 .. Lough Erne Navigation 394
No. 136 .. Newry Canal 396
No. 137 .. Strabane Canal and Foyle Navigation 398
No. 138 .. Upper Bann Navigation 399

NATIONALIZED WATERWAYS

These are controlled by:—

The Docks and Inland Waterways Executive,
Headquarters: 22, Dorset Square, London, N.W.1.

Telephone: Paddington 1831.
Telegrams: 'Dainwex, Norwest, London.'

The bulk of the waterways are in four Divisions. These are as follows:—

ENGLAND

NORTH EASTERN DIVISION

Divisional Waterways Officer,
Docks and Inland Waterways Executive,
North-Eastern Division,
1, Dock Street, Leeds, 1.

Telephone: Leeds 20957.
Telegrams: 'Dainwex, Leeds.'

Aire and Calder Navigation.
Aire and Calder and River Dun Junction Canal.
Calder and Hebble Navigation.
Chesterfield Canal.
Cromford Canal.
Grand Union Canal (North of Leicester).
*Grantham Canal (Abandoned).
Huddersfield Broad Canal.
Lower Ouse (Trent Falls to 100 yards below Skelton Railway Bridge).
Nottingham Canal.
Pocklington Canal.
Ripon Canal and River Ure Navigation.
Sheffield and South Yorkshire Navigation.
Trent Navigation.
Trent and Mersey Canal (Burton to Trent).
Witham and Fossdyke Navigation.

* Although this canal has been officially abandoned, parts of it can be used for local boating.

NORTH WESTERN DIVISION

Divisional Waterways Officer,
Docks and Inland Waterways Executive,
North-Western Division,
Central Station,
Liverpool, 1.

Telephone: Royal 6731.
Telegrams: 'Inwex, Liverpool.'

Ashton Canal.
Lancaster Canal.
Leeds and Liverpool Canal.
Macclesfield Canal.
Manchester, Bolton and Bury Canal.
Peak Forest Canal.
St. Helen's Canal.
Shropshire Union Canal.
Staffordshire and Worcester Canal (North of Autherley).
Trent and Mersey Canal (Preston Brook to Burton-on-Trent).
Weaver Navigation.

SOUTH EASTERN DIVISION

Divisional Waterways Officer,
Docks and Inland Waterways Executive,
South-Eastern Division,
Transport House, Reservoir Road,
Ruislip, Middlesex.

Telephone: Ruislip 4081.
Telegrams: 'Dainwex, Ruislip.'

Ashby Canal.
Birmingham Canal Navigations (excluding portion in South-Western Division).
Coventry Canal.
Grand Union Canal (South of Leicester).
Lea and Stort Navigations.
Oxford Canal.

SOUTH WESTERN DIVISION

Divisional Waterways Officer,
Docks and Inland Waterways Executive,
South-Western Division,
Dock Office, Gloucester.

Telephone: Gloucester 24421.
Telegrams: 'Dainwex, Gloucester.'

Birmingham Canal Navigations (West of Birmingham).
Kennet and Avon Canal.
Lydney Canal and Harbour.
Severn Navigation.
Sharpness and Gloucester Ship Canal.
Staffordshire and Worcester Canal (South of Autherley).
Stourbridge Canal and Stourbridge Extension Canal.
Stratford-on-Avon Canal.
Worcester and Birmingham Canal.

Canals outside the four Divisions are as follows:—

SCOTLAND

CALEDONIAN CANAL

Engineer and Manager,
Docks and Inland Waterways Executive,
Caledonian Canal,
Canal Office,
Clachnaharry,
Inverness, Scotland.

Telephone: Inverness 140.

CRINAN CANAL

Engineer and Manager,
Docks and Inland Waterways Executive,
Crinan Canal,
Canal Office,
Ardrishaig, Argyllshire.

Telephone: Ardrishaig 10.

The *Monkland Canal, although nationally owned, is controlled by the successors of the old railways owners, viz.:—

The Railway Executive,
Scottish Region,
Central Station,
Central, C.1.
Telephone: Douglas 2900. Extension 293.
Telegrams: 'Commercial Central Station, Glasgow.'

The Forth and Clyde Canal, and the Union Canal, is controlled by:—

The Dock Manager,
East Coast Scottish Ports,
Dock Office,
Grangemouth.
Telephone: Grangemouth 591.
Telegrams: 'Dainwex, Grangemouth.'

* This waterway is not navigable, due to lack of maintenance.

SOUTH WALES CANALS

(All ex-Great Western Railway Canals)

Chief Docks Manager,
South Wales Docks,
Pierhead Buildings,
Cardiff.
Telephone: Cardiff 8100.

Brecon and Abergavenny Canal.
*Monmouthshire Canal.
*Swansea Canal.

* These waterways are not navigable, due to lack of maintenance.

Other canals, nationally owned, controlled by The Railway Executive, are:—

WESTERN REGION

Paddington Station, W.2.
Telephone: Paddington 7000. Extension 2618.

Bridgwater and Taunton Canal.
Grand Western Canal.
Stover Canal.

LONDON REGION

London Transport Executive,
55, Broadway,
London, S.W.1.

Telephone: Abbey 1234.

Kensington Canal.

SOUTHERN REGION

Waterloo Station,
London, S.E.1.

Telephone: Waterloo 5151.

Gravesend and Rochester Canal.

EASTERN REGION

Civil Engineer,
British Railways (E.R.),
King's Cross Station,
London, N.1.

Telephone: Terminus 4200. Extension 3320.

Haddiscoe and Waveney Navigation.

For easy reference, Nationalized canals and rivers are listed in alphabetical order, with the inland waterways still under private, public or municipal ownership.

Where a waterway is in more than one Division, application should be made to the Division in which the journey originates.

The short branch canals which belonged to the old colliery companies are now owned by the National Coal Board. Some of these have already been filled in.

No. 1

RIVER ADUR

Authority.

(*a*) **From Entrance to Old Shoreham Bridge.**

Shoreham Harbour Trustees,
Harbour Offices, Southwick, Sussex.

Telegrams: ' Harbourmaster, Southwick, Brighton.'

'*Phone:* Southwick 9613/4.

(*b*) **Old Shoreham Bridge to Bines Bridge.**

River Adur Catchment Board, Town Hall, Steyning, Sussex.

Note.—The above authority (*a*), have jurisdiction over the River up to Old Shoreham Bridge, and also over the Southwick Canal.

From and to. Bines Bridge to River Mouth.

Distance: 11⅛ miles.

Maximum Dimensions for Craft Using Waterway.

Length		Unlimited
Beam		,,
Draught	To Upper Beeding Bridge, H.W.S.T.	8 ft. 6 in.
	To Bines Bridge, H.W.S.T. ..	4 ft.
Headroom	Through Upper Beeding Bridge, H.W.S.T.	6 ft. 9 in.
	To Bines Bridge, H.W.S.T.	5 ft. 6 ins.

Towing Path: From Bines Bridge to Old Shoreham Bridge.

Locks: Nil.

Connections: The Old River Adur forms a Branch canal, from the Eastern Arm of the Harbour to Portslade and Aldrington, a distance of 1¾ miles. The entrance locks to this canal (sometimes called Southwick Canal) will admit craft up to the following dimensions:—

Length	240 ft.
Beam	40 ft.
Draught	15 ft.

No overhead obstructions in the canal or port.

River Adur, Eastern Branch, is navigable to Mock Bridge (2 miles).

Remarks: The dimensions of craft for the Canal section also apply to the River up to Tarmac Wharf.

Charges: These are levied under the Shoreham Harbour Act, 1948, and are now subject to an addition of 33⅓ per cent. The Schedule to Act giving charges can be obtained from the Harbourmaster.

Tidal Information. High water at Beeding Bridge approximately one hour after Shoreham.

Distance Table.

	Miles.	*Furlongs.*
Bines Bridge (Road Bridge, B.2135) to:		
Junction with River Adur (Eastern Branch)	—	7
Footbridge	1	6
Railway Bridge (British Railways, S.R.)	2	7
Upper Beeding Bridge	5	1
Old Shoreham Bridge	8	5
Railway Bridge (British Railways, S.R.)	9	2
Norfolk Bridge, Shoreham-by-Sea	9	4
Kingston-by-Sea Wharf	10	5
Junction with Southwick Canal	11	—
Mouth of River	11	1

No. 2

AIRE & CALDER NAVIGATION & RIVER AIRE

Authority. The Divisional Officer, Docks and Inland Waterways Executive,
North-Eastern Division, Dock Street, Leeds, 1.

Telegrams: ' Dainwex, Leeds.'
'Phone : Leeds 20957/8.

From and To. Main Canal :—Goole Docks to Leeds Bridge near junction with Leeds and Liverpool Canal.

Wakefield Section :—From the main canal at Castleford to junction with the Calder and Hebble Navigation at Wakefield.

Barnsley Section :—From Wakefield to Barnsley.

Selby Section :—From main line at Knottingley to junction with the River Ouse at Selby.

Dewsbury Old Cut: Double Locks, junction with Calder and Hebble to Savile Town Wharf.

Distance. Goole to Leeds .. .. 34 miles.

Maximum Dimensions for Craft Using Waterway.

Length	120 ft.
Beam	17 ft.
Draught	7 ft. 6 ins.
Headroom	12 ft. 9 ins.

Locks. 13. Lock gates worked by Boat Crews assisted by Lock Keepers.

Bridges. Numerous.

Approx. time taken to navigate. About 12 hours. The time greatly depends on the density of traffic, and the time taken for locking.

Charges. Same as those for the Grand Union Canal.

Payment: To Traffic Manager, D. and I.W.E., Dock Street, Leeds, 1.

WAKEFIELD SECTION

From and To. Castleford Junction (main line Goole to Leeds) to Wakefield Fall Ing Lock (Junction with Calder & Hebble Navigation).

Distance. 7½ miles (Branch to Wakefield Old Wharf ½ mile).

Maximum Dimensions for Craft Using Waterway.

Length	120 ft.
Beam	17 ft.
Draught	7 ft. 6 ins.
Headroom	11 ft. 6 ins.

Locks. 4. Lock gates worked by Boat Crews assisted by Lock Keepers. (Branch to Old Wharf: One).

Bridges. Numerous.

Charges. Same as those for the Grand Union Canal.

Lock Keepers and Bridge Keepers. Not on duty on Sundays.

BARNSLEY SECTION

From and To. Heath Lock, Wakefield, to Barnsley.

Distance. 11½ miles (7¼ miles only open at present).

Maximum Dimensions for Craft Using Waterway.

Length	78 ft. 6 ins.
Beam	14 ft. 6 ins.
Draught (not Guaranteed)	6 ft.
Headroom	About 9 ft.

Locks. 15. Lock gates worked by Boat Crews assisted by Lock Keepers. Lock Keepers are not on duty on Sundays.

Bridges. Numerous.

Charges. Same as those shown for the Grand Union Canal.

Remarks. Canal is in a poor state of maintenance at the Barnsley end, and is not navigable at the moment past Cronkhill Bridge.

SELBY CANAL

From and To. Bank Dole Junction, Knottingley (main Goole to Leeds Canal) to junction with the River Ouse at Selby.

Distance. 11¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	78 ft. 6 ins.
Beam	16 ft. 6 ins.
Draught	6 ft.
Headroom	10 ft.

Locks. Four. Lock gates worked by Boat Crews assisted by Lock Keepers.

Bridges. Numerous.

Charges. Same as those shown for the Grand Union Canal.

DEWSBURY OLD CUT

From and To. Double Locks junction with Calder and Hebble Navigation to Savile Town Wharf.

Distance. 1 mile.

Note. Maximum dimensions same as Calder and Hebble.

RIVER AIRE

From and To. The Entrance from the River Ouse at Asselby Island, about 5 miles above Goole, to the junction with the Selby branch at Haddlesey.

Remarks. From the entrance to as far as Haddlesey Old Lock the river is open navigation but at Haddlesey it comes under the jurisdiction of the Docks and Inland Waterways Executive (North-Eastern Division). From its entrance to Haddlesey Old Lock the River is tidal.

Distance. From the entrance to Haddlesey Old Lock 16¾ miles.

From Haddlesey Old Lock to the junction Selby branch ¾ mile.

Maximum Dimensions for Craft Using Waterway.

Length	78 ft. 6 ins.
Beam	16 ft. 6 ins.
Draught	About 5 ft. 6 ins.
Headroom	11 ft.

Locks. One.

Towing Path. Only on the section under the jurisdiction of the D. & I.W.E.

APPLICABLE TO WHOLE SYSTEM

Speed Limit and Regulations. 3 miles an hour in the canal, and 4 miles an hour in the river part of the Navigation.

It is advisable to procure a copy of the Bye-Laws before using the Navigation.

Towing Path. Throughout Navigation, except Tidal portion of River Aire.

Lock Keepers and Bridge Keepers. Not on duty on six statutory holidays.

Payment. To the Divisional Traffic Officer, D. and I.W.E., North-Eastern Division, Dock Street, Leeds, 1.

Special Note. The commercial traffic on this waterway is very large and great care should be taken by pleasure craft, particularly when passing steam tugs pulling a train of compartment boats, called locally, "Tom Puddings."

Main Line

Distance Table. (Places indented are off the Main Line of Navigation.)	*Miles.*	*Furlongs.*
Junction with Leeds and Liverpool Canal, Main Line, and Leeds Bridge to:		
Crown Point Bridge	—	4
Nether Mills Wharf	—	4
Island Wharf	—	4
New Dock Basin	—	4
Fearn's Island	—	6
Suspension Bridge	1	—
Goodman Street Wharf	1	2
Hunslet Wharf	1	4
Knostrop Turn Bridge	1	6
Woodlesford Lock and Wharf	5	2
Swillington Bridge Wharf	5	4
Fleet Mills	6	4
Fleet Bridge	6	4
Savile Colliery Basin	7	—
Astley Cut Staiths	7	6
Kippax Lock (7th lock from Leeds)	8	4
Allerton Wharf	9	—
Castleford Junction with Wakefield Section, leading to Barnsley Section	10	—
Castleford Flood Lock (8th lock from Leeds)	10	—
Bulholme Lock (9th lock from Leeds)	10	6
Fairburn	13	2
Ferrybridge Lock and Basin (10th lock from Leeds)	15	2
Mill Bridge Wharf	15	6
Cow Lane Bridge	16	6
Shepherd' Bridge	16	6
Bank Dole Junction, junction with Selby Branch	17	—
Toll Bar Bridge	17	—
Whitley Lock (11th lock from Leeds)	21	—
Short Branch—Heck Basin	22	4
Pollington Lock (12th lock from Leeds)	24	4
Crowcroft Bridge	25	—
Junction with Aire and Calder and Sheffield and South Yorkshire Junction Canal	26	6
Beever's Bridge Wharf	27	4
Goole Old Waterworks Pumping Station	30	6
Goole Timber Pond (Dog and Duck)	33	2
South Dock Bridge	33	4
Entrance Locks to Goole Docks and Junction with River Ouse (13th lock from Leeds)	34	—

Wakefield Section

Fall Ing, junction with Calder and Hebble Navigation to:		
Junction with Barnsley Canal	—	4
Short Branch—Kirkthorpe Dam	1	4
Broadreach Lock No. 2	1	—
Stanley Aqueduct	2	3

Distance Table.	*Miles.*	*Furlongs.*
Birkwood Lock No. 3	3	—
King's Road Lock No. 4	4	—
Foxholes Side Lock (to Foxholes Basin)	4	—
Woodnook Lock No. 5	5	2
Short Branch Altoft's Lock	5	—
Short Branch Altoft's Basin	5	2
Short Branch Fairies Hill Lock	5	4
Pottery Bridge	7	2
Castleford Mere	7	2
Castleford Junction, junction with Main Line	7	4

Barnsley Section

Heath Lock, Wakefield to:		
Agbrigg Bottom Lock No. 2 and Wharf	—	4
Oakenshaw Bridge	1	2
Walton Lock No. 4	1	6
,, ,, ,, 6	2	—
,, ,, ,, 8 (Low Town Wharf)	2	2
,, ,, ,, 11 (Yard Lock)	2	4
,, ,, ,, 15	2	6
Walton Hall Bridge	3	—
Notton Bridge and Wharf	5	4
Senior Lane Bridge	6	4
Royton Bridge Wharf	7	—
Cronkhill Bridge	7	4
Farfield Bridge	8	4
Monk Bretton Colliery Staith	9	2
Cliffe Bridge Wharf	10	2
Junction with Dearne and Dove Canal, Sheffield and South Yorkshire Navigation	11	—
Barnsley Old Mill Wharf	11	4
Barnsley Bridge Wharves	11	4

Selby Section

Bank Dole Junction, Knottingley, to:		
Bank Dole Lock No. 1	—	4
Beal Bridge Wharf	2	4
Beal Lock No. 2	2	6
Birkin Wharf	3	6
Commencement of Selby Canal and Haddlesey Flood Lock No. 3, junction with River Aire	6	4
Paper House Bridge	7	2
Gateforth Landing	7	6
Burton Bridge	8	4
Burn Bridge Wharf	9	2
Selby Bridge Wharf	11	2
Selby Swing Bridge Wharf	11	4
Selby Lock No. 4 and junction with River Ouse	11	6

Distance Table.	*Miles.*	*Furlongs.*
River Aire Section		
Junction with Selby Branch to:		
Haddlesey Old Lock	—	6
Temple Farm	2	2
Temple Hirst	4	—
Weeland	4	6
Snaith	8	2
Rawcliffe	12	—
Newland	13	4
Airmyn	15	6
Asselby Island, junction with River Ouse	16	6
Dewsbury Old Cut Section		
Double Locks, junction with Calder and Hebble Navigation, to:		
Dewsbury Gas Works	—	2
Brown & Co's. Chemical Works	—	4
Coal Wharf	—	6
Timber Yard	—	6
Savile Town Wharf	1	—

No. 3

AIRE & CALDER & SHEFFIELD & SOUTH YORKSHIRE NEW JUNCTION CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive,
North-Eastern Division, Dock Street, Leeds, 1.
Telegrams: ' Dainwex, Leeds.'
'Phone : Leeds 20957/8.

From and To. From junction with the Aire and Calder main canal, about 7 miles west of Goole, to Junction with the Sheffield & South Yorkshire Navigation, near Bramwith.

Remarks. This short waterway serves to connect not only the Aire and Calder main canal with the Sheffield and South Yorkshire Canals to Sheffield, but also via the Sheffield and South Yorkshire Navigation to the River Trent.

Distance. 5½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	120 ft.
Beam	17 ft. 6 ins.
Draught	7 ft. 6 ins.
Headroom	Not Limited

Locks. One. Sykehouse.

Towing Path. Throughout navigation.

Speed Limit and Regulations. 3 miles an hour.
It is advisable to procure a copy of the Bye-Laws before using the Navigation.

Charges. Same as those shown for the Grand Union Canal.

Lock Keeper and Bridge Keepers Not on duty on six statutory holidays.

Payment. To Divisional Traffic Officer, D. and I.W.E., North-Eastern Division, Dock Street, Leeds, 1.

Distance Table.	*Miles.*	*Furlongs.*
Bramwith, Junction with Sheffield and South Yorkshire Navigation—River Dun Navigation to:		
Sykehouse Lock (only lock in this canal)	3	4
Junction with Aire and Calder Navigation Main Line ..	5	4

No. 4

RIVER ALDE AND ORE

(The River is known as the Ore below Orford.)

Authority. None, an open navigation.

From and To. Snape Bridge to Shinglestreet.

Distance. 21 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	„ „
Draught	To Aldeburgh 10 ft. *To Iken 4 ft. To Snape Bridge 2 ft. 6 ins. at H.W.S.T.
Headroom	Not limited.

*It is possible to take a yacht to Iken and lie there in about 4 ft. of water at all states of the Tide. Location of the hole can easily be found by local enquiry.

Locks. Nil.

Towing Path. None.

Repair Facilities. At Slaughden Quay light repairs can be effected, but there is no boatyard.

Tidal Information. Mean rise and fall at Aldeburgh is 8 ft. and the tidal stream runs at about 4 knots in the River, on the average. At the entrance it may run at up to 6 knots.

Remarks. The entrance at Shingle Street is dangerous for strangers, who should seek local assistance when entering. For directions see "The Pilot's Guide to the Thames Estuary."

Distance Table.	*Miles.*	*Furlongs.*
Snape Bridge to:		
Iken Cliff Inn	3	4
Barber's Point	7	4
Slaughden Quay	8	4
Orford Quay	15	—
Chantry Point	16	—
Butley Creek Mouth	18	—
Shinglestreet	21	—

No. 5

ANCHOLME RIVER (Lincolnshire)

Authority. River Ancholme & Winterton Beck Catchment Board, Engineer, 18 Bigby Street, Brigg, Lincs.
'*Phone :* Brigg 3190.

From and To. South Ferriby Sluice on the River Humber to Bishopbridge.

Distance. 19 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Above Harlam Hill Lock ..	69 ft.
	Below Harlam Hill Lock ..	80 ft.
Beam	Above Harlam Hill Lock ..	16 ft.
	Below Harlam Hill Lock ..	19 ft.

Draught 6 ft. 6 ins. for 9 miles up to Brigg, then gradually lessening to 5 ft. at Harlam Hill Lock, 17 miles up from South Ferriby sluice.

Headroom On New River Ancholme 11 ft. 6 ins.
On Old River Ancholme at Brigg, 11 ft.

Locks. 2. Lock gates worked by :—At South Ferriby by Lock Keeper ; at Harlam Hill Lock by Boat Crews.

Bridges. 13.

Speed Limit. 4½ miles an hour.

Approx. Time taken to navigate. About 5 to 6 hours.

Towing Path. Throughout Navigation.

Charges. **River Dues.** Nil for pleasure craft.

Lock Tolls. For entering or leaving the Waterway : Week Days, 5/10, Sundays, 11/8.

Extra charge of 2/11 if Road Bridge over the lock is swung over.

Payment : To Lock Keeper at South Ferriby.

Remarks. At certain times, as after very heavy rain, etc., being a drain, it may be used for sluicing off the land and craft cannot enter.

Distance Table.	*Miles.*	*Furlongs.*
Bishopbridge to:		
Harlam Hill Lock No. 1	2	4
Brandywath	4	—
Redbourne Old River	6	2
Cadney Bridge	7	6
Southern Junction with Navigable Loopline of Old River Ancholme through Brigg, $1\frac{3}{4}$ miles long	9	4
Brigg, Town and New Bridge	10	2
Northern Junction with Navigable Loop Line of Old River Ancholme through Brigg	10	6
Castlethorpe Bridge	11	4
Broughton Bridge	12	4
Worlaby Landing	13	4
Bonby Landing	14	6
Appleby Landing	16	—
Saxby Bridge	16	2
Scabcroft	17	2
Horkstowe Bridge	17	6
Ferriby Sluice, Lock No. 2, junction with River Humber	19	—

No. 6

RIVER ARUN (Sussex)

Authority. (*a*) **From the Entrance to Arundel Bridge.**

For Navigation: The Littlehampton Harbour Board, Littlehampton, Sussex.

'*Phone:* Littlehampton 153.

(*b*) **Above Arundel Bridge.**

For Land Drainage and Navigation: The Arun Catchment Board, Arundel.

'*Phone:* Arundel 2161.

Craft from sea to stop and report to the Harbour Master (Littlehampton).

From and To. The entrance at Littlehampton to Pulborough.

Distance Littlehampton to Pulborough, about 22 miles.

Littlehampton to Arundel, about 5 miles.

Tides. The river is tidal, rate from 4 to 6 knots.

High Water at Littlehampton, 15 minutes after Dover (approx.).

Spring tides rise 16 ft.

Neap tides rise 12 ft.

High Water at Arundel about **1 hour after Littlehampton**

Spring tides rise 12 ft.

Neap tides rise 8 ft.

The stream at the entrance and along the river is generally strong both on the flood and ebb.

Maximum Dimensions for Craft Using Waterway.

From Littlehampton to Arundel. At low water :

Length .. .. 35 ft.

Beam .. .. 10 ft.

Draught .. .. 3 ft.

At high water, larger size craft can navigate as there is a rise of about 10 ft. of water.

Headroom .. .. .. See bridges for headroom

Arundel to Pulborough.

Above Arundel Bridge to Pulborough the river is accessible only to small motor craft and boats. The depths vary considerably. At high tide there is about 8 ft. of water to Amberley and 3 to 4 ft. at Pulborough. Between Amberley and Greatham the river is shallow and requires some care to navigate through, and towards Pulborough weeds are likely to cause obstruction.

Towing Path. None.

Locks. Nil.

Bridges. Between Littlehampton and Pulborough, 8 bridges span the river, as follows :—

		Clearance. *High Water Spring Tides*		*Low Water*	
		Ft.	ins.	Ft.	ins.
Littlehampton Swing Bridge..	about	4	6	19	6
Ford Railway Fixed Bridge ..	,,	10	6	20	0
Arundel Bridge	,,	4	0	12	0
Offham Bridge	,,	8	0	12	0
Southstoke Bridge	,,	8	0	12	0
Houghton Bridge	,,	3	0	9	0
Greatham Bridge	,,	8	0	12	0
Pulborough Bridge	,,	4	0	8	0

Great care should be taken in negotiating all bridges as the clearance may be materially affected by flood water.

Speed Limit. 6½ knots. Above Arundel 5½ knots. (Speed limit is rigorously enforced for protection of River Banks, etc.)

Charges. The following are the scale of rates fixed by the Littlehampton Harbour Board in respect to pleasure craft.

These rates apply to the river from **Littlehampton to Arundel Bridge.**

Not Mechanically Propelled	*Annual Rates.* £ s. d.	*Monthly Rates.* £ s. d.	*Weekly Rates.* £ s. d.	24 *Hours Rates.* £ s. d.
1. Not exceeding 10 ft. in length	0 10 0	0 3 6	0 1 6	0 0 6
2. Exceeding 10 ft. and not exceeding 16 ft. in length ..	0 15 0	0 5 0	0 2 6	0 1 0
3. Exceeding 16 ft. and not exceeding 20 ft. in length ..	1 0 0	0 6 6	0 3 6	0 1 0
4. Exceeding 20 ft. and not exceeding 30 ft. in length ..	2 10 0	0 16 6	0 8 6	0 3 0
5. Exceeding 30 ft. and not exceeding 40 ft. in length ..	3 10 0	1 3 6	0 12 0	0 4 0
6. Exceeding 40 ft. and not exceeding 50 ft. in length ..	5 0 0	1 13 6	0 17 0	0 5 6
7. Exceeding 50 ft. and not exceeding 100 ft. in length	7 0 0	2 6 6	1 3 6	0 8 0
8. Exceeding 100 ft. in length	12 0 0	4 0 0	2 0 0	0 13 6
9. Rowing skiffs not exceeding 30 ft. in length	0 15 0	0 5 0	0 2 6	0 1 0
Mechanically Propelled.				
10. Not exceeding 10 ft. in length	0 10 0	0 3 6	0 2 0	0 0 6
11. Exceeding 10 ft. and not exceeding 15 ft. in length..	0 15 0	0 5 0	0 2 6	0 1 0
12. Exceeding 15 ft. and not exceeding 20 ft. in length ..	1 10 0	0 10 0	0 5 0	0 1 6
13. Exceeding 20 ft. and not exceeding 30 ft. in length ..	3 0 0	1 0 0	0 10 0	0 3 6
14. Exceeding 30 ft. and not exceeding 50 ft. in length ..	6 0 0	2 0 0	1 0 0	0 6 6
15. Exceeding 50 ft. and not exceeding 100 ft. in length	10 0 0	3 6 6	1 13 6	0 11 0
16. Exceeding 100 ft. in length	15 0 0	5 0 0	2 10 0	0 16 6

Above Arundel Bridge.

There are no charges above Arundel Bridge or waters outside the jurisdiction of the Littlehampton Harbour Board.

Remarks. Yachtsmen wishing to obtain further information with regard to the navigation of the river should apply to the Harbour Master, Littlehampton.

Distance Table.	*Miles.*	*Furlongs.*
Pulborough Bridge to:		
Greatham	2	2
Coldwaltham Bridge	3	1
Old Arun Canal Junction (Derelict)	3	7
Bury Wharf and Ferry	5	3
Houghton Bridge and Amberley Station	6	4
South Stoke	9	6
Offham Bridge	13	2
Arundel Bridge	15	2
British Railways (Southern Region) Bridge	18	2
Junction of Old Portsmouth and Arundel Canal (Derelict)	19	---
Littlehampton Ferry	21	2
Littlehampton Harbour Mouth	22	–

No. 7

ASHBY CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, Transport House, Reservoir Road, Ruislip, Middlesex.

Telegrams: ' Dainwex, Ruislip.'

'Phone: Ruislip 4081.

From and To. Junction with Coventry Canal at Marston to Donisthorpe (originally continued to Moira, but has been abandoned).

Distance. 27½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	7 ft.
Draught	3 ft. 6 ins.
Headroom	7 ft. 6 ins.

Locks. There are no Locks on the Ashby Canal (minimum width at water level 16 ft. 2 ins.).

Bridges. Numerous.

Towing Path. Throughout Navigation, except Snarestone Tunnel.

Tunnels. **Snarestone,** 250 yds. No towing path.

Speed Limit. 3½ miles per hour.

Charges. Same as those shown for Grand Union Canal. Payable to: D. and I.W.E., at the above address, or to the Divisional Traffic Officer, South-Eastern Division, Port of London Authority Buildings, Seething Lane, E.C.3.

General Remarks. Entrance to Canal through Marston Junction to Stop Lock. Canal is ideal for pleasure craft.

Moorings. See Grand Union Canal.

Distance Table.	*Miles.*	*Furlongs.*
Marston Junction, junction with Coventry Canal and Marston Stop Lock to:		
L.M. Region Railway Bridge (Trent Valley Line)	—	6
Burton Hastings	3	—
Watling Street Bridge, boundary between Warwickshire and Leicestershire	5	—
Hinckley Brickyard	5	5
Higham-on-the-Hill	7	4
Stoke Golding Wharf	8	6
Shenton	13	—
Market Bosworth Station (Market Bosworth distant 1 mile)	14	7
Carlton Bridge..	15	6
Congerstone	17	1
Shackerstone	18	2
Snarestone Village and Tunnel	21	2
Boundary between Leicestershire and Derbyshire	22	4
Measham	24	1
Donisthorpe	27	4
Closed and Abandoned by Act of Parliament. { Moira Baths Wharf	29	—
Closed and Abandoned by Act of Parliament. { Moira Wadlands Wharf ..	30	—

ASHTON, PEAK FOREST AND MACCLESFIELD CANALS

No. 8

ASHTON CANAL

Authority. The Divisional Waterways Officer, Docks and Inland Waterways Executive, North-Western Division, Central Station, Liverpool, 1.

'Phone: Royal 6731.

Telegrams: 'Inwex, Liverpool.'

From and To. Junction with Rochdale Canal at Manchester to junction with Huddersfield Canal and with Peak Forest Canal at Ashton under Lyne.

General Remarks. At present, Islington, Hollinwood and Fairbottom Branches are unnavigable.

Distance.

Main Canal	6¾ miles
Islington Branch	¼ mile
Stockport ,, ...	4⅞ miles
Hollinwood ,, ...	4⅝ miles
Fairbottom ,, ...	1⅛ miles

Maximum Dimensions for Craft Using Waterway.

Length	70 ft.
Beam	7 ft.
Draught	3 ft. 3 ins.
Headroom	6 ft. 7 ins.

Locks. **Main Canal,** 18.

Hollinwood Branch, 7 (unnavigable at present).

Other Branches, none.

Lock gates worked by Boat Crews.

Towing Path. Throughout Canal, except Islington Branch.

Bridges. **Main Canal,** 44.
Islington Branch, 2 (unnavigable at present).
Stockport Branch, 22.
Fairbottom Branch, 2 (unnavigable at present).

Speed Limit. 4 miles an hour.

Approx. Time taken to Navigate. Manchester to Ashton about 3 hours.

Charges. Same as those shown for Grand Union Canal.

Payment. To Canal Agent at Hall Green, Ashton or Ancoats, or to The Divisional Traffic Officer, D. and I.W.E., Windsor Buildings, George Street, Liverpool, 3. *'Phone:* Liverpool Central 1535.

Main Line.

Distance Table.	*Miles.*	*Furlongs.*
Manchester, Ducie Street, junction with Rochdale Canal, to:		
Ancoats Junction, junction with Islington Branch	—	3
Lock No. 3, Ancoats	—	4
,, ,, 4, Beswick	1	2
,, ,, 6, Bradford	1	4
,, ,, 8, Clayton	2	—
,, ,, 10, ,,	2	3
Clayton Junction, junction with Stockport Branch	2	3½
Lock No. 14, Edge Lane	2	7
,, ,, 16 ,,	3	—
,, ,, 17, Fairfield	3	4
Fairfield Junction, junction with Hollinwood Branch	3	5½
Guide Bridge Railway Station	5	3
Ashton-under-Lyme, Walk Mill Bridge	6	0½
Dukinfield Junction, junction with Peak Forest Canal	6	1½
Ashton-under-Lyme, junction with Huddersfield Narrow Canal	6	5½

Islington Branch

Length, from junction with Main Line, Stockport Branch	—	2

Stockport Branch

Clayton Junction, junction with Main Line to:		
Canal Aqueduct over British Railway (N.E. Region)	—	7
Hyde Road Bridge	1	6
Reddish, Sandfold Bridge	2	2½

Distance Table.	*Miles.*	*Furlongs.*
Grey Horse Bridge	3	3
Whitehills Bridge	4	1½
Lancashire Hill Bridge	4	5½
Stockport, D. and I.W.E. Wharf	4	5½
Stockport, Termination of Canal	4	7

Hollinwood Branch

Fairfield Junction, junction with Main Line to:

Clifford's Swivel Bridge	—	5
Cinderland Bridge	1	4
South End of Waterhouses Tunnel	2	2½
North End of Waterhouses Tunnel	2	3
Lock No. 1, Waterhouses	2	4
,, ,, 4, and Waterhouses Junction, junction with Fairbottom Branch	2	5
Oldham Gas Works	4	0½
Lock No. 5, Hollinwood	4	2
,, ,, 7, ,,	4	4½
Hollinwood Top Wharf	4	5

Fairbottom Branch

Waterhouses Junction, junction with Hollinwood Branch to:

Valley Aqueduct over Road	—	3½
Bardsley, Wharf	—	5½
Old Termination of Canal	1	1

PEAK FOREST CANAL

Authority. As Ashton Canal.

From and To. Junction with the Ashton Canal at Dukingfield to Bugsworth.

Distance.

Main Line	14¾ miles
Whaley Bridge Branch	About ½ mile

Maximum Dimensions for Craft Using Waterway.

Length	70 ft.
Beam	7 ft.
Draught	3 ft. 3 ins.
Headroom	6 ft.

Locks. 16. Lock gates worked by Boat Crews.

Bridges 63.

Towing Path. Throughout Canal and Branch, except Hyde Bank Tunnel.

Tunnels. Two. **Woodley**—Length 167 yds.
Headroom 7 ft. 6 ins.
Towing Path through Tunnel.

Hyde Bank—Length 308 yds.
Headroom 7 ft.
No Towing Path.

Speed Limit. 4 miles an hour.

Approx. Time taken to Navigate. 7 hours.

Charges. Same as those shown for Grand Union Canal.

Method of Payment : To Canal agent at Hall Green Ashton or Ancoats, or to D. and I.W.E.
See Ashton Canal.

Distance Table.	*Miles.*	*Furlongs.*
Dukinfield Junction, junction with Ashton Canal to:		
Dukinfield Hall	1	0½
Hyde Gas Works	2	4
Apethorne Aqueduct over Road	3	1½
Leach Bridge	4	6
Hatherlow Aqueduct over Road	5	4
North End of Hyde Bank Tunnel	6	1½
South End of Hyde Bank Tunnel	6	3
Marple, Aqueduct over River Etherow	6	6½
Lock No. 1, Marple	7	—
Marple, Head of Lock No. 16 and Junction with Macclesfield Canal, Main Line	8	0½
Disley, Dryhurst Bridge	10	7½
Wirksmoor, Wharf and Warehouse	12	0½
Aqueduct over Furness Brook	13	1
Greensdeep Swing Bridge	13	7
Junction with Whaley Bridge Branch	14	—
Aqueduct over River Goyt	14	1
Bugsworth, Termination of Canal	14	6

MACCLESFIELD CANAL

Authority. As Ashton Canal.

From and To. Junction with the Peak Forest Canal at Marple to junction with Trent and Mersey Canal at Hall Green.

Distance.

Main Canal	26 miles.
High Lanes Branch	About ¼ of a mile.

Maximum Dimensions for Craft Using Waterway.

Length	70 ft.
Beam	7 ft.
Draught	3 ft. 3 ins.
Headroom	6 ft.

Locks. 13. Lock gates worked by Boat Crews.

Bridges. 118. Lowest Bridge, Poynton.

Speed Limit. 4 miles an hour.

Approx. time taken to Navigate. 11 hours.

Towing Path. Throughout Canal and Branch.

Charges. Same as those shown for Grand Union Canal.

Payment : To Canal Agent at Hall Green, Ashton or Ancoats, or to D. and I.W.E.

See Ashton Canal.

Distance Table.

	Miles.	*Furlongs.*
Marple Junction, junction with Peak Forest Canal Main Line to:		
Windlehurst or Back Lane Bridge	1	6
Junction with High Lane Branch	2	2½
Bullock's Girder Bridge	2	7

Distance Table.	*Miles.*	*Furlongs.*
Red Acre Aqueduct	4	3½
Hibbert's Brow or Corner Bridge	6	1½
Bollington, Coal Wharves and Bollington Aqueduct	7	6
Macclesfield, Buxton Road, Wharf	10	7
Macclesfield, Holland's Bridge	11	2
Sutton, Leek Old Road Bridge	12	2½
Fool's Nook Wharf	14	2½
Crow Hole Bridge	15	4
Bosley, Lock No. 1	16	1
Bosley Locks No. 11 and 12	17	1
Aqueduct over River Dane	17	3
Biddulph Valley Railway Aqueduct	20	6½
Dog Lane or Canal Road Aqueduct	21	6
Congleton Wharf	21	6½
Hall Green, junction with Trent and Mersey Canal, Hall Green Branch (halfway between the two stop locks), and Hall Green Stop Lock No. 13	26	1

No. 9

RIVER AVON (Bristol)

Authority. The Port of Bristol Authority,
Queen Square, Bristol, 1.
'*Phone :* Bristol 25381.

From and To. From Avonmouth to the junction with the Kennet and Avon Navigation at Hanham Lock, situated about 5 miles above Bristol.

General Remarks. The River Avon is navigable for sea-going vessels from Avonmouth as far as the Docks at Bristol.

Distances. From the sea at Avonmouth to the junction with the Kennet and Avon Canal at Hanham Lock..14¼ miles.

Maximum Dimensions for Craft Using Waterway.

Ocean-going vessels can reach Bristol Docks, dimensions not exceeding 332 ft. long, Beam 50 ft., Draught 23 ft. and Headroom 240 ft.

Bristol Bridge to Hanham Lock:—

Length	102 ft.
Beam	18 ft.
Draught	6 ft.
Headroom	10 ft.

Locks. 2; Netham and Totterdown.

Bridges. Numerous.

Towing Path. There is a Towing Path from Hanham Lock to Marsh Bridge, Bristol.

Approx. Time taken to Navigate. About 1½ hours from Cumberland Basin Inner Lock to Hanham Lock.

Speed Limit and Bye-Laws. 4 to 6 miles an hour.
The Bye-Laws may be obtained on application to the General Manager, Port of Bristol Authority.

Charges. Minimum 5/-. Full particulars of charges may be obtained on application to the General Manager, Port of Bristol Authority. Tonnage dues payable at Port of Bristol offices. Canal tolls at Netham Lock.

Connections. Bathurst Basin Lock to Bristol Floating Harbour.

Cumberland Basin Lock to Bristol Floating Harbour. All vessels exceeding 21 ft. 6 ins. draught must lighten to that extent in Cumberland Basin before entering the Floating Harbour.

Tidal Information. High tide at Cumberland Basin, Bristol, about 5 minutes after high tide at Avonmouth.

Tidal Range—Ordinary Spring tides 33 ft.
Neap tides 22 ft. 3 ins.

High water at Hanham, about ¾ hr. after high water at Cumberland Basin.

Tidal Range—Ordinary Spring tides 2 ft. 8 ins.
Neap tides nil.

Distance Table.	*Miles.*	*Furlongs.*
Tail of Hanham Lock, junction with Kennet and Avon Navigation to:		
Hanham Colliery Wharf	1	4
Conham	2	—
Netham Lock No. 1	4	—
Bristol, Marsh Bridge, junction with Bristol Floating Harbour through Marsh Bridge Lock	5	1
Bristol, Totterdown Lock No. 2	5	2
Bristol, Bathurst Basin, junction with Bristol Floating Harbour through Bathurst Basin Lock	6	2
Clifton Suspension Bridge	8	—
Pill	12	2
Avonmouth, junction with Avonmouth Docks and Estuary of River Severn	14	2

No. 10

RIVER AVON LOWER NAVIGATION

Authority. This navigation has recently changed hands, and the concern which will administer the navigation has been formed by The Inland Waterways Association (Midlands Branch), 1046, Stratford Road, Birmingham, 28. The address is:—Lower Avon Navigation Trust, Ltd., Swan Lane, Evesham, Worcestershire.

From and To. Evesham to junction with the River Severn at Tewkesbury.

General Remarks. This river flows through the Shakespeare County and continues to Warwick, 31½ miles above Evesham Bridge. The Upper Avon Navigation was acquired by the old Great Western Railway in 1859 and very shortly after became derelict. Approximately 5 miles of the Avon is navigable from the Memorial Theatre, at Stratford, upstream. The Lower Avon navigation is in a bad state and is only navigable to Wyre Lock, at present. Repairs are now in progress.

Distance. Evesham to Tewkesbury, 28 miles.

Maximum Dimensions for Craft Using Waterway.

Length	70 ft.
Beam	14 ft. 6 ins.
Draught	4 ft.
Headroom	8 ft.

Locks. 9. Locks worked by Lock Keeper at Tewkesbury, otherwise by Boat Crews (in poor working order). Two of these are "Flash Locks" or Navigation Weirs.

Approx. Time taken to Navigate. About one day.

Speed Limit. None.

Towing Path. None.

Special Note. The concern now owning the Waterway is a non-profit body and is in need of funds. Any lover of Shakespeare's Avon should communicate with the owners, if they can make any contribution.

Tolls. These are under revision at the moment. The present charge for pleasure boats is 5/-, payable at Tewkesbury Lock.

Distance Table.	*Miles.*	*Furlongs.*
Evesham to:		
Chadbury Lock No. 1	3	—
Fladbury Lock No. 2	5	4
Fladbury Weir No. 3 (Navigation Weir)	6	—
Wyre Lock No. 4	12	—
Pershore Lock No. 5	13	—
Pershore Weir No. 6 (Navigation Weir)	13	4
Nafford Lock No. 7	18	2
Eckington Bridge	19	6
Strensham Lock No. 8	22	2
Bredon	24	4
Tewkesbury Lock No. 9	28	—
Tewkesbury, junction with River Severn	28	2

No. 11

BASINGSTOKE CANAL

Authority. New Basingstoke Canal Co., Ltd., 'Greenways,' Reading Road South, Fleet, Hants.
'Phone: Fleet 887.

From and To. Woodham, Junction with River Wey to Greywell.

General Remarks. This canal has changed ownership recently and is not in a good state of maintenance. Originally the canal terminated at Basingstoke Wharf, but the top 5 miles of the Canal bed have been sold. Greywell Tunnel is now impassable and the length of canal now usable is 31 miles, to the village of Greywell.

Distance. 31 miles.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft. 6 ins.
Width	13 ft. 6 ins.
Draught*	3 ft. 6 ins.
Headroom	7 ft. 6 ins.

* Due to lack of dredging it is only 2 ft. 6 ins. in many places.

Locks. 29.

Tunnels. 1; Greywell, 1,200 yds. (impassable, due to fallen roof).

Bridges. Numerous.

Towing Path. Throughout navigation, now open.

Special Note. A curious legal situation surrounds this waterway. No part of it has been abandoned by Act of Parliament. Its construction was promoted by Act of Parliament in 1778. The original company due to railway competition, was wound up in 1869. In 1910 this winding up order of 1869 was found invalid, and that the responsibility for upkeep and the power to exact tolls remained vested in the ghost of the original company.

Distance Table.	*Miles.*	*Furlongs.*
Woodham, junction with River Wey to:		
Woodham Bottom Lock No. 1	—	2
Woodham Top Lock No. 6	1	4
Sheerwater	2	2
Mayburyhill	3	—
Woking, Wheatsheaf Bridge	3	7
Goldsworth Bottom Lock No. 7	5	2
Goldsworth Top Lock No. 11	5	5
Brookwood Bottom Lock No. 12	7	3
Brookwood Top Lock No. 14	7	4
Pirbright, bottom of Frimley Locks, No. 15	8	5
Frimley Top Lock No. 28	10	4
Frimley Green	11	7
Mitchet Lake	13	2
North Camp Railway Station	13	6
Ash Lock No. 29	16	—
Aldershot, Main Road, Bridge (Aldershot to Farnborough)	17	6
Pondtail Bridge	20	5
Fleet	21	5
Crookham	23	5
Winchfield	27	—
Odiham	29	—
North Warnborough	30	1
Greywell, and East End of Greywell Tunnel (Greywell Tunnel is impassable and canal terminates here)	31	1

No. 12

BEAULIEU RIVER

Authority. Private property, and all enquiries should be made to the Harbour Master, Buckler's Hard, Hants.

From and To. Stone Point to Beaulieu.

Distance. 6 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	,, ,,
Draught	6 ft., at High Tide, at Beaulieu Bridge.
Headroom	Not limited.

Locks. Nil. (Sluices at Beaulieu stop navigation to all craft.)

Towing Path. None.

Bridges. None.

Navigation Notes. There is 10 ft. of water to within ¼ of a mile of Gilbury Hard, thence 5 ft. at least of water to Buckler's Hard. Above Buckler's Hard 4 to 5 ft. will be found as far as the Brickworks, but above this the river to Beaulieu is tortuous and shallow, the mud banks being steep-to. Anchorage is possible in most parts of the River, except near Buckler's Hard. All vessels are requested to keep the fairway clear. For further details see *The Pilot's Guide to the English Channel.*

Harbour Dues. Vessels under 5 tons, 6d. per entry; over 5 tons, 1/- per entry.

Anchorage.

Per 24 hours	1/6
Per week	7/6
Per month	£1 0 0

Moorings. For season, £2 2s.

Remarks. One of the most attractive of the Solent Rivers.

Tidal Information. Double High Water 28 minutes before Dover and 1 hour 3 minutes after Dover, at Entrance to River.

Spring tides rise 10 ft.

Neap tides rise 8 ft. 6 ins.

No. 13

BEVERLEY BECK

Authority. The Town Clerk, Borough of Beverley Municipal Offices, Beverley, East Yorks.
'Phone: Beverley 545.

From and To. Beverley to River Hull at Grove Hill.

Length. ¾ mile.

Maximum Dimensions for Craft Using Waterway.

Length	65 ft.
Beam	17 ft. 6 ins.
Draught	6 ft.

Locks. 1; Grove Hill.

Towing Path. Throughout the canal.

Charges. For the use of the Beck the charges are based on goods laden or unladen thereon and are 4d. or 6d. a ton, according to class of merchandise.

Tidal Information. High tide at Grove Hill 2 hrs. after Hull.

No. 14

BIRMINGHAM CANAL NAVIGATIONS

Authority. The Divisional Officer, Docks and Inland Waterways, Executive, South-Western Division, Dock Office, Gloucester.
'Phone: Gloucester 24421.

General Remarks. Birmingham may be considered to be the centre of the Canal system of England. The canals are numerous and for commercial use, the main lines of these navigations however form a link for the passage of pleasure craft from the South and East to the West and North.

The main canals are, as follows:—

(1) **Main Line.** From Worcester Bar, Birmingham junction with the Worcester and Birmingham Canal, to junction with the Staffordshire and Worcestershire Canal at Aldersley.

(2) **Birmingham and Fazeley Canal** from junction with Main Line, near Worcester Bar to the junction with the Coventry Canal at Fazeley and with the detached portion of the same canal at Whittington Brook. This Waterway leads to junction with the Trent and Mersey Canal at Fradley.

Along this Birmingham and Fazeley Canal are the two important Junctions with the Grand Union Canal. The first at Ashted via the short Digbeth branch, and the second at Salford Junction where the old Birmingham and Warwick Junction Canal joins.

(3) **Wyrley and Essington Canal.** From Horseley Fields Junction with Main Line to junction with the detached portion of the Coventry Canal at Huddlesford.

(4) **Dudley Canal.** From junction with old Main Loop Line to junction with Stourbridge Canal leading to Staffordshire and Worcestershire Canal at Stourton Bridge.

These three form a rough circle and are as follows:—

Wednesbury Oak Loop Line—Loop line with Main Line.

Old Main Loop Line—Loop with Main Line.

Titford Canal.

Distances. In this list all of the canals are listed with Branches.

(1) **Main Line.** Worcester to Aldersley Bar	15½ miles
Branches:—	
Oozells Street Branch	¼ mile
Icknield Port Road Wharf Loop Line	¾ mile
Soho Branch Loop Line	1¼ miles
Parker Branch	¼ mile
Dunkirk Branch	¼ mile
Dixons Branch	¾ mile
(2) **Wednesbury Oak Loop Line**	4¼ miles
Branch:—	
Ocker Hill Branch	⅝ mile
(3) **Old Main Loop Line.** From Smethick Junction to Tipton Factory Junction	6 miles
Branches:—	
Engine Branch	⅝ mile
Spon Lane Locks Branch	⅜ mile
Titford Canal	1¾ miles
Oldbury Loop Line	1 mile
(4) **Gower Branch Canal**	½ mile
(5) **Netherton Tunnel Branch**	2⅞ miles
(6) **Dudley Canal Line No. 1**	4½ miles
Branches:—	
Dudley Canal Line No. 2	10¾ miles
(Lappal Tunnel is closed, and there is no through traffic.)	
Withymoor Branch Canal	¼ mile
Bumble Hole Branch Canal	½ mile
(7) **Bradley Branch Canal**	⅞ mile
(8) **Tipton Green and Toll End Communication**	1½ miles
(9) **Wednesbury Old Canal**	2⅝ miles
Branches:—	
Ridgacre Branch Canal	¾ mile
Dartmouth Branch Canal	⅝ mile
Halford Branch Canal	½ mile

(10) **Walsall Canal**	7 miles
Branches:—	
Haines Branch Canal	$\frac{5}{8}$ mile
Danks Branch Canal	$\frac{3}{8}$ mile
Lower Ocker Hill Branch Canal ..	$\frac{1}{8}$ mile
Gospel Oak Branch Canal	$\frac{1}{2}$ mile
Monway Branch Canal	$\frac{3}{8}$ mile
Anson Branch Canal	$1\frac{3}{8}$ miles
(11) **Walsall Branch Canal**	$\frac{7}{8}$ mile
(12) **Bentley Canal**	$3\frac{3}{8}$ miles
Branch:—	
Neachells Branch Canal	$\frac{1}{2}$ mile
(13) **Tame Valley Canal**	$8\frac{1}{2}$ miles
(14) **Rushall Canal**	$2\frac{3}{4}$ miles
(15) **Birmingham and Fazeley Canal** ..	$20\frac{1}{2}$ miles
Branches:—	
Newhall Branch	$\frac{1}{4}$ mile
Digbeth Branch Canal	$\frac{7}{8}$ mile
(16) **Wyrley and Essington Canal**	$23\frac{1}{2}$ miles
Branches:—	
Sneyd and Wyrley Bank Branch Canal	$3\frac{1}{2}$ miles
Lord Hay's Branch Canal	$\frac{7}{8}$ mile
Daw End Branch Canal	$5\frac{1}{4}$ miles
Anglesey Branch Canal	$1\frac{1}{2}$ miles
(17) **Cannock Extension Canal**	$5\frac{3}{4}$ miles
(18) **Churchbridge Branch Canal**	$\frac{5}{8}$ mile

Locks. The number of Locks on the canals listed above is as follows:—

(1)	24 Locks	(10)	8 Locks
(2)	Nil.	(11)	8 ,,
(3)	3 ,,	(12)	10 ,,
(4)	3 ,,	(13)	13 ,,
(5)	Nil.	(14)	9 ,,
(6)	12 ,,	(15)	38 ,,
(7)	9 ,,	(16)	30 ,,
(8)	10 ,,	(17)	Nil.
(9)	Nil.	(18)	13 ,,

Locks on the Branches have not been included as they are of little interest to the yachtsmen. Some, however, form through routes which can be followed with the Distance Tables.

MAIN LINE

Locks. 24. Lock gates worked by Boat Crews.

Bridges. Numerous.

Tunnels. **Coseley**, 360 yards. Towing path both sides.

Minimum height above water level ..	15 ft. 3 ins.
Minimum width at water level	15 ft. 9 ins.
Minimum width at water level, including both towing paths	24 ft. 9 ins.

BIRMINGHAM AND FAZELEY CANAL

Note. Salford Bridge Junction to Huddlesford Junction is in the South-Eastern Division of the D. and I.W.E. Charges, *see* Grand Union Canal.

Locks. 38. Lock gates worked by Boat Crews.

Bridges. Numerous.

Tunnels. **Curdworth**, 57 yards. Towing path.

This canal is linked with the Grand Union Canal, at Aston Junction, by the short Digbeth Branch Canal, which is only $\frac{7}{8}$ miles long.

DIGBETH BRANCH CANAL

Locks. 6. Lock gates worked by Boat Crews.

Bridges. Numerous.

Tunnels. **Ashted.** Short length. Towing path.

WYRLEY AND ESSINGTON CANAL

Locks. 30. Lock gates worked by Boat Crews.

Bridges. Numerous.

Tunnels. Nil.

DUDLEY CANAL, Line No. 1

Locks. 12. Lock gates worked by Boat Crews.

Bridges. Numerous.

Tunnels. **Dudley,** 3,172 yards. No towing path.
Minimum height above water level .. 5 ft. 9 ins.
Minimum width at water level .. .. 8 ft. 5 ins.

Other Tunnels. **Netherton.** 3,027 yards. (Netherton Tunnel Branch). Towing path both sides.

Gosty Hill. 557 yds. (Dudley Canal Line No. 2). No towing path.

Lappal. 3,795 yds. (Dudley Canal Line No. 2). This tunnel is closed.

APPLICABLE TO WHOLE SYSTEM

Approximate Dimensions for Craft Using Canal.

Length .. .. 71 ft. 6 ins.
Beam .. .. 7 ft. 1½ ins.
Draught .. .. 3 ft. 6 ins.
Headroom, standard .. .. .. 8 ft. 6 ins.
But reduced in places to .. .. .. 6 ft. 6 ins.

Note.—On the Dudley Canal the headroom through the "legging" tunnel is 5 ft. 9 ins.

Towing Path. Throughout navigation, except for certain tunnels.

Speed Limit and Bye-Laws. 3 miles per hour.
Bye-Laws issued by the Executive. May be had on application.

Charges. **Canal Dues and Lock Tolls.** Same as those shown for Grand Union Canal.

Apply to the Divisional Traffic Officer, South-Western Division, Docks and Inland Waterways Executive, 16, Bridge Street, Broad Street, Birmingham, 1.

'Phone: Midland 4961.

Main Line

Distance Table.	*Miles.*	*Furlongs.*
Birmingham, Bridge Street, to:		
Worcester Bar, junction with Worcester and Birmingham Canal	—	0½
Farmer's Bridge, junction with Birmingham and Fazeley Canal	—	3
Junction with Oozells Street Branch	—	6
Eastern Junction with Icknield Port Road, Wharf Loop Line	—	7

Distance Table.	*Miles.*	*Furlongs.*
Western Junction with Icknield Port Road Wharf Loop Line—left, and Eastern Junction with Soho Branch Loop Line—right	1	0
Western Junction with Soho Branch Loop Line	1	6
Smethwick Junction, junction with Old Main Loop Line from Smethwick Junction to Tipton Factory Junction	2	6
Bromford Junction, junction with Spon Lane Locks Branch—right, and junction with Parker Branch—left	5	—
Pudding Green Junction, junction with Wednesbury Old Canal	5	6
Albion Junction, junction with Gower Branch	6	2½
Dunkirk Junction, junction with Dunkirk Branch	6	3
Dudley Port Junction, junction with Netherton Tunnel Branch Canal	7	—
Junction with Dixon's Branch	7	4
Watery Lane Junction, junction with Tipton Green and Toll End Communication—right and left	8	—
Tipton Factory Junction, junction with Old Main Loop Line from Smethwick Junction to Tipton Factory Junction and top of Tipton Factory Locks	8	4
Bloomfield Junction, southern junction with Wednesbury Oak Loop Line	8	6
Coseley Tunnel, South End	9	3
Deepfields Junction, northern junction with Wednesbury Oak Loop Line	10	1
Parkfields Basins	10	7
Rough Hills	12	—
Horseley Fields, junction with Wyrley and Essington Canal	13	1
Wolverhampton, Albion Wharf	13	2½
Wolverhampton, top of 21 locks	13	6
Aldersley Junction, junction with Staffordshire and Worcestershire Canal—Main Line and bottom of 21 locks	15	4

Wednesbury Oak Loop Line

Bloomfield Junction, southern junction with Main Line to:		
Junction with Ocker Hill Branch Canal	1	2
Wednesbury Oak	1	6
Bradley Locks Junction, junction with Bradley Branch Canal	2	—
Pothouse Bridge Wharf	3	—
Capponfield	3	3
Deepfields Junction, northern junction with Main Line	4	2

Old Main Loop Line from Smethwick Junction to Tipton Factory

Smethwick Junction, junction with Main Line to:		
Junction with Engine Branch, Smethwick and top of Smethwick Locks	—	4
Spon Lane Wharf and Junction, junction with Spon Lane Locks Branch	1	4
Oldbury Locks Junction, junction with Titford Canal	2	4

Distance Table.	*Miles.*	*Furlongs.*
Junction with Houghton Branch Canal	2	5
Southern junction with Oldbury Loop Line	2	6
Northern junction with Oldbury Loop Line	3	1½
Brades Hall Junction, junction with Gower Branch	3	5½
Aqueduct over Netherton Tunnel Branch Canal	4	3
Tipton Junction, junction with Dudley Canal	5	4½
Tipton Green Junction, junction with Tipton Green and Toll End Communication	5	6
Tipton Factory Junction, junction with Main Line	6	—

Titford Canal

Oldbury Locks Junction, junction with Old Main Loop Line, to:		
Top of Oldbury Locks, and junction with Spon Lane Branch (5 furlongs)	—	3
Junction with Portway Branch (6 furlongs)	1	2
Causeway Green	1	6

Gower Branch Canal

Brades Hall Junction, junction with Old Main Line, to:		
Bottom of Brades Hall Locks	—	2
Albion Junction, junction with Main Line	—	4

Netherton Tunnel Branch Canal

Dudley Port Junction, junction with Main Line, to:		
North End of Netherton Tunnel	—	4
Windmill End Junction, junction with Dudley Canal.	2	7

Dudley Canal Line No. 1

Tipton Junction, junction with Old Main Loop Line to:		
North End of Dudley Tunnel	—	3
Junction with Pensnett Canal and top of Park Head Locks	2	1
Park Head Junction, junction with Dudley Canal—Line No. 2—Bottom Park Head Locks and top of Blowers Green Lock	2	3
Woodside Junction, junction with Two Lock Line Canal	3	1
Brierly Hill, top of Delph Locks	4	1
Black Delph Wharf, bottom of Delph Locks and junction with Stourbridge Canal—Main Line	4	4

Dudley Canal Line No. 2

Park Head Junction, junction with Dudley Canal—Line No. 1 to:		
Blackbrook Junction, junction with Two Lock Line Canal (closed)	—	6
Primrose Hill Wharf	1	5
Junction with Withymoor Branch Canal	2	1
Southern junction with Bumble Hole Branch Canal	2	3

Distance Table.	*Miles.*	*Furlongs.*
Windmill End Junction, junction with Netherton Tunnel Branch Canal and northern junction with Bumble Hole Branch Canal	2	5
Rowley Wharf	4	—
Old Hill and northern end of Gosty Hill Tunnel	4	3
Lappal Wharf and West End of Lappal Tunnel (closed)	7	—
Harborne Wharf	10	4
Selley Oak, junction with Worcester and Birmingham Canal	10	6
Bradley Branch Canal		
Bradley Locks Junction, junction with Wednesbury Oak Loop Line, and top of Bradley Locks, to:		
Moorcroft Junction, junction with Walsall Canal	—	7
Tipton Green and Toll End Communication		
Tipton Green Junction, junction with Old Main Loop Line to:		
Watery Lane Junction, junction with Main Line—right and left, and bottom of Tipton Green Locks	—	3
Toll End Wharf, and bottom of Toll End Locks	1	2
Toll End Junction, junction with Walsall Canal	1	4
Wednesbury Old Canal		
Pudding Green Junction, junction with Main Line, to:		
Riders Green Junction, junction with Walsall Canal	—	5
Junction with Ridgacre Branch Canal	1	2
Golds Green	2	2
Termination of Canal	2	5
Ridgacre Branch Canal		
Junction with Wednesbury Old Canal to:		
Junction with Dartmouth Branch Canal	—	4½
Junction with Halford Branch Canal	—	5½
Termination of Canal	—	6
Walsall Canal		
Riders Green Junction, junction with Wednesbury Old Canal, and top of Riders Green Locks, to:		
Great Bridge, junction with Haines Branch, and bottom of Riders Green Locks	—	6
Junction with Danks Branch	1	—
Toll End Junction, junction with Tipton Green and Toll End Communication	1	1
Junction with Lower Ocker Hill Branch	1	2
Junction with Tame Valley Canal	1	3
Junction with Gospel Oak Branch	2	0½
Junction with Monway Branch	2	1½
Moorcroft Junction, junction with Bradley Branch Canal	2	3
Moxley Stop	3	—
Junction with Bilston Branch (⅛ mile long)	3	2½

Distance Table.	*Miles.*	*Furlongs.*
Junction with Willenhall Branch (⅛ mile long)	3	4
Bug Hole Wharf	4	2
Darlaston Green Wharf	4	6
Junction with Anson Branch	5	1
Walsall Junction, junction with Walsall Branch Canal	6	7
Walsall, Public Wharf	7	—

Walsall Branch Canal

Birchills Junction, junction with Wyrley and Essington Canal to:		
Birchills Wharf, and top of Walsall Locks	—	2
Walsall Junction, junction with Walsall Canal and bottom of Walsall Locks	—	7

Bentley Canal

Wednesfield Junction, junction with Wyrley and Essington Canal to:		
Junction with Neachells Branch Canal, and bottom of Bentley Locks, 1st Flight	—	6
Monmer Lane Wharf	1	6
Spring Bank Wharf	1	7
Short Heath, and bottom of Bentley Locks, 2nd Flight	2	2
Junction with Anson Branch Canal	3	3

Tame Valley Canal

Junction with Walsall Canal to:		
Golds Hill Wharf	--	3
Holloway Bank Wharf	1	0
Newton Junction, junction with Rushall Canal	3	4
Hampstead Wharf	4	3
Barr Top Lock Wharf, and top of Perry Bar Locks, 1st Flight	5	4
Perry Bar Wharf	6	4
Top of Perry Bar Locks, 3rd Flight	7	7
Salford Junction, junction with Birmingham and Fazeley Canal, right and left, and junction with Birmingham and Warwick Section of the Grand Union	8	4

Rushall Canal

Longwood Junction, junction with Daw End Branch of Wyrley and Essington Canal, and top of Rushall Locks to:		
Bell Wharf	1	4
Newton Junction, junction with Tame Valley Canal	2	6

Birmingham and Fazeley Canal

Farmers Bridge, junction with Main Line, to:		
Junction with Newhall Branch Canal, and top of Farmers Bridge Locks	—	1

Distance Table.	*Miles.*	*Furlongs.*
Aston Junction, junction with Digbeth Branch, and top of Aston Locks	1	4
Bloomsbury Wharf	2	2
Salford Junction, junction with Grand Union—right, and junction with Tame Valley Canal—left	3	2
Erdington Wharf	5	1
Top of Minworth Locks	6	2
Jeffrey's Dock Wharf	7	6
Dunton Wharf, betweeen 1st and 2nd Locks, Curdworth	9	4
Bottom of Curdworth Locks	12	1
Fazeley Junction, junction with Coventry Canal	15	—
Hopwas	17	6
Whittington Brook, junction with Coventry Canal—detached Portion	20	4

Wyrley and Essington Canal

Horsley Fields Junction, junction with Main Line, to:		
Heath Town Wharf	—	7
Wednesfield Junction, junction with Bentley Canal	1	2
Sneyd Junction, junction with Sneyd and Wyrley Bank Branch Canal	6	2
Birchills Junction, junction with Walsall Branch Canal	8	—
Junction with Lord Hay's Branch Canal, near Little Bloxwich	11	7
Pelsall Junction, junction with Cannock Extension Canal	12	7
Catshill Junction, junction with Daw End Branch Canal	15	3
Junction with Anglesey Branch and top of Ogley Locks	16	3
Red Gap Wharf	18	—
Danks Wharf	18	4
Twenty-fourth Lock Wharf	21	5
Paper Mill Wharf	22	2
Huddlesford Junction, junction with Coventry Canal -detached portion	23	4

Cannock Extension Canal

Pelsall Junction, junction with Wyrley and Essington Canal to:		
Wyrley Grove Wharf	—	5
Norton Basin	2	—
Rumer Hill Junction, junction with Churchbridge Branch Canal	4	1
Leacroft Wharf	4	5
Hednesford Basins	5	6

Churchbridge Branch Canal

Rumer Hill Junction, junction with Cannock Extension Canal and top of Churchbridge Locks to:		
Churchbridge Junction, junction with Hatherton Branch Canal of Staffordshire and Worcestershire, Churchbridge Wharf, and bottom of Churchbridge Locks	—	5

No. 15

BLACK SLUICE DRAINAGE & NAVIGATION

Authority. Witham and Steeping Rivers Catchment Board, 50, Wide Bargate, Boston, Lincs.
'Phone: Boston 2532.

Navigation prohibited to pleasure craft.

From and To. Junction with River Witham at Boston to Guthram Gowt (Lincs.). (There is no connection with River Glen at Guthram Gowt.)

Distance. 21 miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. 72 ft.

Beam .. .. 19 ft. 6 ins.

Draught to Donington Bridge about 7 to 8 ft.

Above decreasing to 3 to 4 ft. at Guthram Gowt.

Locks. One, Boston (fitted with sea doors).

Bridges. Numerous.

Towing Path. Throughout navigation.

Connections. Clay Dike. This used to lead into the Old Sleaford Canal but is not now navigable, except to the ruins of Maryland Lock, a distance of 2 miles 7 furlongs. This lock chamber has had the gates removed and sluice fitted, thereby preventing navigation.

Distance Table.	*Miles.*	*Furlongs.*
Guthram Gowt to:		
Neslam Bridge	6	3
Donington Bridge	8	3
Swineshead Railway Station	14	—
Hubberts Bridge Railway Station	17	3
Boston, junction with River Witham	21	

No. 16

RIVER BLYTH

Authority. Southwold Corporation, Southwold, Suffolk.

From and To. River Mouth to Blythburgh.

Distance. 7 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	" "
Draught	5 ft. at High Water to Blythburgh
Headroom	Unlimited

Locks. Nil.

Towing Path. None.

Tidal Information. Once craft have entered the River, there is an average depth of 7 feet at L.W.O.S., the rise and fall being about 8 feet. River is navigable with decreasing depths to Blythburgh and the channel is marked by beacons, although no accurate survey (1949) has been made.

Moorings. A good berth alongside the quay on the Southwold side of the River can be obtained for vessels drawing up to 6 feet; here they will lie afloat at all states of the tide, except very low springs.

Repair Facilities. None, but in emergency local fishermen would help.

Special Note. The drainage authority who are in complete charge of the river above Southwold is East Suffolk Rivers Catchment Board, Upton Lodge, Warwick Road, Ipswich. *'Phone:* Ipswich 4269.

No. 17

BRECON & ABERGAVENNY CANAL

Authority. Chief Docks Manager, South Wales Docks, Dock and Inland Waterways Executive, Pierhead Buildings, Cardiff.
'Phone: Cardiff 8100.
Telegrams: ' Dainwex, Cardiff.'

From and To. Brecon to Pontymoyle (Junction with Monmouthshire Canal).

Distance. 33¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	64 ft. 9 ins.
Beam	9 ft. 2 ins.
Draught	3 ft.
Headroom	5 ft. 10 ins.

Locks. 6.

Bridges. Numerous.

Tunnels. **Ashford.** 375 yds.

Towing Path. Throughout canal, except Ashford Tunnel.

Remarks. Navigable at the moment throughout by canoe only, due to difficulties with locks. Some of them are out of order at the moment, and some drawbridges are not workable. Due to the Monmouthshire Canal being almost derelict, due to lack of maintenance by the former railway owners, this canal is isolated. Canoes can be sent by rail to Pontymoyle Road Station, which is ½ mile from the canal. Scenery on this canal is exquisite and the canal has one level pound 25 miles long.

Charges. Same as those shown for Grand Union Canal.

Warning. Water from the River Usk is sometimes turned off and some weekends no water enters the canal. Top pounds near Brecon are sometimes dry due to paddles being drawn at Brynich and Cwm Crawnon Locks.

Distance Table.	*Miles.*	*Furlongs.*
Brecon to:		
Brynich Lock No. 1	2	—
Penkelly Wharf	4	4
Talybont	6	6
Ashford Tunnel	7	6
Llanddetty Wharf	8	4
Cwm Crawnon Lock No. 2	10	-
Llanguinider Lock No. 3 (Nos. 4, 5 and 6 follow after this in 400 yards)	10	2
Dwffrant Bridge	12	2
Ffawyddog Bridge	15	—
Llanelly Wharf	18	2
Gilwern	18	6
Govilon Quarry	20	6
Llanfoist, Incline Bridge (Abergavenny, 1 mile)	21	6
Halls and Llanover Wharves	25	6
Parkybrain Wharf	28	2
Keepers Bridge	31	—
Pontymoyle, junction with Monmouthshire Canal	33	2

No. 18

BRIDGEWATER CANAL

Authority. Manchester Ship Canal, Ship Canal House, King Street, Manchester, 2.
Enquiries: Manager, Bridgewater Canal Offices, Chester Road, Manchester, 15.
'*Phone:* Deansgate 2244.
Telegrams: 'Canal, Manchester.'

From and To. From junction with the Rochdale Canal at Castlefield, Manchester to junctions with the Manchester Ship Canal—at Manchester and Runcorn, and the Trent and Mersey Canal at Preston Brook (*see* connections).

General Remarks The Canal is a commercial Waterway and the Canal Authorities *do not permit* pleasure craft *except for through journeys by special arrangement.*

Connections. Besides having junctions with the Rochdale Canal and Manchester Ship Canal, this Waterway has the following branches and junctions.

(1) Stretford and Leigh Branch, joining the Leeds-Liverpool Canal at Leigh.

(2) The Preston Brook branch from Waters Meeting—Main Canal to junction with the Trent and Mersey Canal at Preston Brook.

(3) Branch from Runcorn to junction with Weaver Navigation at Weston Point (Runcorn and Weston Canal).

(4) Hulme Locks Branch to River Irwell, Upper Reach.

Distances. From junction with the Rochdale Canal at Manchester to Runcorn, 28½ miles.
From junction with the Rochdale Canal to Preston Brook junction with the Trent and Mersey Canal, 23⅜ miles.
Preston Brook branch from Main Canal to junction with Trent and Mersey Canal, ¾ mile.
From Runcorn to junction with Weaver Navigation, 1¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length		72 ft.
Beam		14 ft. 9 ins.
Draught.	Castlefield, Manchester, to Cornbrook Bridge	5 ft.
	Cornbrook Bridge to Preston Brook, Waters Meeting	4 ft. 3 ins.
	Waters Meeting to Camden Tannery	4 ft. 5 ins.
	Camden Tannery to Manchester Ship Canal	5 ft. 2 ins.
Headroom		11 ft.

Locks. 10; at Runcorn. The new line of locks, forming a junction with the Runcorn and Weston Canal, the Tidal Dock of Runcorn Docks, and through Tidal Dock to Manchester Ship Canal. (In addition, there are two locks of the Old Line at Runcorn in use.)

Bridges. Numerous.

Charges. There is no scale of Charges for pleasure craft and application must be made to the Company.

APPLICABLE TO WHOLE SYSTEM

Speed Limit and Bye-Laws. On application to the Manager, Bridgewater Canal Offices, Chester Road, Manchester, 15.

STRETFORD AND LEIGH BRANCH

For particulars of Leigh Branch of Leeds and Liverpool Canal, see **No. 63.**

From and To. Junction with Main Canal at Stretford, 2½ miles below Manchester, to junction with the Leigh Branch of the Leeds and Liverpool Canal at Leigh.

Distance. 10¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	„ „
Draft (Normally)	4 ft. 3 ins.
Headroom	8 ft. 6 ins.

Locks. Nil.

Bridges. Numerous.

HULME LOCKS BRANCH

From and To. Manchester, Egerton Street Bridge to River Irwell Upper Reach.

Distance ⅛ mile.

Maximum Dimensions for Craft Using Waterway.

Length	75 ft. 2 ins.
Beam	14 ft. 9 ins.
Draught	5 ft.
Headroom	10 ft. 6 ins.

Locks. 3.

PRESTON BROOK BRANCH

From and To. Preston Brook, Waters Meeting Junction on the Bridgewater Canal to Preston Brook.

Distance. ¾ mile.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	14 ft. 9 ins.
Draught	4 ft. 3 ins.
Headroom	11 ft.

Locks. Nil.

RUNCORN AND WESTON CANAL

From and To. Runcorn, Junction with new line of Locks of Bridgewater Canal to Western Point, junction with River Weaver.

Distance. 1 mile 2½ furlongs.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft. 3 ins.
Beam	18 ft. 5 ins.
Draught	7 ft.
Headroom	11 ft. 9 ins.

Locks. 2.

General information applicable to Canal and Branches:—

Towing Path. Throughout Canal and Branches, except Runcorn and Weston Canal, where the Towing Path only runs from Railway Lock to Weston Point.

Warning. Small craft owners navigating these waterways should obtain full information from the Harbour Master or nearest assistant, or the nearest Bridgewater Dept. Agent.

Main Line

Distance Table.	*Miles.*	*Furlongs.*
Manchester, Castlefield, junction with Rochdale Canal—Main Line, to:		
Manchester, Egerton Street Bridge, and junction with Hulme Locks Branch		2
Manchester Docks, Cornbrook Bridge	1	0
Throstle Nest Bridge	1	3
Trafford Road Bridge and Coal Wharves	1	4
Stretford—Waters Meeting junction with Stretford and Leigh Branch	2	6
Stretford Gas Works	3	0
Longford Bridge	3	2
Rathbone's Boat Yard	3	4
Stretford Wharf, Edge Lane Bridge	3	6
Stretford Watch House	4	0
River Mersey Aqueduct (Barfoot)	4	3
Dane Road Wharf and Dr. White's Bridge	4	6
Sale Warehouse and Wharf	5	1
Coal Wharf and Sale Bridge	5	2
Roebuck Lane Wharf	5	5
Marsland's Bridge	5	7
Timperley Bridge	6	7
Railway Bridge (Stockport Line)	7	1
Railway Bridge (Railway Executive, M.R.)	7	3
Broadheath Wharves	7	4
Broadheath Warehouse, Bridge and Coal Wharf	7	5
Seamon's Moss Bridge	8	4
Dunham School Bridge	9	3
Dunham Town Bridge	9	6
Dunham Underbridge (Woodhouse Lane Aqueduct)	10	1
River Bollin Aqueduct	10	2
Bollington Warehouse and Wharf	10	5
Agden Bridge and Wharf	11	3
Burford Lane Warehouse and Wharf	12	1
Burford Lane Underbridge	12	2
Grantham's Bridge	12	3
Oughtrington Bridge	12	6
Lymm Stables	13	0
Lymm Gas Works	13	2
Lymm Warehouse	13	4
Lymm Bridge	13	5
Whitborough Aqueduct	13	6
Brookfield Bridge	13	7

Distance Table.	*Miles.*	*Furlongs.*
Barsbank Aqueduct	14	2
Ditchfield Bridge and Wharf	14	5
Massey Brook Canal Arm	15	—
Thelwall Under Bridge	15	4
Pickering's Bridge	15	6
Cliff Lane Bridge Wharf and Under Bridge	16	2
Grappenhall Bridge	16	5
Stanny Lunt Bridge	17	—
Lumb Brook Under Bridge	18	—
Stockton Quay, Warehouse, Wharf and Bridge	18	4
Red Lane Bridge	18	7
Hough's Bridge, Walton	19	3
Walton Lea Bridge	19	5
Walton Wharf	19	6
Walton Bridge	19	7
Chester Road Under Bridge and Wharf	20	1
Thomason's Bridge	20	2
Acton Grange Bridge	20	4
Moore Bridge	21	—
Moorefield Bridge	21	4
Keckwick Bridge	21	6
Keckwick Hill Bridge	22	2
George Cleave's Bridge	22	3
Red Brow Under Bridge	23	—
Preston Brook, Waters Meeting, junction with Preston Brook Branch	23	3
Norton Warehouse, Canal Arm and Railway Aqueduct	23	4
Cawley's Bridge	23	6
Borrow's Bridge	23	7
Railway Bridge	24	—
Norton Town Bridge	24	2
Norton Bridge	24	5
Norton Townfield Bridge	25	—
Green Bridge	25	4
Astmoor Bridge and Wharf	26	1
Astmoor Tannery	26	2
Bates' Bridge	26	6
Highfield Tannery, Astmoor Wharf and Basin and Royal Oak Tannery	26	7
Gas Works, Halton Road	27	—
Halton Road Wharf	27	1
Runcorn Delph Bridge and Bridgewater Foundry	27	4
Runcorn Dock Yard (The Sprinch)	27	5
Camden Tannery	27	6
Doctor's Bridge and Top Locks Warehouse	28	—
Runcorn, top of Locks, Waterloo Bridge and Railway Arches	28	1
Runcorn, junction with Manchester Ship Canal	28	4

In calculating distances for all purposes of rates and tolls, the distance between the top lock and the bottom lock at Runcorn, or any part thereof, is to be taken as equal to a distance of 5 miles.

Hulme Locks Branch

Distance Table.	*Miles.*	*Furlongs.*
Length from junction with Main Line to junction with Irwell Upper Reach	—	1

Preston Brook Branch

Preston Brook, Waters Meeting, junction with Main Line to:		
Preston Brook Warehouse	—	1
Preston Brook Bridge (Chester Road)	—	2
Preston Brook, junction with Trent and Mersey Canal—Main Line	—	6

Stretford and Leigh Branch

Stretford, Waters Meeting, junction with Main Line, to:		
Taylor's Bridge	—	1
Barton Swing Aqueduct over Manchester Ship Canal	2	2
Patricroft Basin and Warehouse	2	5
Patricroft Bridge	2	6
Patricroft Railway Bridge	3	1
Monton Green Bridge	3	5
Worsley Coke Ovens	4	2
Worsley Warehouse and Wharf	4	4
Worsley Bridge	4	6
Keeper's Turnbridge	5	6
Bridgewater Colliery Tips and Boothstown Bridge	6	1
Vicar's Hall Bridge	7	0
Whitehead Hall Bridge	7	4
Astley Bridge	7	6
Lingard's Bridge	8	3
Morley's Bridge	8	4
Marsland Green Bridge	8	7
Great Fold Bridge	9	1
Hall House Bridge	9	3
Butt's Basin and Wharf and Toll Office	9	6
Butt's Bridge	9	7
Dick Mather's Bridge	10	2
Railway Bridge	10	4
Junction with Leigh Branch of Leeds and Liverpool Canal	10	6

Runcorn and Weston Canal

Runcorn, junction with new line of locks of Bridgewater Canal and entrance to Runcorn Docks to:		
Parr's Lock, between Francis Dock and Arnold Dock, (not used)	—	2½
Railway Lock, Termination of Runcorn Docks	—	6
Weston Point, junction with River Weaver (Weston Canal) —Main Line of Navigation	1	2½

No. 19

BRIDGWATER & TAUNTON CANAL

Authority. The Railway Executive, Western Region, Paddington, London, W.2.
'*Phone:* Paddington 7000. Extension 2618.
Telegrams: ' Engineer, Paddington Station, London.'

From and To. Taunton, Junction with River Tone Navigation, to Bridgwater.

Distance. 14¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	54 ft.
Width	13 ft.
Draught	3 ft.
Headroom	8 ft.
Depth of water in Bridgwater Dock	15 to 16 ft.
Available length for vessels in Tidal Basin	180 ft.
Width of opening of gates from Dock to Tidal Basin	32 ft.
Width of opening of gates from Tidal Basin to River Parrett	42 ft.

Locks. 6.

Bridges. Numerous.

Towing Path. Throughout navigation.

Remarks. River Tone Navigation is now derelict, except for short section at Taunton.

Special Note. This navigation has been closed for a considerable period, thereby depriving Taunton of commercial and pleasure craft. As this navigation has not been abandoned by Act of Parliament, representations have been made to the Executive and the canal should be open by August, 1950. At present there are several bridges across the canal which obstruct the navigation, which are in process of removal, as they restrict the statutory headroom.

Distance Table.	*Miles.*	*Furlongs.*
Firepool Lock, Taunton, junction with River Tone Navigation, to:		
Bathpool	1	6
Creech St. Michael	3	—
Mansell, Top Lock No. 2	6	6
Mansell, Bottom Lock No. 3	7	—
North Newton	7	1
Kings Lock No. 4	8	2
Standard Lock No. 5	9	—
Ford Gate	9	6
Entrance Lock to Bridgwater Dock and Termination of Canal	14	—
Outlet from Bridgwater Dock to River Parrett	14	1½

No. 20

BUDE CANAL

Authority. Bude—Stratton Urban District Council, The Castle, Bude, Cornwall.

'*Phone:* Bude 605.

Controlling Office: The Harbour Master, The Wharf, Bude.

From and To. Bude Sea Lock to Rodd's Bridge.

Distance. 1¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	85 ft.
Beam	24 ft.
Draught	9 ft. 6 ins.
Headroom	Unlimited

Locks. 1.

Towing Path. Throughout navigation.

Bridges. None over section still in use.

Remarks. This canal was navigable till nearly the end of the last century for a considerable distance inland, by a series of inclined planes, and was for small tub boats only.

Tolls and Harbour Dues. For every vessel entering the Harbour and Dock with cargo to discharge and leaving empty or in ballast:—

Per register ton .. .. .. 4d.

For every vessel entering the Harbour and Dock to discharge and leaving with cargo:—

Per register ton .. .. .. 6d.

For every vessel entering the Harbour with or without cargo and not using Dock:—

Per register ton .. .. .. 2d.

Yachts.

Locking Fees: Actual cost plus 20 per cent. Pilotage, if required, and if possible to supply, £2.
Dock Rent:—

40 registered tons or over	per week	£2
20 registered tons and up to 40 registered tons	per week	£1 10
Under 20 registered tons	per week	£1

(Time to count from ships entry into canal.)

Harbour Master will lock ships in or out whenever possible. No locking undertaken until 7 ft. is registered on the gauge at the locks. Harbour Master's decision whether locking can be undertaken is final.
Fresh water available on wharf. Daily requirements free. Filling tanks 1/-.

Tidal Information.

Tide flows to Sea Lock.
Spring rides rise 23 ft. Neap tides rise 17 ft.

No. 21

CALDER & HEBBLE NAVIGATION

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Eastern Division, Dock Street, Leeds, 1.

'Phone: Leeds 20957/8.

Telegrams: ' Dainwex, Leeds.'

From and To. From junction with the Aire and Calder Canal at Wakefield to junction with the Rochdale Canal, Sowerby Bridge. (There are several very short branches in use, which are part of the old navigation.)

Distances. 21½ miles (Halifax Branch 1¾ miles, Wakefield Weir Stream ½ mile, Horbury Branch 1 mile, Dewsbury Cut ¾ mile, Tag Cut ½ mile).

Maximum Dimensions for Craft Using Waterway.

Length	57 ft. 6 ins.
Beam	14 ft. 2 ins.
Draught	5 ft. 0 ins.
Headroom	9 ft. 3 ins.

Locks. 39.

Lock gates worked by Boat Crews.

Halifax Branch, 14 locks. Horbury Branch, 2 locks. Dewsbury Cut, 1 lock.

Bridges. Numerous.

Approx. Time taken to navigate. 8 hours.

Speed Limit. 3 miles per hour in Canal. 4 miles per hour in River portions.

Charges. Same as those shown for Grand Union Canal.

Payment. To Divisional Traffic Officer at above address, or to The District Traffic Officer, Canal Wharf, Elland.

Towing Path. Throughout Main Line of navigation, and also on Dewsbury Cut and Halifax Branch Canal.

Distance Table.	*Miles.*	*Furlongs.*
Fall Ing Lock, junction with Aire and Calder Navigation—Main Line, to:		
Wakefield Wharf, junction with Wakefield Weir Stream	—	4
Wade's Mill	—	6
Thornes Flood Lock No. 6	2	—
Broad Cut	3	4
Calder Grove Colliery	3	6
Hartley Bank Colliery	4	2
Horbury Bridge (junction with Horbury Cut)	5	2
New Millbank Colliery	6	—
Figure of Three Locks Nos. 10 and 11	6	—
Thornhill Combs Colliery	7	—
Tail of Double Locks, and junction with Dewsbury Old Cut of Aire and Calder Navigation	7	2
Brewery Bridge	8	2
Calder Wharf and junction with Dewsbury Cut	9	—
Greenwood Lock No. 16	9	4
Shepley Bridge Lock	10	—
Bull Bridge	10	6
Cardwell's Mill	11	2
Battye Lock No. 21	11	6
Cooper Bridge Low Lock No. 23	12	6
Cooper Bridge Cut End, junction with Huddersfield Broad Canal	13	—
Kirklees Top Lock No. 26	13	6
Brighouse Wharf	15	4
Junction with Tag Cut	16	2
Spencer's Wharf	17	6
Elland Wharf	18	2
Head of Salterhebble Top Lock No. 39, and junction with Halifax Branch Canal	19	4
Sterne Mill	20	6
Mearclough Mill	21	4
Sowerby Bridge, junction with Rochdale Canal—Main Line	21	4

No. 22

RIVER CAM

Authority.

From Silver Street Sluice to Bottisham Locks :
Conservators of the River Cam,
The Guildhall, Cambridge.
'Phone : Cambridge 54221.

From Bottisham Locks to junction with the River Ouse :
The Great River Ouse Catchment Board,
" Elmhurst," Brooklands Avenue, Cambridge.
Phone : Cambridge 3287.

From and To. From Cambridge to the junction with the River Ouse via Bottisham Locks.

Distance. Cambridge to the junction with the River Ouse 14⅜ miles.

Maximum Dimensions for Craft Using Waterway.

Length	100 ft.
Beam	14 ft.
Draught	4 ft.
Headroom	9 ft.

Locks. 3. Lock gates worked by Lock Keepers.

Bridges. Numerous.

Speed Limit. No craft shall proceed at such a pace as to cause damage, inconvenience or annoyance.

Connections. Reach Lode and Burwell Lode can be reached from Upware. Connection is also made with Swaffham and Bottisham Lodes.

Charges. The following are the charges levied by The Conservators of the River Cam for that part of the River above Bottisham Lock.

River Dues. A toll, varying from 1d. to 3d. per ton is charged on specified merchandise or produce.

Lock Dues. Paid by all craft passing Jesus Green and Baitsbite Locks as follows :—

Class I. Sculling Boats, Dinghy and Sailing Boats, Steam or Motor Launches not exceeding 15 ft. in length	£0 0 6
Class II. Row Boats over 4 oars ; Steam or Motor Launches over 15 ft. but not exceeding 30 ft.	0 1 0
Class III. Every Steam or Motor Launch of over 30 ft. in length, Houseboat or other vessels not expressly referred to	£0 1 6

The above charges are for passing once through a lock and returning the same day or passing Saturday or Sunday and returning the following Monday.

Registration Fees. Every pleasure boat navigating the River shall be registered at the Control Office of the Conservators as follows :—

Class I. Sculling Boats, Dinghies, Sailing Boats, etc., of 21 ft. or less	£0 2 6
Class II. Sailing Boats of over 21 ft. ..	0 4 0
Class III. Steam or Motor Launch, Houseboat, Barge, etc., not exceeding 30 ft.	0 7 6
Class IV. Steam or Motor Launch, Houseboat, Barge, etc., above 30 ft., but not exceeding 40 ft.	0 10 6
Class V. Steam or Motor Launch, Houseboat, Barge, exceeding 40 ft.	1 0 0

Payment. All charges should be made to the Control Officer, Borough Treasurer's Dept., Guildhall, Cambridge.

REACH LODE AND BURWELL LODE

Authority River Ouse Catchment Board, "Elmhurst," Brooklands Avenue, Cambridge.
(*See* Great Ouse.)

From and To. Upware, Junction with River Cam to Burwell.

Distance. 3¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	50 ft.
Beam	10 ft.
Draught	4 ft.
Headroom	9 ft.

Locks. 1; Reach Lode Sluice.

Towing Path. Throughout navigation, and termed locally "Haling Way."

Remarks. These navigations were formerly used by fen lighters, now these Lodes are used by pleasure craft and little commercial traffic is seen.

"South Level Rivers Navigation Bye-Laws 1947" are applicable to these waterways.

Reach Lode is only navigable from Upware to Pout Hall, where Burwell Lode commences, and craft can proceed on this Lode to Burwell village.

BOTTISHAM LODE AND SWAFFHAM LODE

Authority. The same as for Reach and Burwell Lodes.

From and To. Junction with River Cam to Lode and Swaffham Bulbeck.

Distance. Bottisham Lode 2¼ miles, Swaffham Lode 3½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	96 ft.
Beam	15 ft.
Draught	2 ft. 6 ins.
Headroom	9 ft.

Locks. There is one entrance lock to each Lode.

Towing Path. Throughout navigation.

Remarks. Bottisham Lode Lock is usually open in summer and locking through is only necessary during flood time.

Distance Table.	*Miles.*	*Furlongs.*
Kings Mill, Cambridge, to:		
Jesus Green Lock, Cambridge	—	6
Chesterton Ferry	2	4
Fen Ditton	3	4
Baitsbite Lock No. 2	4	5
Horningsea	5	2
Clayhithe Bridge—Waterbeach Station and Village distant ½ mile	6	5
Bottisham Lock No. 3	7	5
Mouth of Bottisham Lode	7	6
Mouth of Swaffham Lode	9	—
Upware, junction with Reach Lode	11	2
Popes Corner, junction with River Ouse, Great	14	3

No. 23

CHELMER & BLACKWATER NAVIGATION

Authority. The Company of Proprietors of the Chelmer and Blackwater Navigation, Ltd., 71, Duke Street, Chelmsford.
'Phone: Chelmsford 3108.

From and To. From the tidal river Blackwater through Heybridge Basin Lock to Chelmsford.

General Remarks. At Heybridge Basin, entered from the River Blackwater, by sea locks, vessels up to 107 feet long, 26 feet beam and drawing 12 feet can enter the basin. A considerable number of large and small craft moor here.

The canal is only fitted for small craft and is mainly used by barges.

Distance. 13¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	60 ft.
Beam	16 ft.
Draught	2 ft.
Headroom	Very low—6 ft. at most.

Locks. 13. Lock gates worked by Boat Crews, except Heybridge Sea Lock.

Bridges. Several. Low headroom.

Speed Limit. There is only horsedrawn traffic on the Canal.

Charges. The fee for each entry and departure through the lock at Heybridge is 2/6, and the following are the rates for laying up or for a prolonged stay.

Under 30 feet	5/- per month.
„ 50 feet	7/6 „
„ 60 feet	10/0 „
60 feet and upwards	15/- „

Payment. To Lock Keeper, Heybridge Basin.

Towing Path. Throughout navigation.

Tidal Information The River Blackwater is tidal to Heybridge Sea Lock. High water 1 hour 40 minutes before London Bridge. Spring tides rise 12 ft., Neap tides rise 8ft.

Distance Table.	*Miles.*	*Furlongs.*
Chelmsford Basin to:		
Springfield Lock No. 1	—	3
Barnes Mill Lock No. 2	1	1
Sandford Lock No. 3	2	1
Cuton Lock No. 4	3	1
Stonehams Lock No. 5	4	—
Little Baddow Lock No. 6 and Wharf	4	7
Paper Mill Lock No. 7	6	1
Rushes Lock No. 8	7	4
Hoe Mill Lock No. 9	8	6
Ricketts Lock No. 10	10	1
Beeleigh Lock No. 11	11	—
Heybridge Village	12	2
Heybridge Sea Lock No. 13	13	7

No. 24

CHESTERFIELD CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Eastern Division, Dock Street, Leeds, 1.
'Phone: Leeds 20957/8.
Telegrams: ' Dainwex, Leeds.'

From and To. Junction with the River Trent at Stockwith to Shireoaks Basin. (The canal is not now navigable between Shireoaks Basin and Chesterfield, due to neglect by previous railway owners.)

General Remarks. The lock at Stockwith by which boats enter or leave the canal can only be used at certain state of tide.

Distances.

Stockwith to Shireoaks Basin	27¾ miles.
Stockwith to Chesterfield	45½ miles.

Maximum Dimensions for Craft Using Waterway.

Length.		72 ft.
Beam. Stockwith to Retford		7 ft. 8 ins.
Retford to Shireoaks Basin ..		6 ft. 10½ ins.
On the disused portion above Shireoaks Basin now blocked ..		6 ft. 10½ ins.
Draught. On navigable portion		3 ft. 3 ins.
Headroom. On navigable portion ..		6 ft. 6 ins.
Above Shireoaks		4 ft. 10 ins.

Locks. 65 (24 in use on navigable part of Canal). Locks worked by Boat Crews, except Stockwith Trent Lock, which is opened by Lock Keeper.

Bridges. Numerous.

Tunnels. 2. **Drakeholes.** 154 yards. Headroom 10 ft.
Norwood. 3,102 yards. Closed through colliery subsidence.

Speed Limit. 4 miles an hour.

Approx. Time taken to Navigate. About 14 hours.

Special Note. Locks to Retford should take craft up to 8 ft. 6 ins. beam, but due to bridge hole at Hayton being only 7 ft. 10 ins. wide, beam of craft is restricted to near this figure.

Towing Path. Towing path throughout navigation, except Drakeholes Tunnel.

Sunday Navigation. Four locking places, viz., at Gringley, Retford, Forest Locks and Hilton Top Lock. Traffic can pass between these points.

Charges. Same as Grand Union Canal.

Payment. To the Divisional Traffic Officer, D. and I.W.E., Dock Street, Leeds, 1., or Agents at Stockwith, Retford or Worksop.

Distance Table.	*Miles.*	*Furlongs.*
Chesterfield Basin End to:		
Dixon's Lock No. 4	2	7
Hartington Colliery	4	7½
Norwood Colliery	11	3½
West Kiveton Colliery	11	7½
Norwood Tunnel, West End	12	0½
Nowood Tunnel, East End	13	7
Top Treble or Summit Locks Nos. 20, 21 and 22	16	1
Stone Lock No. 39	17	0½
Shireoaks Aqueduct	17	2
Shireoaks Bottom Lock No. 44, Low Bridge and Wharf (Canal is navigable from this point)	17	7
Morse Lock No. 49	19	4
Shireoaks Colliery Coal Wharf	19	7
Worksop Lock, Bridge and Warehouse (Lock No. 50)	20	—
Forest Top Lock No. 54	26	6
West Retford, Wharf Bridge and Lock No. 58	30	2½
Clarborough Bridge, St. John's	32	2
Clarborough Bridge	33	—
Clayworth Wharf and Top Bridge	35	7
Drakeholes Wharf and West End of Drakeholes Tunnel	39	—
Gringley Top Wharf and Top Lock No. 61	40	6
Gringley Low Lock No. 62 and Low Lock Bridge	41	4
Walkeringham Bridge and Wharf	42	5
Misterton, Cooper's Bridge	43	6½
Misterton Top Lock No. 63	44	5½
Railway Bridge (B.R., E.R.)	44	7
Stockwith Bridge	45	3½
West Stockwith, Trent Lock No. 65, and junction with River Trent	45	4

No. 25

CHICHESTER CANAL

Authority. Chichester Corporation, Council Offices, North Street, Chichester, Sussex.
'Phone: Chichester 2431/2.

From and To. Birdham Pool to Casher Lock.

Distance. ⅔ mile.

Maximum Dimensions for Craft Using Waterway.

Length	85 ft.
Beam	18 ft.
Draught	7 ft.

Locks 1. Saltern's Lock.
Casher Lock is not workable and the rest of the canal to Chichester is derelict.

Towing Path. Throughout navigation.

Remarks. This canal was originally part of the old Portsmouth-Arundel route, linking London with Portsmouth via the Wey-Arun Junction Canal, a route derelict for nearly a century. The lower reaches of the canal are still used for the purposes of mooring yachts, yacht repairs, etc. The Chichester Yacht Co., Ltd., lease this section from the Corporation. Address: Lower Lock, Birdham. Telephone Birdham 358. The fairway to the Lock gates is in places marked by perchers. It almost dries at low water springs. Details of Chichester Channel are listed in *The Pilot's Guide to the English Channel.*

No. 26

RIVER COLNE

Authority. Colchester Corporation, Town Hall, Colchester, Essex. *'Phone:* Colchester 3101.

From and To. East Mill, Colchester, to Colne Point.

Distance. 11 miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. 200 ft.
(Up to 150 feet can be swung at The Hythe.)

Beam .. .. Not limited

Draught:
Maximum to The Hythe on Spring tides 10 ft.
Maximum to The Hythe on Neap tides 6½ ft.

***Headroom** .. .. Unlimited

*There is a bridge at Hythe, headroom 4 feet at Spring tides. There is also a bridge over Alresford Creek.

Remarks. The River is practically dry at low water above Wivenhoe. The Corporation of Colchester are the authority for the Harbour of Colchester, except Brightlingsea Creek.

Charges. Tonnage rates are as follows: Under 50 tons 2d. per ton, then each 10 tons a 1d. to 100 tons, then each 25 tons a 1d. to 300 tons. All above 300 tons 1/- per ton. Payable to the Harbour Master at The Hythe, Colchester.

Towing Path. On both banks to Wivenhoe, from Colchester.

Tidal Information. High water at Colchester 1 hour 30 minutes before London Bridge. Spring tides rise 9 feet 6 inches, Neap tides rise 6 feet.

Distance Table.

East Mill, Colchester, to:	*Miles.*	*Furlongs.*
The Hythe, Colchester, Wharves and Warehouses ..	1	—
Rowhedge, Shipbuilding Yard	3	2
Wivenhoe, Shipbuilding Yard	3	6
Alresford Creek	5	2
Westmarsh Point, Brightlingsea Shipbuilding Yard ..	8	3
Mersea Point	8	5
Colne Point, limit of jurisdiction of the Colchester Corporation	11	—

No. 27

COVENTRY CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, South-Eastern Division, Transport House, Reservoir Road, Ruislip, Middlesex.

'Phone: Ruislip 4081.

Length of 4 miles from Huddlesford to Fradley is in the North-Western Division of the D. and I.W.E.

From and To. Junction with Oxford Canal at Hawkesbury Junction to junction with the Trent and Mersey Canal at Fradley.

The canal has junction with the Birmingham and Fazeley Canal at Fazeley.

Connections. The Coventry Canal has junction with the Ashby Canal at Marston, about 3 miles noth of Hawkesbury, and junction with the Wyrley and Essington Canal at Huddlesford, about 4 miles short of the junction with the Trent and Mersey Canal.

The waterway leading to Coventry has junction with the Main Line at Hawkesbury.

Distances. Junction with Oxford Canal at Hawkesbury to junction with Trent and Mersey Canal at Fradley .. 32½ miles.

Coventry Basin to junction with Birmingham and Fazeley Canal at Fazeley .. .. .. 27 miles.

Hawkesbury Junction to Coventry .. .. 5½ miles.

The detached portion of the Canal from Whittington to junction with the Trent and Mersey Canal .. 5½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	6 ft. 10 ins.
Draught	3 ft. 10 ins.
Headroom	9 ft.

Locks. 14. Lock Gates worked by Boat Crews supervised by Lock Keepers.

Bridges. 91.

Speed Limit. 3 miles an hour.

Towing Path. Throughout navigation.

Charges. **Canal Dues.** Same as those shown for the Grand Union Canal. Apply to The Traffic Officer, D. and I.W.E., South-Eastern Division, Port of London Authority Building, Seething Lane, E.C.3.

Payment. To The D. and I.W.E., South-Eastern Division, at above address or Toll Office.

Distance Table.	*Miles.*	*Furlongs.*
Coventry Basin to:		
Stoke Basin	2	—
Navigation Wharf	2	6
New Inn Wharf	4	—
Longford Wharf	4	4
Hawkesbury Junction, junction with Oxford Canal—Main Line (Lock No. 1—Stop Lock)	5	4
Newdigate Colliery	6	4
Bulkington Lane	7	2
Charity Basin	8	—
Marston Junction, junction with Ashby Canal	8	2
Griff, junction with National Coal Board's Canal leading to Griff Colliery	9	2
Coton Old Wharf	10	—
Coton Boot Wharf	10	2
Wash Lane Wharf	11	—
Midland Quarry	11	6
Nuneaton Wharf	11	6
Judkin's Quarry	11	6
Boon's Quarry	12	6
"The Anchor"	13	6
Hartshill Wharf	14	2
Wide Hole Wharf	14	6
Mancetter Wharf	15	6
Atherstone, top of Locks Nos. 2 to 12	16	4
Baddesley Colliery Basin	17	4
Polesworth	21	4
Pooley	22	2
Alvecote	23	2
Amington	23	4
Glascote Locks Nos. 13 and 14	25	4
Fazeley Junction, junction with Birmingham and Fazeley Canal	27	—

Detached Portion

Distance Table.	*Miles.*	*Furlongs.*
Whittington Brook, junction with Birmingham and Fazeley Canal to:		
Huddlesford Junction, junction with Wyrley and Essington	1	4
Fradley Junction, junction with Trent and Mersey Canal—Main Line	5	4

No. 28

CROMFORD CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Eastern Division, Dock Street, Leeds, 1.

'*Phone:* Leeds 20957/8.
Telegrams: ' Dainwex, Leeds.'

From and To. From junction with Grand Union Canal at Langley Mill to Cromford, with Branch to Pinxton.

General Remarks. With the exception of approximately ¼ mile at the Langley Mill end, the waterway is no longer open for general canal traffic, but subject to physical conditions permitting, pleasure craft may be allowed to pass on application being made for the necessary permission. The Canal was constructed to accommodate craft of the dimensions mentioned below. All applications for permission to use the waterway by pleasure craft should be accompanied by full particulars of the dimensions and draught of the craft proposed to be used.

Distance.

Langley Mill to east end of Butterley Tunnel*	4 miles.
West end of Butterley Tunnel* to Cromford	8½ ,,
Pinxton Branch	2 ,,

* This tunnel is closed.

Maximum Dimensions for Craft Using Waterway.

Length	78 ft.
Beam	*14 ft.
Draught	3 ft.
Headroom	†7 ft.

* West of the Butterley Tunnel reduced to 7 ft.
† Pinxton Branch reduced to 6 ft. 9 ins.

Locks. 14. Lock gates worked by Boat Crews.

Towing Path. Throughout navigation, except Butterley Tunnel.

Bridges. Numerous.

Speed Limit. 3½ miles per hour.

Charges. By special arrangement.

Tunnels. Buckland Hollow (33 yards) towing path, Hag (93 yards) towing path, Gregory (76 yards) towing path, Butterley (3,063 yards) closed, no towing path.

Payment. To Divisional Traffic Officer at above address, or to The District Traffic Officer, Belgrave Gate, Leicester.

Distance Table.	*Miles.*	*Furlongs.*
Langley Mill, junction with Grand Union Canal (Old Erewash Section) to:		
Langley Bridge Lock No. 14	—	0½
Langley Mill, junction with Nottingham Canal (Derelict)	—	1
Marshall's Lock No. 13	—	4
Vicker's Lock No. 12	—	7
Stoneyford and Stoneyford Lock (Nos. 9, 10 and 11)	1	3
Lock No. 7 (Bottom of Flight)	2	7
Head of Top Lock No. 1, and junction with Pinxton Branch	3	4
Butterley Tunnel (3,063 yards), East End	4	3
Butterley Tunnel, West End	6	1
Buckland Hollow Tunnel	7	6
Ambergate	9	3
Whatstandwell	11	5
Junction with Lea Wood Branch (Private)	13	2
Cromford Wharves	14	5

No. 29

RIVER CROUCH

Authority. None, an open navigation.

From and To. Battlesbridge to Holliwell Point.

Distance. 17½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	„ „
Draught	7 ft. High Water Spring Tides, to Battlesbridge
Headroom	Unlimited

Connections. River Roach.

Locks. Nil.

Towing Path. None of use to navigation. Sections of the river have a footpath alongside.

Bridges. None.

General Remarks. Navigation up to Battlesbridge is difficult due to shoals and sandbanks. Barges regularly trade to the Mill at Battlesbridge. A very popular yachting centre, particularly in area near Burnham-on-Crouch. Just below Burnham there is a shoal in the middle of the river. For further details see *The Pilot's Guide to the Thames Estuary.*

Tidal Information. The rise and fall at Burnham is about 10 feet on the average and the stream runs there at some 5 knots.

Distance Tables.	*Miles.*	*Furlongs.*
Holliwell Point to:		
Junction with River Roach	2	5
Burnham-on-Crouch	4	1
Ferry and Timber Yard	6	4
Bridgemarsh Island (Eastern End)	7	7
Bridgemarsh Island (Western End)	10	3
Ferry (Foot Passengers) from North to South Fambridge	12	—
Hullbridge Ferry (Foot Passengers)	15	—
Battlesbridge Mill	17	4

No. 30

RIVER DART

Authority. Harbour Master's Office, Lloyds Bank Chambers, Dartmouth.
'Phone: Dartmouth 337.

From and To. Totnes to Kingswear.

Distance. 10¼ miles.

Maximum Dimensions for Craft Using Waterway.

***Length**	Not limited
***Beam**	„ „
Draught (High Water):	
Spring tide 9ft. 6 ins. } Neap tides 7ft. 6 ins. }	To Totnes
(There is liable to be considerable variation in these figures.)	
Headroom	Not limited

*Small craft only to Totnes.

Locks. Nil. Tidal throughout.

Towing Path. None.

Brigdes. Nil.

General Remarks An extremely popular pleasure trip due to world-renowned scenery of the Dart. Care is needed in navigation of the River. For further details see *Pilot's Guide to the English Channel.*

Connections. Old Mill Creek (for craft drawing less than 5 feet.

Port Charges. **Harbour Dues.** Free for yachts and pleasure craft. Mooring rates. Scale of Tolls for the use of buoys and moorings:

Yachts not exceeding 50 tons	1/-
„ exceeding 50 tons and under 100 tons ..	2/-
„ „ 100 „ „ „ 200 „ ..	3/-
„ „ 200 „ „ „ 300 „ ..	4/-
„ „ 300 „ „ „ 400 „ ..	5/-
„ „ 400 „ and upwards ..	5/-

Yacht lying-up rates:

For every yacht under 50 tons, per ton per annum, 3d.
For every yacht exceeding 50 tons, per ton per annum, 4d.

Tidal Information. High tide at Totnes 30 minutes after Dartmouth.

Distance Table.

Dartmouth to:	*Miles.*	*Furlongs.*
Noss	1	1
Anchor Stone	2	1
Dittisham	2	6
Duncannon	6	—
Sharpham	7	—
Totnes Quay	9	7
Totnes Weir	10	6

(At low water the total distance is increased by about 2 miles due to extra distance in winding channel in the Estuary.)

No. 31

DARTFORD & CRAYFORD NAVIGATION

Authority. Commissioners of the Dartford and Crayford Navigation, 21, High Street, Dartford, Kent.
'Phone: Dartford 2630.

From and To. Dartford to River Thames, and Branch from Crayford Mill to River Darenth.

Distance. 2¾ miles. Branch ¾ mile.

Maximum Dimensions for Craft Using Waterway.

Length .. .. 165 ft.

Beam .. .. 23 ft.

Draught. From River Thames to the Wharves above Dartford Lock, about 7 ft., rising to 11 ft. on Spring tides. Head of navigation and River Cray is about 6 ft.

Towing Path. None.

Locks. 1.

General Remarks. This navigation is a portion of the River Darenth with its tributary the River Cray made navigable. Below Dartford Lock navigation is tidal.

Tolls. The Tolls chargeable on goods carried is at the rate of 2½d. per ton.

Tidal Notes. High water at the junction with River Thames about 37 minutes before London Bridge. High water at Dartford Lock about 40 minutes before London Bridge. Spring tides rise 18 ft. 6 ins. Neap tides rise 15 ft.

No. 32

RIVER DEBEN

Authority. None, an open navigation.

From and To. Melton Bridge to Woodbridge Haven.

Distance. 11 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	„ „
Draught:	
To Waldringfield	8 ft.
To Woodbridge	7 ft. 6 ins. at high water only.
To Melton Bridge	4 ft. at high water only.
Headroom	Not limited.

Locks. Nil.

Towing Path. None.

Tidal Information. The rise and fall of the tide is about 12 ft., while the stream runs at up to 6 knots in the entrance and 4 knots elsewhere in the river. Stakes mark the sides of the tidal channel up to Woodbridge. For further details see *Pilot's Guide to the Thames Estuary.*

Repair facilities. Repair and building yards at Felixstowe Ferry, Waldringfield and Woodbridge. There is accommodation for craft drawing up to 10 ft.

No. 33

RIVER DEE

Authority. Rivers Dee and Clwyd Catchment Board,
45, Nicholas Street, Chester.
'*Phone:* Chester 2147.

From and To. Almere Ferry to Point of Air.

Distance. 33 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	„ „
Draught (to Chester)	5 ft. 6 ins. to 11 ft.
Headroom (to Chester)	Unlimited.

Locks. Nil. Tidal throughout.

Towing Path. None.

Remarks. It is possible to pass Chester Weir on an ordinary spring tide with boats drawing not more than 3 ft. of water, and craft can proceed 10 miles upstream to Almere Ferry. Beyond Almere Ferry there is a shoal at the confluence of the Rivers Dee and Alyn which renders further navigation upstream very difficult, particularly after a period of very dry weather. In certain conditions boats drawing 3 ft. can get as far as Farndon Bridge, which is about 12 miles above Chester. Very light craft drawing only 1 ft. can reach Bangor-on-Dee.

Connections. Shropshire Union Canal at Crane Wharf, Chester.

Charges. Anchorage Toll is 1s. 6d. payable by every ship anchoring in the River Dee.

Tolls on ships using the Navigation are payable at Connah's Quay to the Collector of Customs and Excise. Anchorage Tolls at Mostyn are collected by the Habour-master on behalf of the Catchment Board.

Tidal Information. High water at Connah's Quay is at approximately the same time as high water at Liverpool. At Crane Wharf, Chester, Spring Tides rise 9 ft. The phenomenon of the bore will be encountered at Spring Tides between Connah's Quay and Chester.

Distance Table.	*Miles.*	*Furlongs.*
Almere Ferry to:		
Chester, Dee Bridge (a weir here stops craft, except at H.W.S.T.)	10	—
Chester Gas Works	11	—
Chester, Crane Wharf, and junction with Shropshire Union	12	2
Saltney	12	6
Sandycroft	15	5
Queensferry	16	7
Connah's Quay	18	6
Point of Air	About 33	—

No. 34

DERBY CANAL

Authority. The Derby Canal Co., Bridgewater Wharf, Derby.
'*Phone:* Derby 4358.

From and To. Junction with the Grand Union Canal (Erewash Canal) at Sandiacre to junction with Trent and Mersey Canal at Swarkestone. There is a short branch to the upper portion of the River Derwent. From Swarkestone to Sandiacre and vice versa it is necessary to cross the River Derwent at Derby.

Distance. 14½ miles. Branch to upper portion of the Derwent, ¼ mile.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	14 ft.
Draught	3 ft. to 3 ft. 8 ins.
Headroom	7 ft.

Locks. 9. Locks worked by Boat Crews.
Branch to Derwent (upper section), 1 lock.

Bridges. Numerous.

Speed Limit. None.

Approx. Time taken to Navigate. 3 hours.

Charges. Through Charge, 10/-.

Towing Path. Throughout the navigation, except the short Branch leading to the upper portion of the River Derwent.

Special Note. This canal is unnavigable as lock gates are padlocked, though it has not been abandoned by Act of Parliament.

Distance Table.	*Miles.*	*Furlongs.*
Sandiacre Junction, junction with Grand Union Canal (Old Erewash Canal) to:		
Breaston	1	7
Borrowash Top Lock No. 4 and Railway Station	4	7
Spondon Railway Station	6	1
Derby, junction with Little Eaton Branch (derelict)	8	6
Derby, junction with Branch to upper portion of River Derwent	9	—
Derby, White Bear Lock No. 5	9	1
Derby, Pegg's Flood Lock No. 6	9	1½
Derby, Gandy's Wharf	9	2
Derby, Gas Works	10	2
Osmaston	11	—
Shelton Top Lock No. 9	13	—
Baltimore Bridge, Chellaston	13	4
Swarkeston Junction, junction with Trent and Mersey Canal—Main Line	14	4

Branch to Upper Portion of River Derwent, Derby

Junction with Main Line to:		
Phoenix Lock No. 1	—	0½
Junction with River Derwent	—	1
Railway Bridge, Termination of Navigation	—	2

No. 35

RIVER DERWENT

Navigation Authority. Unknown.

Drainage Authority. River Ouse (Yorks) Catchment Board,
21, Park Square South, Leeds, 1.
'*Phone:* Leeds 29404.

From and To. Junction with the River Ouse at Barmby-on-the-Marsh, to Sutton Lock (*see also footnote*).

Tides. The River is tidal to Sutton Lock.
High Water at Barmby-on-the-Marsh about 1 hour, 40 minutes after Hull.
Springs Rise about 11 ft. Neaps 6 ft. 9 ins.

Distance. 15½ miles, to Sutton Lock, 21¾ miles to Stamford Bridge Lock.
38 miles to Malton.

Maximum Dimensions for Craft Using Waterway.

It is difficult to lay down any rule limiting dimensions for craft using the River Derwent on the tidal section, owing to the variation of the water level on spring and neap tides, and the variation in the quantity of fresh water passing down the river.
At low tide during the summer there may be as little as one foot of water over certain shoals, while during maximum floods the headroom under Bubwith Bridge may be reduced to 5 ft.
The following dimensions are given as a rough guide only being approximate under fair conditions.
From Barmby-on-the-Marsh to Sutton Lock.

Length	55 ft.
Beam	14 ft.
Draught	About 4 ft. 6 ins. to 5 ft.
Headroom	10 ft. 6 ins.

Locks. Sutton (or Elvington) (*see footnote*). (This lock is the only one of five that is workable.)

Towing Path. Throughout navigation.

Bridges. Numerous.

Speed Limit. No vessels to be navigated at such a speed as to do injury to the banks or cause inconvenience, etc.

Caution. The above information refers only to normal conditions. The river is liable to exceptional high tides and fresh water floods, thus making the information unreliable.

Remarks. The lower reaches of this river are dangerous until about half tide owing to stone banks. Several pleasure craft have sunk as a result of striking stones. Buttercrame Lock, Howsham Lock and Kirkham Lock are all derelict and unworkable, but the stretches in between are used for local boating.

Distance Table.	*Miles.*	*Furlongs.*
Barmby-on-the-Marsh Junction with River Ouse to:		
Barmby-on-the-Marsh Village	—	4
Loftsome Bridge	2	1
Wressell	3	—
Breighton	4	7
Menthorpe	5	2
Bubwith, Derwent Bridge	6	7
Ellerton Landing	9	7
Thorganby	10	4
Cottingwith Ferry and Junction with Pocklington Canal	11	4
Ings Bridge	13	—
Sutton Lock No. 1	15	4
Bridge between Elvington (right bank) and Sutton-on-Derwent (left bank)	15	5
Kexby Bridge	18	3
Stamford Bridge Lock No. 2	21	7
Buttercrambe Bridge	24	6
Buttercrambe Lock No. 3	25	—
Scrayingham	26	—
Howsham Lock No. 4	28	4
Kirkham Abbey Lock No. 5	31	2
Castle Howard Station	32	1
Huttons Ambo Station	34	7
Cherry Islands	35	3
Malton (County Bridge. Termination of Navigation)	38	—

NOTE.—At the discretion of the Catchment Board, and when work on the river permits Sutton (or Elvington) Lock to be available, a further 6½ miles of river is navigable to Stamford Bridge Lock. Craft wishing to pass through must be in possession of a Pass (for which 3rd Party Insurance is necessary) obtainable on application from the Hon. Sec. Y.M.B.A. (N.E. Centre), "Outlook," Ancaster Road, Headingly, Leeds.

No. 36

RIVER DON (Yorkshire)

Navigation Authority. Unknown.

Drainage Authority. River Ouse (Yorks) Catchment Board,
21, Park Square South, Leeds, 1.
'*Phone:* Leeds 29404.

From and To. Junction with River Ouse at Goole to junction with River Don (under jurisdiction of Sheffield and South Yorkshire Navigation) at Fishlake Old Ferry.

General Remarks. Three miles below Fishlake Old Ferry this Waterway is known as the Dutch river. It is tidal throughout.

Distances. From Goole to Fishlake Old Ferry, about 9 miles.

Maximum Dimensions for Craft Using Waterway.

Length	not limited.
Beam	„
Draught	About 6 ft. 6 ins. Depends on tide.
Headroom	Varies up to 15 ft. depends on tide.

Towing Path. None.

Speed Limit. Vessels to be navigated in such a manner and at such speed as not to injure banks, etc. For special speed limits see Notices.

Approx. Time taken to Navigate. About 1 hour with tide.

Caution. The above information refers only to normal conditions. The river is liable to exceptional high tides, and fresh water floods, thus making the information unreliable.

Tidal Information. High water at Groole 1 hr. after Hull. Spring Tides rise 13 ft., Neap Tides 9 ft. Tide flows past Fishlade Old Ferry to the tail of Stainforth Lock. High water at Stainforth Lock 1 hr. 20 mins. after Goole. Spring Tides rise 7 ft. 6 ins.

Distance Table.	*Miles.*	*Furlongs.*
Fishlake Old Ferry, junction with River Don, under the jurisdiction of the Sheffield and South Yorkshire Navigation to:		
New Bridge, commencement of Dutch River	3	6
Rawcliffe Bridge	5	7
Goole, junction with River Ouse	9	2

No. 37

DRIFFIFLD NAVIGATION

Authority. Commissioners of the Driffield Navigation,
23, Exchange Street,
Great Driffield, Yorks.

From and To. Great Driffield to River Hull, at Struncheon Hill Lock.

Distance. 7 miles.

Maximum Dimensions for Craft Using Waterway.

Length	61 ft.
Beam	4 ft. 6 ins.
Draught	4 ft.
Headroom	9 ft. 6 ins.

Branches. Corps Landing 1¾ (Derelict), Frodingham Beck 1¾. (This branch is only open to Frodingham Bridge. This bridge no longer swings open and restricts navigation. Distance to bridge 1 mile).

Locks. 7 (5 out of order).

Towing Path. Throughout Main Line, but there is no towing path on the Frodingham Beck Branch.

Remarks. This waterway is in very bad condition. Struncheon Hill Locks are workable, but Snakeholme Locks are derelict. It is possible to reach Brigham. Wansford, Whin Hill and Driffield Locks are also derelict.

Charges.

Houseboats, if moored on Navigation Land	10/- per annum.
Houseboats, if *not* moored on Navigation Land	7/6 „ „
Power Craft over 15 ft.	10/- „ „
„ „ under 15 ft.	7/6 „ „
Sail	2/6 „ „

Lock Dues, per Lock passed, 1/-.

Tidal Notes. High water at Struncheon Hill Lock approximately 3 hrs. after Hull. Rise 1 ft. 3 ins. to 2 ft.

Distance Table.	*Miles.*	*Furlongs.*
Driffield Wharves to:		
Driffield Lock No. 1	—	3
Whin Hill Lock No. 2	1	5
Wansford Lock and Village (Lock No. 3)	2	4
Snakeholme Locks (Nos. 4 and 5, Staircase)	3	—
Junction with Frodingham Beck	5	—
Junction with Branch to Corps Landing (unnavigable)	5	6
Struncheon Hill Locks Nos. 6 and 7, junction with River Hull	7	—

No. 38

EXETER SHIP CANAL

Authority. The Corporation of the City of Exeter, Municipal Offices, Exeter.
'Phone: Exeter 54911.

From and To. From Turf Lock, River Exe Estuary to Exeter.

Distance. 5 miles.

General Remarks. There are two entrances from the Exe Estuary, one at Turf Lock and one at Topsham Lock. The River Exe is also navigable through King's Arms Flood Gates to Exe Bridge. The latter can only be passed when the tide makes a level.

Maximum Dimensions for Craft Using Waterway.

Main Line.

Length	122 ft.
Beam	26 ft. 6 ins.
Draught	11 ft. 6 ins.
Headroom (*see Bridges*)	Not limited. 3 ft. when closed.

Through King's Arms Flood Gates.

Beam	26 ft.

Through Topsham Lock.

Length	88 ft. 5 ins.
Beam	25 ft. 1 in.

Locks. 2. Turf and Double Locks. Lock gates worked by Lock Keepers. (There is a side lock at Topsham, to the River Exe.)

Towing Path. Throughout navigation.

Bridges. 6 swing. Headroom 3 ft. when closed.

Speed Limit. 4 miles per hour.

Approx. Time taken to Navigate Two hours Turf Lock to Exeter.

Sunday Navigation. Prohibited.

Charges. **Canal Dues**: 10d. per registered ton, plus 1s. 2d. per vessel. On Sundays this is 25s. per vessel.
Towage extra to above.

Tidal Information. High tide at Turf Lock 20 mins. after Exmouth.
Spring tides rise 15 ft. Neap tides rise 10 ft.

Distance Table.	*Miles.*	*Furlongs.*
Head of Canal Basin, Exeter, to:		
Junction with River Exe through Kings Arms Flood Gates	—	1½
Double Locks	1	3½
Topsham, junction with River Exe Estuary through Topsham Lock	3	6
Turf Lock, entrance lock to Canal from River Exe Estuary	5	—

No. 39

RIVER FOSS

Authority. Ouse and Foss Navigation Trustees, Naburn Locks, York.
'Phone: Escrick 29.

From and To. Yearsley Baths to Blue Bridge, junction with River Ouse at Blue Bridge, York.

Distance. 1⅞ miles.

Maximum Dimensions for Craft Using Waterway

Length	82 ft.
Beam	18 ft. 6 ins.
Draught	6 ft. 6 ins.
Headroom	About 10 ft.

Locks. 1.

Towing Path. None.

Bridges. 5.

Tolls. The Toll charge is fixed at 3d. per ton, irrespective of the commodity, plus 50 per cent. Tolls should be paid to the Treasurer of the Navigation, 1, St. Leonards Place, York.

Distance Table.

Yearsley Baths to:	*Miles.*	*Furlongs.*
Monk Bridge	—	5
Laverthorpe Bridge	—	7½
Foss Bridge	1	3
Castle Mills Bridge	1	5
Blue Bridge, junction with the River Ouse	1	7

No. 40

FOSSDYKE CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Eastern Division, Dock Street, Leeds, 1.
'*Phone:* Leeds 20957/8.
Telegrams: 'Dainwex, Leeds.'

From and To. Junction with River Trent at Torksey to junction with River Witham at High Bridge, Lincoln.

General Remarks. **Note.**—The Fossdyke makes an open confluence on the west side of Brayford Mere. The Railway Executive are statutory forced to keep a 5 ft. deep channel, 35 ft. wide across the Brayford Mere—due west to east, entering the Witham at Brayford Mere—open confluence. The short distance of the River Witham from Brayford Mere to High Bridge is disputed water and all the Executive's tolls are listed from High Bridge to Boston Grand Sluice Lock.

Brayford Mere belongs to the City of Lincoln, but is controlled by the Witham and Steeping Rivers Catchment Board, 50, Wide Bargate, Boston, Lincs.

Distance. 11¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	78 ft.
Beam	15 ft. 2 ins.
Draught	5 ft.
Headroom	12 ft.
„ If proceeding through Lincoln into River Witham under High Bridge, Lincoln	8 ft. 10 ins.

Locks. One. Lock gates worked by Lock Keeper.

Bridges. 8.

Speed Limit. 4 miles an hour.

Approx. Time taken to Navigate. About 4 hours at 4 miles an hour.

Sunday Navigation. Lock is opened on Sundays.
5/- per lock.

Charges. **Canal Dues and Lock Tolls.** When not passing through a lock—No charge. When passing through a lock, 2/6 each time (weekdays).

Payment. To Lock Keeper, Torksey, Lincoln.

Towing Path. Throughout navigation.

Tidal Information. Torksey Lock cannot be opened for several hours before and after low water. Boats which cannot "lock in," due to the tide should beware of going aground when the tide drops, and the effects of the "Aegre." The Aegre can be felt at Torksey and yachtsmen should not leave their boats unattended as mooring ropes may be snapped and craft swamped.

Distance Table.	*Miles.*	*Furlongs.*
Torksey Lock, junction with River Trent to:		
Torksey Wharf	—	2
Hardwick Ferry	3	0½
Drinsey Nook	3	6
Saxilby	5	3
Mill Lane	5	5
Chemical Works	6	2
Burton Lane	8	1
Skellingthorpe	8	7
Lincoln, West End of Brayford Mere	10	6½
Lincoln, junction with upper portion of River Witham	11	1
Lincoln, High Bridge, junction with River Witham Navigation	11	1½

No. 41

RIVER FOWEY

Authority. Fowey Harbour Commissioners, Harbour Master's Office, Albert Quay, Fowey.
'*Phone:* Fowey 70 and 71.

From and To. St. Catherines Point to Lostwithiel.

Distance. 7 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	„ „
Draught	4 ft.
(This applies only to high water at Lostwithiel.)	
Headroom	Unlimited

Locks. Nil. Tidal throughout.

Towing Path. None.

General Remarks. This River is faily well sheltered. A considerable number of vessels transporting China clay will be found on the River. There is 30 ft. of water at high water Spring tide up to No. 8 Jetty. For further details see *Pilot's Guide to the English Channel.*

Port Charges. Under 10 tons and exceeding 2 tons, net register for each entry 1/6, or by the year 10/-.
Over 10 tons net register, for every ton net register 2d., or by the year 1/- per ton net register.

Mooring Rate. Nil.

Tidal Information. High water at the entrance 5 hours 46 minutes before Dover. Spring tides rise 15 ft. Neap tides rise 11 ft. 6 ins.

No. 42

RIVER FROME

Authority. An open navigation.

Note. At the mouth of the River is Poole Harbour. This is controlled by the Poole Harbour Commissioners, Harbour Office, Poole, Dorset.

'Phone: Poole 845/6.

Telegrams: ' Harbour Master, Poole.'

The jurisdiction of the Commissioners ends at Giggers Island.

From and To. Poole Harbour to Wareham.

Distance. 7¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length. Not limited but a vessel of more than 25 ft. will have difficulty in turning.

Beam .. .. Not limited

Draught .. .. 5 ft. 6 ins. (High Water.)

Headroom .. .. Not limited to Wareham Bridge
Wareham Bridge 8 ft. L.W.S.T.
„ „ 3 ft. H.W.S.T.

Locks. Nil. Tidal throughout.

Towing Path. Along approximately 2 miles only, commencing at Wareham.

General Remarks. The river is narrow and winding with high rushes on both banks. It is advisable to give signals frequently. The entrance to the river is marked with stakes. Poole Harbour includes the "Dorset Lakes," which are extensively used by pleasure craft.

Light craft can proceed a short distance above Wareham.

Tidal Information. High water at Wareham is approximately one hour after Poole.

No. 43

GLAMORGANSHIRE CANAL

Authority. Caridff Corporation, City Hall, Cardiff.
'Phone: Cardiff 7940. Extension 328.

From and To. Sea Lock to Customs House Bridge (all in the City of Cardiff).

General Remarks. Canal originally ran to Pontypridd, Methyr Tydfil and Abercynon, with Branch to Aberdare. The canal was acquired by the Corporation under an Act of Parliament in 1944, since then the canal has been closed for traffic except for the section shown above.

Distance. 1¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length. From Canal Entrance to Canal Warehouses	90 ft.
Above Warehouses to Cyfarthfa ..	60 ft.
Beam. From Canal Entrance to Canal Warehhouses	24 ft.
Above Warehouses to Cyfarthfa ..	8 ft. 9 ins.
Draught. Sea Lock to New Lock ..	8 ft. 6 ins.
From New Lock to Canal Warehouses	7 ft.
Headroom	6 ft. 6 ins.

The Sea Lock is available for vessels 120 ft. length, 25 ft. beam.

Locks. 2.

Tidal Information. The tide flows to the Tail of Sea Lock, Cardiff. The entrance channel from Sea Lock to the sea runs out dry at low water.
High water at Cardiff 5 hours 15 minutes before London Bridge. Spring tides rise 36 ft. 6 ins. Neap tides rise 27 ft.
The average tide gives a depth of 12 ft. to 14 ft. over the sill of Sea Lock, but at Neap tides the depth is as low as 5 ft.

Towing Path. Throughout navigation, still open.

No. 44

RIVER GLEN (Lincs)

Authority. River Welland Catchment Board,
11, Market Place, Spalding, Lincs.
'Phone : Spalding 197.

From and To. From junction with the River Welland to Tongue End (Spalding—Bourne Road Bridge).

General Remarks. Entrance to the river depends on the state of the tide in the River Welland. The tidal lock gates are operative only at times when the tidal water coincides with the water level of the river. Although this waterway runs for about 40 miles, from its entrance from the river Welland, only the first 10 miles may be considered navigable for anything larger than rowing boats.

Distances. About 11½ miles for small boats. Difficulty might be experienced in turning boats of 35 ft. round, as the waterway at Tongue End is only 35 feet wide under normal conditions. The Bourne Eau junction with the River Glen is the last and only turning point above Pinchbeck Bars Bridge.

Maximum Dimensions for Craft Using Waterway.

Length. Not limited but craft over 30 ft. will find turning difficult.

Beam .. .. 14 ft. 6 ins.

Draught .. .. 2 ft. to 3 ft.

Headroom .. 5 ft. above ordinary summer water level.

Headroom at the Sluice Bridge at the entrance depends upon the tidal level.

Locks. Tidal gates at entrance.

Bridges. 12. None restricts the water width.

Speed Limit. Craft must be navigated at such a speed as not to cause damage or inconvenience.

Charges. Nil.

Towing Path. None.

Tidal Information. High water at the junction with the River Welland about 15 to 20 minutes after high water at Fosdyke Bridge.

Distance Table.	*Miles.*	*Furlongs.*
Junction with River Welland to:		
Railway Bridge (E.R.)	1	2
Roadbridge, Surfleet Village	2	3
Crossgate Bridge	3	5
Railway Bridge (E.R.)	4	1
Money Bridge	5	4
Pinchbeck Bars, New Bridge	6	4
Guthram Gowt (no connection is made here with Black Sluice Drainage Navigation, but canoeists can make an easy portage)	8	7
Railway Bridge (E.R.)	9	7
Tongue End (junction with Bourne Eau, not navigable)	11	4

No. 45

GLOUCESTER & SHARPNESS SHIP CANAL

Authority. The Divisional Officer, Docks and Inland Waterway, Executive, South-Western Division, Dock Offices Gloucester.
'Phone: Gloucester 24421.
Telegrams: ' Dainwex, Gloucester.'

From and To. Entered from the Bristol Channel through the Sharpness Docks to the junction with the River Severn at Gloucester.

General Remarks. The use of this canal obviates the navigation of the River Severn between Sharpness and Gloucester, which is difficult and dangerous at times, especially for small craft.

Distance. Sharpness to Gloucester 16¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length (Severn to Canal)	150 ft.
(Sharpness Lock to Tidal Basin) ..	320 ft.
Beam (Severn to Canal)	22 ft.
(Sharpness Lock to Tidal Basin) ..	60 ft.
Draught (Severn to Canal)	10 ft.
(Sharpness Lock to Tidal Basin) ..	24 ft.
Headroom	Unlimited

Locks. 2. There are entrance locks at Sharpness and a lock connecting the canal with the River Severn at Gloucester. Lock gates worked by Lock Keepers.

Side Locks to River Severn. One Barge Lock and one Ship Lock, being alternative outlets to the River Severn at Sharpness Point.

Maximum Dimensions for Craft Using Waterway.

Length.	Shiplock	163 ft.
	Barge Lock	81 ft.
Beam.	Ship Lock	38 ft.
	Barge Lock	19 ft. 6 ins.
Draught	.. ..	18 ft.
Headroom	.. ..	Unlimited.

Bridges. 16 Swing Bridges. Ample warning should be given to the Bridge Keepers to open the bridges, and craft must not approach too closely until it is seen that the bridge is actually opened. The signal for request to open is generally two long blasts.

Speed Limit. 6 miles an hour.

Approx. Time taken to Navigate. About 4 to 5 hours.

Towing Path. Throughout navigation.

Canal Pilotage. Pilotage for whole length of canal :—

Vessels up to 100 tons £1 7 6

Above 100 tons *pro rata ;* for exact rates apply to D. and I.W.E. (South-Western Division).

Canal Towage.

For whole length of canal :— *Surcharge* 20%.

Sea going Vessels	One way.	Both ways.
Under 30 tons	£1 8 0	£2 2 0
Above 30 tons, not exceeding 150 tons	1/- per ton	1/6 per ton
River and Small Craft under 60 tons	1 0 6	1 10 9
60 „ and above ..	4d. per ton.	6d. per ton

Statutory Charges. **Canal Dues.** For passage through canal for Yachts and similar craft, 16/- up to 20 tons net reg.

For Sunday navigation 16/- extra for whole length of canal.

Lock Tolls included in Canal Dues.

Payment : To the Toll Collector.

Special Remarks.

Yachts must not attempt to moor on the tow path side. There is a considerable amount of traffic up and down the canal, and the general rule is to give the towpath side to all commercial traffic, unless they signal otherwise.

If proceeding out to the Bristol Channel, crafts should be at the Sharpness Sea Lock well before locking out time which is generally about 2 hours before High Water.

Care should be taken by yachtsmen as the Ship Canal is used by large commercial craft which cannot give way to small craft.

Tidal Information.

High tide at Sharpness about 1 hour Avonmouth. Spring tides rise about 25 ft. Neap tides rise about 15 ft.

Distance Table.	*Miles.*	*Furlongs.*
Gloucester, entrance lock, and junction with River Severn to: (Gloucester Docks, water area 14 acres.)		
Hampsted	1	3
Hardwicke	4	6
Parkend Bridge	6	2
Saul, junction with Stroudwater Canal, right and left	8	—
Fretherne Bridge (Cadbury's Wharf)	9	—
Purton	14	4
Sharpness, junction with Old Line of Canal three furlongs in length to River Severn at Sharpness Point	16	—
(Sharpness Docks, water area 20 acres.)		
Sharpness Lock, giving access to Tidal Basin	16	4
Sharpness, Tidal Basin Gates and junction with River Severn Estuary	16	6

No. 46

GRAND UNION CANAL

Authority.

The Divisional Officer, Docks and Inland Waterways Executive, South-Eastern Division, Transport House, Reservoir Road, Ruislip, Middlesex.
'Phone: Ruislip 4081 (10 lines).
Telegrams: ' Dainwex, Ruislip.'

City Office: Port of London Building, Seething Lane, London, E.C.3.
'Phone: Royal 5630 (10 lines).

(From Leicester to Langley Mill, this navigation is under the jurisdiction of the North-Eastern Division of the D. and I.W.E., 1, Dock Street, Leeds, 1.)

General Remarks.

The Grand Union Canal was formed by amalgamation in 1929, and further extended in 1932.

By amalgamation the following canals were acquired and the whole system is known under the one name, The Grand Union Canal.

(1) Regents Canal and Limehouse Dock.

(2) Hertford Union Canal.

(3) Grand Junction Canal.

(4) Warwick and Napton Canal.

(5) Warwick and Birmingham Canal.

(6) Birmingham and Warwick Junction Canal.

(7) Leicester Navigation.
(8) Loughborough Navigation.
(9) Erewash Canal.

} N.-E. Division of Docks and Inland Waterways Executive

(10) The Grand Union are also responsible for the upkeep of the 5½ miles of the Oxford Canal, between Braunston and Napton, and collect tolls for London—Birmingham traffic over this portion.

Connections. Besides having junction with the River Thames at Brentford and Limehouse, and the River Lee through the old Hertford Union Canal, the Grand Union Canal connects with the following waterways :—

(1) At Braunston and Napton with the Oxford Canal, see **No. 81.**

(2) At Kingswood junction with Stratford-on-Avon Canal, see **No. 101.**

(3) At Birmingham with the Birmingham Canal Navigations, see **No. 14.**

(4) At Trent junction with the River Trent, see **No. 109.**

(5) At Sandiacre with the Derby Canal, see **No. 34.**

(6) At Langley Mill with the Cromford Canal, see **No. 28.**

(7) At Northampton with the River Nene, see **No. 74.**

From and To. **Main Line.**—From Brentford Lock, junction with the River Thames, to Norton Junction where it divides :—

(1) To junction with the Birmingham Canal Navigation at Digbeth Junction or at Salford Bridge Junction, Birmingham (the latter via the old Birmingham and Warwick Junction Canal). On this route the Oxford Canal uses the same waterway between Braunston and Napton.

(2) To Leicester, Loughborough, junction with the River Trent at Trent Junction Long Eaton, thence running to Langley Mill and having junction with the Cromford Canal. There is junction with the Canal to Derby at Sandiacre.

There are several branches as follows :—

(1) The Regents Canal from its entrance through Regents Canal Dock at Limehouse, to Paddington Basin via Paddington Arm to Bulls Bridge. Along this navigation the Hertford Union Canal links the Regents Canal with the River Lee.

(2) Slough Arm.

(3) Wendover Arm to Tring Ford.

(4) Aylesbury Arm.

(5) Northampton Arm. From Gayton Junction to junction of the River Nene at Northampton.

(6) Welford Arm.

(7) Market Harborough Arm.

There are also short branches at Warwick and Rickmansworth.

Distances.

Main Line.

(1) Brentford Lock Junction with River Thames to Norton Junction	89½ miles
(2) Norton Junction to Birmingham ..	48½ ,,
(3) Norton Junction to Leicester	42 ,,
,, ,, Junction with River Trent	66⅛ ,,
,, ,, Langley Mill ..	77⅞ ,,

Total Distance Main Line :

Brentford to Birmingham	138 miles
,, ,, Leicester	131½ ,,
,, ,, Junction with River Trent ..	155⅝ ,,
,, ,, Langley Mill..	167⅜ ,,

Maximum Dimensions for Craft Using Waterway.

Main Line.

Length	70 ft.
(Brentford to Berkhampstead) ..	77 ft.
Beam (London to Birmingham)	14 ft. 3 ins.
(Market Harborough to Langley Mill)	14 ft.
(Norton Junction to Foxton) ..	7 ft.
Draught	3 ft. 6 ins.
Headroom (except for Regents Canal and Hertford Union)	8 ft.

Wide locks to Birmingham cease at Bordesley Top Lock, but due to lack of dredging and narrow bridge holes it is not possible to take a wide boat to Birmingham, although locks will take two narrow boats. Wide, shallow draft craft could make the journey.

Locks.

Main Line.

(1) From Brentford to Norton Junction ..	96 locks
(2) Norton Junction to Birmingham ..	63 ,,
(3) Norton Junction to Leicester	41 ,,
(4) Norton Junction to River Trent ..	59 ,,
(5) Norton Junction to Langley Mill ..	73 ,,

Total Locks.

Brentford to Birmingham	159 locks
,, ,, Langley Mill..	169 ,,

Lock gates worked in places by Lock Keepers, otherwise by Boat Crews.

All locks are opened on Sundays with exception of :—

Brentford	Closed 2 p.m.
Regents and Paddington ..	Closed all day
Leicester Lock	Closed 12 noon

Bridges. **Main Line.** Numerous.

Tunnels. **Main Line.**

(1) Between Brentford and Norton Junction :—

Blisworth .. .. 3,056 yards. No towing path. (Keep right in the tunnel).

(2) Norton Junction to Birmingham :—

Braunston .. .. 2,042 yards. No towing path. (Keep right in the tunnel).

Shrewley .. .. 433 yards. No towing path. (Keep right in the tunnel).

(3) Norton Junction to Langley Mill :—

Crick .. .. 1,528 yards. No towing path. (Keep right in the tunnel).

Husbands Bosworth 1,166 yards. No towing path. (Keep right in the tunnel).

Saddington .. 880 yards. No towing path. (Keep right in the tunnel).

Tidal Information. High water Spring tides flow into the canal at the Brentford end from the Thames for the first three-quarters of a mile to Brentford Lock. High water at Brentford 1 hour after London Bridge.

REGENTS CANAL

From and To. From Regents Canal Dock, Limehouse, to junction with Paddington Arm of Grand Junction, at Warwick Avenue, Paddington.

Distance. 8 miles, 5 furlongs.

Maximum Dimensions for Craft Using Waterway.

Length	80 ft.
Ship Lock from Thames ..	350 ft.
Beam	14 ft. 6 ins.
Ship Lock from Thames ..	60 ft.
Draught	4 ft. 6 ins.
Ship Lock from Thames ..	20 ft.
Headroom	9 ft. 9 ins.
Ship Lock from Thames ..	Unlimited.

Locks. 13, including Regents Canal Dock River Ship Lock.

Bridges. Numerous.

Tunnels.

Islington	960 yards.	No towing path.	
Maida Hill	272 „	„	„

(Keep right in tunnel.)

HERTFORD UNION CANAL

From and To. From junction with Regents Canal at Bethnal Green to Old Ford Junction with River Lee.

Distance. Approximately 1¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	78 ft.
Beam	14 ft. 6 ins.
Draught	4 ft. 6 ins.
Headroom	9 ft. 9 ins.

Locks. 3.

Bridges. One or two.

Tunnels. Nil.

PADDINGTON ARM

From and To. Paddington to Bulls Bridge, join Main Line.

Distance. 13¾ miles level.

Maximum Dimensions for Craft Using Waterway. Same as Main Line.

SLOUGH ARM

From and To. From junction with Main Line at Cowley Peachy Junction, 9 miles above Brentford to Slough.

Distance. 5 miles.

Maximum Dimensions for Craft Using Waterway. Same as Main Canal.

Locks. Nil.

Bridges A few.

Tunnels Nil.

WENDOVER ARM

From and To. From junction with Main Line at Lock 45 to Tring Ford.

Distance. 1¼ miles level.

General Remarks. Remainder of the Branch to Wendover has been abandoned.

AYLESBURY ARM

From and To. From Junction with Main Canal at Marsworth Junction, 38½ miles above Brentford, to Aylesbury.

Distance. 6¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	7 ft.
Draught	3 ft.

Locks. 16.

Bridges. Numerous.

Tunnels. None.

BUCKINGHAM ARM (Derelict)

NORTHAMPTON ARM

From and To. From junction with Main Canal at Gayton, 77¼ miles above Brentford, to junction with the River Nene at Northampton.

Distance. 5 miles.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	7 ft.
Draught	4 ft.

Locks. 17.

Bridges. Several.

WELFORD ARM

From and To. Junction with Main Canal to Welford Basin.

Distance. 1¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	7 ft.
Draught	3 ft. 6 ins.

Locks. 1.

MARKET HARBOROUGH ARM

From and To. From junction with the Main Canal to Leicester at Foxton, 112½ miles above Brentford, to Market Harborough.

Distance. 5¾ miles.

Maximum Dimensions for Craft Using Waterway. Same as Main Line.

Locks. Nil.

Bridges. Numerous.

APPLICABLE TO WHOLE SYSTEM

Speed Limit and Bye-Laws. Speed limit 5 miles per hour.
Notices and Regulations are given on Notice Boards along the Canal.

Approx. Time taken to Navigate. From London to Birmingham, if continuous, about 65 hours.

Towing Path. Throughout navigation, except certain tunnels.

Charges. Charges will be divided into *two* distinct scales, i.e.:—

Scale 1. For use of pleasure craft, including the use of locks—when use is restricted to a particular length of waterway. This scale only applies to specially designated sections of Canal.

Scale 2. For the use of pleasure craft when making a particular trip or journey.

Scale 1

A. Vessels, excluding rowing boats, canoes and other craft propelled manually, *not let for hire or reward.*

	Year Ended 31st Dec. Per Craft. £ s. d.
Under 25 ft.	3 3 0
25 ft. to 50 ft.	4 4 0
Over 50 ft.	6 6 0

B. Rowing Boats, Canoes and other craft propelled manually, *not let for hire or reward.*

Year Ended 31st Dec. Per Craft. £ s. d.
2 2 0

C. Rowing Boats, Canoes and other craft propelled manually, *let for hire or reward.*

Year Ended 31st Dec. Per Craft. £ s. d.
4 4 0

Note.—The annual fee shall not include laying-up or mooring fees.

Scale 2

D. All Vessels, except rowing boats, canoes and other craft propelled manually.

Rate per mile, including lockage, 9d.

Minimum per boat, 15/-.

E. Rowing Boats, Canoes and other craft propelled manually.

	Rate per Mile.	*Minimum Boat.*
With use of a lock or locks (if permitted)	6d.	10/-
Without use of locks ..	3d.	5/-

F. Vessels Carrying Fare Paying Passengers, excluding rowing boats, canoes and other craft propelled manually. Charges by arrangement.

Moorings. Boats are not allowed to remain permanently moored on the navigation without the authority of the Executive. Such authority will only be given where circumstances permit of mooring without hindrance to navigation. If a mooring is approved a charge of 2/6 per week is made.

Boats moored on the canal are not allowed to be used for dwelling purposes.

Distance Table.

(Braunston to London Area)

Main Line

	Miles.	*Furlongs.*
Braunston Junction, junction with Oxford Canal, Braunston Branch, to:		
Braunston Tunnel, North End, and head of 6th lock from Braunston	1	2
Braunston Tunnel, South End	2	4
Welton Wharf	2	6
Norton Junction Toll Office and Wharf, junction with Leicester and Langley Mill Section—Main Line, and head of lock	4	2
Buckby Wharves	4	6
Long Buckby and Whilton Locks (7th-13th from Braunston)	5	0
Buckby Old Toll Office	5	2
Whilton Wharf	5	6
Muscot Mill	6	4
Brockhall Bridge	7	—
Thornton's Wharf	7	6
Weedon Wharves, and junction with Weedon Military Docks	9	—
Stowe Hill Wharf	10	—
Floore Lane Wharves	10	2
Heyford Furnaces	11	6
Bugbrook Wharves	13	—
Banbury Lane Wharf	15	—
Gayton Brick Field	16	2
Gayton, Junction with Northampton Branch	16	6
Blisworth Wharves	17	—
Blisworth Mill	17	6
Blisworth Tunnel Wharf	18	—
Blisworth Tunnel, North End	18	2
Blisworth Tunnel, South End	20	—
Stoke Bruerne Locks (14th-20th, from Braunston)	21	2
Grafton Bridge	22	6
Yardley Wharf	24	—
Castlethorpe Wharf	26	—
Head of Cosgrove Lock (21st lock from Braunston) and junction with Old Stratford and Buckingham Branch (Derelict)	27	—
Old Wolverton	28	—
Wolverton Station	29	—
Bradwell	29	6
Statonbury	31	4
Linford Dock and Wharf	32	—
Willen	33	6
Woolston Mill	34	6
Simpson Wharf	37	—
Simpson Dock	37	4
Fenny Stratford Wharves and Lock (22nd lock)	38	6
Water Eaton	39	4
Stoke Hammond	41	6

Distance Table.	*Miles.*	*Furlongs.*
Soulberry Three Locks (24th, 25th and 26th locks from Braunston)	42	6
Linslade	44	2
Leighton Buzzard—Wharf	46	2
Grove Lock (28th from Braunston)	47	6
Slapton Locks (29th and 30th from Braunston)	50	—
Horton Wharf and Lock (31st)	50	4
Ivinghoe Pumping Engine	51	2
Seabrook	52	2
Cheddington Wharf	52	6
Marsworth Wharf, junction with Aylesbury Branch	54	2
Lock (39th, lock from Braunston Junction)	54	2
Stanhopesend	54	4
Bulbourne Junction, junction with Wendover Branch and head of 45th lock from Braunston	55	2
Bulbourne Stores	55	4
Pendley Wharf and Tring Station	56	6
New Ground	57	6
Cowroast Lock (46th lock from Braunston—Summit)	58	2
Dudswell Wharf	58	6
Northchurch	59	6
Northchurch Locks (51st and 52nd locks from Braunston)	60	0
Berkhampsted Station and Wharf	61	—
Berkhampsted Mill and Locks (53rd to 56th)	61	4
Bourne End Mill	63	2
Winkwell Wharf and Locks (60th and 61st)	63	4
Boxmoor Lock (64th)	64	4
Two Waters Mill and Wharves	65	2
Frogmore Mill	66	—
Apsley Mill	66	—
Apsley Locks (65th-67th, locks from Braunston)	66	2
Nash Mill	66	4
King's Langley Mill	67	6
Home Park Mill	68	2
Hunton Bridge Wharf	69	2
Hunton Bridge Mill and Locks (72nd and 73rd)	69	4
Watford, Lady Capel's Wharf and Lock (74th)	70	2
Watford, Grove Mill	70	6
Watford, Cassio Bridge Wharves	72	4
Croxley Mill and head of 79th lock from Braunston	73	—
Rickmansworth Lock, and Batchworth Mill and Wharves	74	6
Frogmore Wharf	75	—
Springwell	76	2
Harefield Lime Works	77	—
Asbestos Works (Copper Mill)	77	2
Troy Mill	77	4
Harefield Brick and Cement Works	78	2
Harefield Moor Wharf	79	—
King's Mill	81	4
Uxbridge Wharves	81	6
Uxbridge Moor Wharves—D. and I.W. Executive	82	—
Uxbridge Gas Works	82	4
Cowley Lock (89th lock from Braunston Junction)	83	2

Distance Table.	*Miles.*	*Furlongs.*
Cowley Peachy Junction, junction with Slough Branch ..	84	—
Cowley Brickfield	84	—
Yiewsley Dock	84	2
West Drayton Wharves and Railway Station (W.R.) ..	84	6
Horton	85	—
Rutter's and Eastwood's Docks	85	—
Dawley	86	—
Hayes and Botwell	87	—
Bull's Bridge Junction and Toll Office, junction with Paddington Branch	87	6
North Hyde	88	—
Heston	88	4
Passenham Docks	88	6
Norwood Mill and Wharf	89	—
Pasmore Dock	89	4
Norwood Lock, and Check Office (90th lock from Braunston)	89	6
Windmill Lane	90	2
Hanwell Dock	90	4
River Brent, Hanwell, and Bottom of Hanwell Flight of Locks (97th lock from Braunston)	90	6
Brentford Locks (100th lock from Braunston), and Brentford Wharves and Warehouses of the D. and I.W. Executive	93	—
Thames Lock, Brentford, junction with River Thames ..	93	6
Regents Canal		
Paddington, junction with Paddington Arm, to:		
Maida Hill Tunnel	—	3
Finchley Road Bridge	—	7
Avenue Road Bridge	1	2
Hampstead Road Locks No. 1 and Chalk Farm Road Bridge	2	2
Kentish Town Locks No. 3 and Kentish Town Road Bridge	2	3½
St. Pancras Locks No. 4	3	1
York Road Bridge	3	3
Caledonian Road Bridge	3	5
West End of Islington Tunnel	3	6
East End of Islington Tunnel	4	2
City Road Locks No. 5	4	2½
Junction with City Basin Branch	4	3
Sturts Locks No. 6	4	7
Kingsland Road Bridge	5	3½
Acton's Locks No. 7	5	7
Cambridge Road Bridge	6	2
Old Ford Locks No. 8	6	5½
Junction with Hertford Union Canal	6	7
Devonshire Street Goods Station (E.R.)	7	1
Mile End Locks No. 9	7	3
Mile End Road Bridge	7	3½
Johnson's Locks No. 10	7	6

Distance Table.	*Miles.*	*Furlongs.*
Salmon's Lane Locks No. 11	8	0½
Commercial Road Locks No. 12 and entrance to Regent's Canal Dock, Limehouse	8	3
Regent's Canal Dock, Limehouse Locks and junction with River Thames	8	5

Hertford Union Canal

Junction with Main Line to:		
Top of Old Ford Three Locks (Nos. 1, 2 and 3)	—	7½
Junction with River Lee—Main Line	1	1½

Paddington Arm

Bull's Bridge, junction with Main Line, to:		
Rubastic Dock and British Railways (W.R.) Depot	—	2
Tickler's Dock	—	4
Southall Gas Works Dock	—	6
Hayes Road Bridge	1	2
Hewitt's Dock	2	—
West End Wharf	2	6
Northolt Bridge	3	—
Greenford Wharf	4	6
Horsendon Road Bridge	5	6
Alperton Wharf	7	2
Alperton Valley	7	6
Twyford	8	2
Lower Place	9	2
Willesden Old Oak Wharf	9	6
Mitre Wharves	10	4
Kensal Green Bridge	11	2
Kensington Vestry Wharf	11	4
Harrow Road Wharves	11	6
Carlton Bridge	12	—
Amberley Road Wharves	12	4
Paddington Stop and Toll Office	12	6
Harrow Road Bridge, and junction with Regent's Canal—Main Line	13	—
Bishop's Road Bridge	13	2
Paddington Basin	13	6

Slough Arm

Cowley Peachy Junction, junction with Main Line, to:		
Fray's Aqueduct	—	2
Colne Aqueduct and Wharf	—	4
Colne Brook aqueduct and Reed's Wharf	—	6
Thorney Lane Wharf	1	—
Iver	1	2
Mead's Wharves	1	6

Distance Table.	*Miles.*	*Furlongs.*
Meeking's Bridge	2	—
Hollow Hill Wharf	2	2
Langley Station Wharf	2	6
Langley Brickfield	3	—
Langley Schools Bridge	3	4
Middle Green Wharf	3	6
Uxbridge Road Wharf	4	2
Nash's Wharves	4	4
Slough Basin	5	—

Wendover Arm

Bulbourne Junction, junction with Main Line, to:		
Tring Wharf	—	6
Tring Ford Stop Lock and Little Tring Bridge	1	2

Aylesbury Arm

Marsworth Junction, junction with Main Line, to:		
Long Marston Bridge (Locks Nos. 1 and 2)	—	4
Wilstone Bridge and Wharf	1	—
Puttenham Road Bridge (Locks Nos. 10 and 11)	2	—
Buckland Road Bridge (Lock No. 12)	2	4
Broughton Road Bridge	4	6
Walton Mill	5	6
Walton Bridge	6	—
Aylesbury Wharf (adjacent to Lock No. 16)	6	2

Northampton Arm

Gayton Junction, junction with Main Line, to:		
Blisworth Brickyard	—	2
Rothersthorpe Lock No. 1	—	7
Milton Road Bridge	1	—
Rothersthorpe Lock No. 13	1	7½
Rothersthorpe Road Bridge	2	2
Hunsbury Hill Iron Works	3	2
Duston Mill Bridge	3	4
Cotton End Wharf	4	6
Northampton, junction with River Nene, Lock No. 17	5	—

Market Harborough Arm

Foxton, junction with Leicester Section, Main Line to:		
Foxton (Roadstone Landing)	—	4
Foxton Wharf	—	6
Foxton (Roadstone Landing)	2	2
Gallow Hill	2	2
Market Harborough Basin	5	6

Distance Table.	*Miles.*	*Furlongs.*
Birmingham to Braunston—Main Line		
Salford Bridge, junction with Tame Valley Canal and Birmingham and Frazeley Canal, to:		
Salford Bridge, Shallow Lock	—	2
City of Birmingham Power Station (Brit. Electricity Authority)	—	4
Ashton Church Road Wharf	—	6
Saltley	1	2
Duddeston Mill Road Wharf	1	4
Park Wharf, Saltley—Wharf	1	6
Saltley Lock	1	6
Adderley Park Mills	1	6
Bordesley, Junction with Short Branch (½ mile long) to Digbeth Branch (Birmingham Canal Navigation)	2	6
Gas Works (National Gas Authority)	2	6
Sampson Road Wharf, Public Wharves and Bordesley Toll Office	3	2
B.S.A. Ltd., Montgomery Street	3	6
City of Birmingham, Refuse Disposal Dept.	4	—
Kingston Wharf	4	—
B.S.A. Ltd., Small Heath	4	4
Hays Mills Wharves and Works	5	—
City of Birmingham, Refuse Dept., Stone Wharf, Hay Mills	5	2
Yardley Wharves	5	4
Yardley Tunnel Wharf	6	—
Adcock's Green Wharves	6	4
Lincoln Road Wharf, Adcock's Green	7	—
Olton Wharf	7	2
Solihull Wharf	9	—
Hampton Coppice	10	—
Catherine de Barnes Heath Wharf	10	4
Henwood Wharf	11	2
Copt Heath Wharf	11	4
Waterfield Wharf	11	6
Kixley Wharf	12	—
Knowle Hall Wharf	13	2
Knowle Top Lock	13	4
Heronfield	14	2
Bakers Lane Wharf	14	—
Rising Bridge Wharf	16	2
Kingswood Wharf	17	—
Kingswood Junction, junction with Stratford-on-Avon Canal	17	2
Rowington Wharf	18	—
North West End of Shrewley Tunnel	20	2
Hatton Station Wharf	21	—
Hatton Top Lock, and Toll Office	22	—
Hatton, Fourth Lock Basin, New Inn Wharf	22	2
Hatton, Asylum Wharf, and Eleventh Lock	22	6
Ugley Bridge	23	6
Budbrooke, and Hatton Bottom Lock	24	2

Distance Table.	*Miles.*	*Furlongs.*
Budbrooke Junction, with Branch to Warwick, Saltisford Wharf (½ mile)	24	4
Cape Locks, Warwick	25	2
Leamington Gas Works	28	—
Clapham Terrace Wharf, Leamington	28	4
Radford Locks	30	2
Foss Wharf	31	—
Longhole Wharf	32	—
Baxcote Wharf	33	6
Cuttle Wharf	34	4
Stockton Top Lock	35	4
Birdingbury Wharf	36	—
Gibralter Wharf	36	4
Calcutt Locks	38	2
Napton Junction with Oxford Canal	38	6
(The through route London to Birmingham now continues over the Oxford Canal to Braunston Junction.)		
Flecknoe	40	4
Nethercote	40	6
Wolfhamcote	42	—
Brauston Junction and Toll Office. Junction with Oxford Canal (Northern Section)	44	2

Norton Junction to Langley Mill—Main Line

Norton Junction, junction with Main Line, to:		
Welton Wharves and Rly. Station	1	6
Watford Locks (No.'s 1 to 7)	2	2
Crick Tunnel, South End	3	6
Crick Wharf	5	—
Yelvertoft Wharf	7	2
Junction with Welford Branch	15	4
North Kilworth Wharf	16	2
Husbands Bosworth Tunnel, North End	17	6
Lubenham Wharf	21	6
Foxton, junction with Market Harborough Branch, and Bottom of Foxton Locks Nos. 8 to 17	23	2
Debdale Wharf	24	2
Saddington Tunnel, South End	26	6
Lock (18th from Norton Junction), Kibworth	28	1
Kilby Bridge Wharf and Lock No. 30	33	—
Blaby Wharf	36	—
Aylestone Mill (Navigation enters River Soar)	39	2
St. Mary's Mills and Aylestone Gas Works	40	—
Leicester Corporation Wharves	40	4
Leicester, West Bridge (Near 41st Lock from Norton Junc.)	41	2
Leicester, North Lock (No. 42 from Norton Junc.)	42	—
Leicester, Canal Carriers Wharves, Wharehouses and Public Wharf	42	4
Limekiln Lock (No. 43 from Norton Junc.)	42	6
Belgrave Lock	43	3
Belgrave Wharf	43	6
Birstall Lock and Wharf	45	1

Distance Table.	*Miles.*	*Furlongs.*
Thurmaston Lock and Wharf	46	1
Barkby Wharf	47	2
Junction Lock	48	2
Cossington Lock (48th Lock from Norton Junction)	49	—
Sileby Lock	50	3
Mountsorrel Lock	51	3
Mountsorrel Wharf	51	5
Barrow-on-Soar Wharf	53	—
Barrow-on-Soar Lock (51st Lock from Norton Junc.)	53	3
Pilling's Flood Lock	55	—
Loughborough Wharf	56	2
Loughborough, junction Branch, ⅛ mile long to Loughborough Basin and Wharves	57	—
Loughborough Lock	57	2
Bishops Meadow Lock	58	—
Normanton-on-Soar Wharf	59	3
Zouch Mills	60	—
Zouch Lock	61	1
Kegworth Old Lock (56th lock from Norton Junc.)	63	1
Kegworth Wharf	63	4
Kegworth New Lock (Flood Lock)	63	5
Kingston-on-Soar Plaster Wharf	63	7
Ratcliffe-on-Soar Lock	65	—
Red Hill Lock (59th lock from Norton Junc.)	65	6
Junction with River Trent	66	1
Note: This section of the Grand Union Canal joins the River Trent in the Soar Mouth or Red Hill branch of the Navigation. On leaving the Grand Union Canal (Old Loughborough Navigation Section) all boats must turn up stream to the left until the head of Cranfleet Cut is reached. Down stream leads to Thrumpton weir only.		
Trent Lock and Toll Office (Erewash Section of the Grand Union Canal.)	66	1
Long Eaton	67	7
Sandiacre Lock	69	3
Sandiacre Junction, junction with Derby Canal between Sandiacre Pasture and Sandiacre Locks	69	4
Sandiacre Village	70	3
Junction Lock and Toll Office	71	5
The White House, junction with Nutbrook Canal (now derelict and abandoned)	71	6
Hallam Field Lock (66th lock from Norton Junc.)	72	1
Road Bridge, from Ilkeston Junction Station to Ilkeston	74	2
Shipley Colliery Wharf, and Shipley Gate Station (Brit. Rly. (M.R.))	76	4
Langley Mill, junction with Cromford Canal—Main Line	77	7

No. 47

GRAND WESTERN CANAL

Authority. The Railway Executive, Western Region, Paddington, London, W.2.
'*Phone:* Paddington 7000. Extension 2618.
Telegrams: ' Engineer, Paddington Station, London.'

From and To. Loudwell to Tiverton.

Distance. $10\frac{3}{4}$ miles.

Note. Connection to Taunton has long been abandoned and inclined planes have disappeared. Canal is in a very bad state and has several obstructions in it.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	7 ft.
Draught	3 ft. 6 ins.
Headroom	7 ft. 3 ins.

Locks. Nil.

Towing Path. Throughout navigation, but very overgrown.

General Remarks. This canal has not been abandoned by statutory order but nevertheless has been piped in the centre so that no through navigation is possible from Loudwell to Tiverton, and can only be used for local boating.

No. 48

GRAVESEND & ROCHESTER CANAL

Authority. The Railway Executive, Southern Region, Waterloo Station, London, S.E.1.
'Phone: Waterloo 5151.

From and To. Gravesend to Higham.

Distance. 4 miles.

Maximum Dimensions for Craft Using Waterway.

Length	80 ft.
Beam	19 ft.
Draught	4 ft. 3 ins.
Headroom	15 ft. 6 ins.

Locks. 2.

Towing Path. Throughout canal.

General Remarks. Canal originally ran from Higham to Rochester but was converted to a railway in 1845. The locks at Gravesend need special care, the first lock is not of the normal shape. Any queries regarding this lock should be addressed to the Lock Master.

Strood and Gravesend Basins are still in constant use. A toll is payable for use of the Basins.

Tidal Information. High water at Gravesend about 1 hour 4 minutes before London Bridge.

Distance Table.

	Miles.	*Furlongs.*
Gravesend, entrance lock to tidal basin, and junction with River Thames, to:		
Gravesend, lock from tidal basin to Canal	—	1
Chalk	1	2
Shorne Landing	1	5
Higham Station	4	—

No. 49

GROSVENOR CANAL

Authority.	Westminster City Council.	
From and To.	Chelsea Bridge to Ebury Bridge.	
Distance.	Nearly ½ mile.	
Maximum Dimensions for Craft Using Waterway.	**Length**	90 ft.
	Beam	18 ft. 6 ins.
	Draught	7 ft.
	Headroom	8 ft. 6 ins.
Locks.	1 (equipped with extra gates to keep out very high tides.)	
Towing Path.	Throughout navigation.	
General Remarks.	Purely a commercial "cut," originally extended to Canal Head, now forming the Victoria Station of B.R. (S.R.).	
Tidal Information.	High water at the entrance approximately 30 minutes after London Bridge.	

No. 50

HAM DOCK

Authority. Ham River Grit Co., Ltd.,
161, Millbank, London, S.W.1.
'Phone: Victoria 5511.

Local Office:
Lock Road, Ham, Surrey.
'Phone: Kingston 3146.

From and To. Teddington (Junction with River Thames by Teddington Lock) to Ham.

Distance. 2 miles.

Maximum Dimensions for Craft Using Waterway.

Length	100 ft.
Beam	24 ft.
Draught	6 ft.
Headroom	11 ft.

Locks. 1.

Towing Path. Throughout waterway.

General Remarks. This short waterway has been constructed by connecting a number of disused gravel pits together, and is now utilised chiefly as an anchorage for barges.

Tidal Information. High water at Teddington 1 hr. 30 mins. after London Bridge. (This figure varies considerably due to the volume of Land water. This figure is approximate for normal summer flow).

No. 51

RIVER HAMBLE

Authority. River Hamble Berthing Master, Southampton Harbour Board, Hamble, Hants.
'Phone: Hamble 3156.

From and To. Hamble to Botley.

Distance. 7¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. Not limited.
Beam .. .. „ „
Draught:
High water to Botley .. .. .. 2 to 3 ft.
High water to Bursledon .. .. .. 7 ft.
Headroom .. .. .. Unlimited to Bursledon.
Bursledon to Botley:
13 ft. at High Water Springs.
25 ft. at Low Water Springs.

Locks. Nil. Tidal throughout.

Towing Path. Nil.

General Remarks. A very crowded and popular yachting centre. For further details see *Pilot's Guide to the English Channel.*

Tidal Information. Double High Water, at the entrance, 10 minutes before and 1 hour 51 minutes after High Water at Dover.
Spring tides rise 13 ft.
Neap tides rise 10 ft. 3 ins.

Distance Table.	*Miles.*	*Furlongs.*
Hamble Spit to:		
Hamble Foot Ferry	1	2
Burseldon Station	3	3
Burseldon Bridge	3	5
Curbridge (National Trust, riverside reservation, approximately 5 to 6¼ miles).		
Botley	7	6

No. 52

HELFORD RIVER

Authority. An open navigation.

From and To. Dennis Head to 1 mile above Polwhereal Creek.

Distance. 4 miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. Not limited.

Beam .. .. „ „

Draught .. High Water 4 ft. only, 1 mile above Polwheral Creek.

Headroom .. .. Not limited.

Lock. Nil. Tidal throughout.

Towing Path. None.

Connections. Navas Creek.
Frenchman's Creek.
Gillan Creek.
Polwheral Creek.

These are all navigable at High Water, but there is need to take care entering Gillan Creek.

General Remarks. A popular yachting centre. For further details see *Pilot's Guide to the English Channel.*

Port Charges. No dues or rates for Helford River.

Tidal Information. At the entrance, High Water is 5 hours 44 minutes after Dover.

Spring tides rise 15 ft. 6 ins.

Neap tides rise 11 ft. 6 ins.

No. 53

HUDDERSFIELD BROAD CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North Eastern Division, Dock Street, Leeds, 1.
'Phone: Leeds 20957/8.
Telegrams: ' Dainwex, Leeds.'

From and To. From junction with the Main Line of the Calder and Hebble Navigation at Cooper Bridge, to junction with the Huddersfield Narrow Canal at Huddersfield.

Distance. About 4½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	57 ft. 6 ins.
Beam	14 ft. 2 ins.
Draught	4 ft. 6 ins.
Headroom	9 ft. 3 ins.

Locks. 9. Lock Gates worked by Boat Crews.

Bridges. Numerous.

Towing Path. Throughout navigation.

Speed Limit. 3½ miles per hour.

Charges. Same as those shown for Grand Union Canal.
Application should be made to the Divisional Traffic Officer at the above address.

Distance Table.

	Miles.	*Furlongs.*
Cooper Bridge, junction with Calder and Hebble Navigation to:		
Bradley	—	4
Deighton	1	2
Fartown Green	2	2
Huddersfield, junction with Huddersfield Narrow Canal	3	2

No. 54

HUDDERSFIELD NARROW CANAL[1]

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Western Division, Central Station, Liverpool, 1.

'Phone: Royal 6731.

Telegrams: 'Inwex, Liverpool.'

Special Note. Full information can be obtained from the Executive to whom all applications should be made for permission to use the Canal.

Permission to navigate the Standedge Tunnel is given only subject to one of the Executive's Engineering Dept. Staff accompanying the craft.

From and To. From the west side of the bridge carrying Chapel Hill, Huddersfield, over the Canal to junction with the Ashton Canal at Ashton-under-Lyne.

General Remarks. The Canal reaches the highest summit level in Great Britain, 638 feet above sea level, and has the longest tunnel, the Standedge, over 3 miles long.

The Canal is no longer open for general traffic, but subject to physical conditions permitting, pleasure craft may be allowed to pass, on application being made for the necessary permission. The Canal was constructed to accommodate craft of the dimensions mentioned below. It is no longer open for general canal traffic, and all applications for permission to use the waterway by pleasure craft should be accompanied by full particulars of the dimensions and draught of the craft proposed to be used.

Distance. 19¼ miles.

[1] At the time of going to press information has been received that the canal has been closed to all traffic, although a specially built boat for maintenance will still use the tunnel and summit level. Some of the locks have already been filled in, although canal acts as a water feeder.

Maximum Dimensions for Craft Using Waterway.

Length	70 ft.
Beam	6 ft. 11 ins.
Draught	3 ft.
Headroom	6 ft. 8 ins.

Locks. 74 : 42 ascending from Huddersfield ; 32 descending to Ashton-under-Lyne. Lock Gates worked by Boat Crews.

Towing Path. Throughout navigation.

Bridges. Numerous.

Tunnels **Standedge**—3 miles 135 yards long. No towing path. Boats are legged through. Tunnel Keepers at both ends.

Scout 1 furlong. Towing path.

Speed Limit. 3½ miles per hour.

Charges. No scale of charges in operation, Canal little used for pleasure boating. Charges raised according to requirements of the applicant and the Company's Engineer in each case.

(This canal was closed by Act of Parliament during the war, to Navigation. Canal is still maintained to supply water to Industrial Consumers.)

Distance Table.

Huddersfield, junction with Huddersfield Broad Canal, to:	*Miles.*	*Furlongs.*
Milnsbridge	2	5
Golcar	3	2
Linthwaite	3	7
Slaithwaite	5	—
Head of Lock No. 42, Marsden, north east of summit level, and Marsden Railway Station	7	3
North-east end of Standedge Tunnel	7	7
South-west end of Standedge Tunnel, and Diggle Railway Station	11	—
Head of Lock No. 32, Diggle, and South-west End of Summit level	11	2
Saddleworth	12	4
Upper Mill	13	—
Greenfield	14	—
Mossley	16	—
Scout Mill	16	2
Millbrook	17	3
Stalybridge	18	6
Aston-under-Lyne, junction with Ashton Canal	19	7

No. 55

RIVER HULL

Authority. A Free navigation except from Sculcoates Goate to River Humber, which is under the jurisdiction of the Hull Corporation, Guildhall, Hull.
'*Phone:* Hull 36880.

From and To. Tail of Struncheon Hill Lock, and Junction with Driffield Navigation to Hull, junction with River Humber.

Distance. 20 miles. Arram Beck, ¼ mile.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	„ „
Draught:	
Hull to Grove Hill	6 ft.
Grove Hill to Struncheon Hill Lock	5 ft.
Arram Beck	3 ft.

Locks. Nil. Tidal throughout.

Connections.
1. At **Struncheon Hill Lock** with **Driffield Navigation.**
2. With **Leven Canal,** near Aike. (Not now navigable. Used for fishing only.)
3. With **Beverley Beck** at Grove Hill.

General Remarks. The tide flows very strongly at river mouth and for a considerable distance upstream.

Towing Path. Throughout navigation, except from mouth of River to Hull Bridge.

Tidal Information. High Water at Struncheon Hill 3 hours after Hull.

Distance Table.	*Miles.*	*Furlongs.*
Tail of Struncheon Hill Lock, and junction with Driffield Navigation, to:		
Tophill Low Landing	1	2
Baswick Landing	1	4
Aike	4	—
Junction with Leven Canal (closed to traffic, and is now only used for fishing)	4	4
Junction with Arran Beck	5	5
Hull Bridge	7	2
Grove Hill, junction with Beverley Beck	9	—
Wawne Ferry	11	6
Stone Ferry	17	4
Hull, Sculcoates Goate	19	1
Hull, junction with Queen's Dock	19	1½
Hull, junction with Drypool Basin, leading to Victoria Dock	19	4
Hull, junction with River Humber	20	—

No. 56

RIVER HUMBER

Authority. Humber Conservancy Board, Whitefriargate, Hull.
'Phone: Central 35410.
Telegrams: ' Conservancy, Hull."

From and To. Humber Entrance to Trent Falls.

Distance. 36½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	" "
Draught	14 ft to 18 ft.
Headroom	Not limited.

Towing Path. None.

Connections. **Rivers Ouse**, **Trent**, and **Hull** are connected with each other by this Tidal Waterway as well as the **River Ancholme** and **Market Weighton Canal.**

Locks. Nil. Tidal throughout.

General Remarks. This navigation, although strictly within the category of an Inland Waterway, is one that should be traversed only by those fully acquainted with its shifting sandbanks and strong tides. Navigation is very difficult, but Pilotage can be arranged, special Rates being in operation for Goole Pilotage and Humber Pilotage. Owing to the variation of the navigable channel in the Upper Humber, there are no recognised anchorage grounds. There are no public mooring berths, but usually very little objection is offered to yachts mooring temporarily to private jetties. Anchorage is not allowed in the fairway of the river.

Docks. All Docks on the Humber are owned by the Docks & Inland Waterways Executive. (All communications to Chief Docks Manager, Dock Office, Hull.)

Publications to Assist Navigator.

The Humber Conservancy Board publish in convenient form the Rules and Humber Bye-Laws, and from time to time publish copies of their latest survey between Burton Strather on the Trent, and Barton Haven (a short distance westward of Hull, but on the Lincolnshire side of the Humber), and also copies of a chart showing the latest soundings of the Humber between Barton Haven and Stallingborough Haven (a short distance seaward of Immingham). Copies of the Survey (price 5/-) and chart (price 7/-) can be obtained from the Conservancy Board offices. Admiralty Chart number 1188 covers the Humber from Immingham to Spurn Point. (Price 4/6 from Admiralty Chart Agents.)

Charges.

Shipping Dues are leviable under the provisions of the Humber Conservancy Act 1907. Certain exemptions to these dues are given.

	Per net registered Ton per Voyage.
Vessels entering the River Humber and passing to Grimsby	$\frac{3}{5}$d.
And passing to Immingham	$\frac{3}{5}$d.
„ „ „ Killingholme	$\frac{4}{5}$d.
„ „ „ Hull or New Holland	1d.
„ „ „ places above Hull	$1\frac{2}{5}$d.

Tidal Information.

High Water at Ferriby Sluice about 18 minutes after Hull.

Spring tides rise 21 ft. 9 ins.

High Water at Trent Falls about 30 minutes after Hull.

Spring tides rise 19 ft. 4 ins.

Distance Table.

Left Bank. *Miles.*	*Furlongs.*	Trent Falls, junction with River Ouse, and River Trent, to:	*Miles.*	*Furlongs.*	**Right Bank**
1	4	Junction with Market Weighton Canal			
2	4	Bromfleet.			
		Whitton	2	6	
5	4	Brough.			
		Winteringhaven Haven	5	4	
		Ferriby Sluice, junction with River Ancholme Drainage and Navigation	8	4	
		South Ferriby	9	2	
9	—	North Ferriby.			
		Chowder Ness	11	—	
		Barton-upon-Humber	12	2	
12	—	Hessle.			
		New Holland	15	4	
17	—	Hull, junction with River Hull.			

No. 57

RIVER IDLE

Authority. River Trent Catchment Board, Derby Road, Nottingham.

From and To. Stockwith to Bawtry Bridge.

Distance. 10¼ miles.

Maximum Dimensions or Craft Using Waterway.

Length	Not limited.
Beam	18 ft.
Draught	2 ft. 6 ins.
Headroom	9 ft.

Towing Path. Original path is unusable in most places.

Locks. 1. Misterton Soss. (Sluice-keeper raises gate.) This is a sluice, the gates being raised vertically. Sluice consists of one pair of tidal gates and pair of sea doors. Boats can only pass the sluice when the tide makes a level.

Connections. Joins the River Trent at Stockwith.

General Remarks. Due to the artficial cut made near Bawtry, by the old G.N. Railway Company, the river wharf at Bawtry has become silted and useless. Craft with a very shallow draft can proceed another 8 miles upstream from Bawtry.

Tolls. None, for pleasure craft.

Tidal Information. High Water at Stockwith about 5 hours after Hull.
Spring tides rise 15 ft. 6 ins.
Neap tides rise 5 ft.

Distance Table.

Bawtry to:	*Miles.*	*Furlongs.*
Misson	2	2
Idle Stop	5	2
Misterton and Haxey Road Bridge	8	2
Misterton Soss	9	3
Stockwith, junction with River Trent	10	2

No. 58

KENNET & AVON CANAL & NAVIGATION

Authority. The Divisional Officer, Docks and Inland Waterways Executive, South-Western Division, Dock Office, Gloucester.
'Phone: Gloucester 24421.
Telegrams: ' Dainwex, Gloucester.'

Note. This is an ex-G.W.R. Canal and some difficulty may be experienced by yachtsmen. Notice should be given to the Executive prior to the journey as they have heavy arrears of maintenance to perform and prior notice will enable them to have staff ready to assist, if necessary. Local advice can be obtained from John Gould, Esq., Hon. Sec., Inland Waterways Association, Kennet and Avon Branch, 4, Rockingham Road, Newbury, Berks.

From and To. Junction with the River Thames at Reading to junction with the River Avon (Bristol) at Hanham.

General Remarks. This navigation consists of the River Kennet Navigation, Kennet and Avon Canal, River Avon Navigation.
It is the southernmost of the three which may be termed Across England Waterways, and links the River Thames with the Bristol Channel through Bristol and Avonmouth.

Distance. 86½ miles.

Maximum Dimensions for Craft Using Waterway.

	Kennet River.	*Kennet and Avon Canal.*	*Avon River.*
Length	74 ft.	73 ft.	75 ft.
Beam	14 ft.	13 ft. 10 ins.	16 ft.
Draught ..	3 ft. 6 ins.	3 ft. 6 ins.	3 ft. 6 ins.
Headroom* ..	10 ft.	8 ft. 10 ins.	9 ft.

*Obstructions at Reading and Newbury give less than this headroom but end paragraphs of this section give details of how to pass these obstructions.

Locks. 106. Lock gates worked by Boat Crews, under supervision of Lock Keepers. Lock handles may be hired.

Bridges. 193. 145 fixed, 48 swing.

Tunnels. **Savernake** .. .. 502 yards. No towing path. Boats hauled through by means of chains fixed to side wall.

Towing Path. Throughout navigation except Savernake Tunnel.

Speed Limit. 4 miles an hour.

Special Features of Interest. 1. The Pumping Station at Crofton, near Bedwyn, feeding the summit level of the canal, and containing the famous pair of James Watt Condensing Beam Engines which are nearly 150 years old. These must be the oldest engines in the world still in regular use. and are well worth a visit.

2. Bruce Tunnel (and the fine inscription over its Eastern Portico) through which the canal passes at Savernake. Length 502 yards, and of exceptionally large bore.

3. The famous flight of 29 locks at Devizes—the second longest flight in Great Britain—with its regularly laid out side pounds over the middle 17 locks—and said to be the best designed flight of locks in the country.

4. The Aqueducts at Dundas and Avoncliffe, near Limpley Stoke, twice carrying the beautiful 10 mile Bath—Bradford pound from side to side of the Avon Valley, and across river and railway.

Charges. Same as those shown for Grand Union Canal.

Payment. To D. and I.W.E., Gloucester, or to The Divisional Traffic Officer, South-Western Division, Docks and Inland Waterways Executive, 16, Bridge Street, Broad Street, Birmingham, 1.

'*Phone:* Midland 4961.

General Remarks. Draught in the canal (1949) in some places is no more than 2 ft. 6 ins. but this will no doubt be improved shortly.

The statutory maximum height above waterline for the Navigation is 8 ft. 6 ins., but owing to temporary obstructions, at Reading and Newbury, at the present time, the effective headroom is about 7 ft. The obstruction at Reading is a girder reinforcement under Kennet

Bridge. Masters of craft over 4 ft. 7 ins. height above waterline should telephone the Borough Engineer's Dept., Town Hall, Reading ('Phone 4001), and request that the water level be lowered sufficiently to permit passage under the girders. Reading Corporation is bound by agreement to take the necessary action, and the Borough Officials are, in fact, most co-operative.

(*Note.*—In interests of safety, the water should not be lowered until craft have reached the immediate vicinity of the obstruction, and, after they have passed it, they should again wait until the normal head is restored.)

The Newbury obstruction is a wartime temporary bridge still in place, underside about 6 ft. 6 ins. above normal water level. The Southern Electricity Board Staton at Greenham Mill, Newbury, will, on request, adjust the water level to give greater headway. If coming from the west there is a telephone box on Newbury Wharf, near the bridge. If approaching from the east, a personal call at the Electricity Station, which is near Greenham Lock, will be preferable.

Distance Table.	*Miles.*	*Furlongs.*
High Bridge, Reading, commencement of River Kennet Section, and junction with portion of River Kennet under jurisdiction of the Thames Conservancy, to:		
Southcote Lock No. 104	2	4
Burghfield Village	3	4
Burghfield Mill	4	4
Sheffield	6	4
Tile Mill	8	—
Aldermaston Wharf	10	—
Aldermaston Mill	11	—
Woolhampton Mill	12	—
Hale's Lock, No. 93	13	2
Brimpton	13	4
Midgham	13	6
Colthrop	14	4
Longbridge	15	—
Widmead Lock No. 89	16	—
Ham Wharf	17	4
Newbury Wharf, commencement of Kennet and Avon Canal Section	18	4
Westfield	19	4
Hampstead	22	—
Kintbury Lock No. 78	24	4
Dunn Mill Lock No. 75	27	—
Hungerford Lock No. 74	27	4
Picketfield	29	4
Froxfield	30	—
Little Bedwyn	31	4

Distance Table.	*Miles.*	*Furlongs.*
Great Bedwyn Wharf	32	4
Freewarrens	34	4
Crofton Top Lock No. 55	35	1
Severnake Tunnel, East End	36	—
Burbage Wharf	37	—
Wootton Rivers Top Lock No. 54	37	1
Brimslade	38	—
Wootton Rivers	38	4
New Mill	39	4
Pewsey Wharf	41	4
Wilcot	43	—
Honeystreet Wharf	45	4
Horton Bridge	49	4
Devizes Top Lock of 29 Locks, No. 50	53	4
Foxhangers	56	—
Wragg's Wharf	56	4
Scott's Wharf	56	6
Seend Wharf	58	—
Tail of Semington Bottom Lock No. 15, junction with Wilts. and Berks. Canal (abandoned) and Semington Wharf	60	4
Hilperton Wharf	63	—
Bradford-on-Avon, and Lock No. 14	65	4
Avoncliffe Wharf	67	—
Murhill Quarry	68	—
Limpley Stoke	69	—
Dundas	70	—
Hampton Quarry	72	4
Bathampton Mill	73	—
Darlington Old Wharf	74	—
Sydney Wharf and Pinche's Wharf	74	4
Clapham's Wharf and Widcombe Wharf	75	—
Bath, Bottom Lock No. 7 and junction with River Avon	75	2
Bath, River Avon, centre of Bath Old Bridge, and commencement of River Avon Section	75	4
Weston Lock No. 6	77	6
Midland Region (Railway Bridge)	78	2
Midland Region (Railway Bridge)	79	4
Kelston Lock No. 5	80	6
Saltford Lock No. 4	81	4
Opposite Golden Valley Wharf	82	—
Swinford Lock No. 3	82	2
Centre of Avon and Gloucester Railway Wharf	84	—
Opposite Shellard's Lime Quarry	84	2
Keynsham Lock No. 2	84	4
Londonderry Wharf	85	—
Tail of Hanham Lock, and junction with River Avon, under jurisdiction of Bristol Corporation	86	4

No. 59

KENSINGTON CANAL

Authority. London Transport Executive, 55, Broadway, London, S.W.1.
'Phone: Abbey 1234.

From and To. Counter's Creek (junction with River Thames to Chelsea Railway Station.

Distance. ½ mile.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	„ „
Draught	5 ft. Neaps 7 ft. Springs
Headroom	6 ft. 3 ins.

Towing Path. None.

General Remarks. Navigation is tidal throughout, and the upper section is dry at low water.

Locks. None.

Connections. A road bridge crosses the creek 400 yards from the mouth, and under the bridge are lock gates leading to a small dock belonging to the North Thames Gas Board. (Maximum beam 18 ft. for craft entering dock.)

Tidal Information. Canal is navigable at high tide and dries at low water. High water 25 minutes after London Bridge.

No. 60

KYME EAU

Authority. Witham and Steeping Rivers Catchment Board, 50, Wide Bardgate, Boston, Lincs.
'*Phone:* Boston 2532.

From and To. Chapel Hill, junction with River Witham to Sleaford.

Distance. 12¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length and **Beam**	Canoes and similar light craft only.
Draught	2 ft. 6 ins.
Headroom	5 ft. 6 ins.

Locks. None. The small craft that might attempt a passage have to be manhandled over the sluices.

Towing Path The old towing path has almost disappeared, and is not usable.

General Remarks. This is the old Sleaford navigation abandoned by Act of Parliament in 1878. The lower portion was open to navigation from Ewerby Waithe Common to the River Witham until recently, when the lock at Lower Kyme was replaced by a sluice gate. Craft 70 ft. by 14 ft. by 3 ft. can navigate up to Lower Kyme Sluice, a distance of 1 mile and 5 furlongs.

Distance Table.	*Miles.*	*Furlongs.*
Sleaford to:		
Haverholme Priory	3	4
Ewerby Waithe Common	5	6
Halfpenny Hatch	6	2
South Kyme	8	—
Lower Kyme Sluice	10	5
Chapel Hill, junction with River Witham	12	2

No. 61

LANCASTER CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Western Division, Central Station, Liverpool, 1.

'Phone: Central 6731.

Telegrams: 'Inwex, Liverpool.'

From and To. Preston to Lancaster, including branch to Glasson, and Lancaster to Kendal. (At the present it is only navigable to Natland, 2 miles south of Kendal, due to lack of dredging.)

Distance. 59½ miles. **Glasson Branch**, 2⅝ miles long.

Maximum Dimensions for Craft Using Waterway.

Length		72 ft.
Beam		14 ft. 6 ins.
Draught		3 ft. 10 ins.
Headroom	To key of Arch at Preston	5 ft. 8 ins.
	North of Preston	8 ft. 7 ins.

Locks. **Main Canal**—8.

Glasson Branch—7.

Towing Path. Throughout navigation, except Hincastle Tunnel.

Bridges. Numerous.

Tunnels. **Hincastle**—377 yards long. No towing path. Boats hauled through by means of rope fixed on side wall or "legged" through.

Speed Limit. 3½ miles per hour.

Charges. Same as those shown for Grand Union Canal.

Distance Table.	*Miles.*	*Furlongs.*
Kendal, Canal Head, to:		
Natland Mill Bridge	1	1
Larkrigg Hall Bridge	3	—
Hincaster Tunnel, West End	5	1
Crooklands (Wharf)	7	6
Farleton Turnpike Bridge	9	4
Holme Turnpike Bridge	11	1
Burton Wharf (Burton-in-Kendal distant 1 mile)	12	3
Tewitfield Top Lock No. 1	13	7
Tewitfield Bottom Lock No. 8 and Tewitfield Bridge	14	5
Borwick Hall Bridge	15	2
Kellet Lane Bridge	17	1
Carnforth Bridge	18	4
Bolton-le-Sands Wharf	21	—
Hest Bank Bridge	22	3
Lancaster Aqueduct over River Lune	25	—
Lancaster (Greenfield Wharf)	26	5
Galgate Basin Wharf	31	6
Lodge Hill, junction with Glasson Dock Branch	31	7
Radcliffe Wharf	35	—
Bells Bridge	37	7
Garstang Road Bridge	39	5
Stubbins Bridge	42	2
Ibbetson's Bridge	43	2
Hankinson's Bridge	46	6
Fletcher's Bridge	50	1
Salwick Hall Bridge	51	6
Lea Malt Kiln Bridge	53	4
Preston, South Basin Wharf	57	—

Glasson Dock Branch

Lodge Hill, junction with Main Line, to:		
Thurnham Mill	1	5
Thurnham Bridge	1	6
East End of Glasson Basin	2	4
West End of Glasson Basin Lock No. 7 and junction with Glasson Dock, belonging to Lancaster Port Commissioners	2	5

No. 62

RIVER LEE

Authority. The Divisional Officer, Docks and Inland Waterways Executive, South-Eastern Division, Transport House, Reservoir Road, Ruislip, Middlesex.

'Phone: Ruislip 4081.

Telegrams: ' Dainwex, Ruislip.'

From and To From the River Thames to Hertford.

General Remarks The river can be entered either through Limehouse Cut, the entrance to which is situated just below Regents Canal Dock, 3½ miles below Tower Bridge, or through Bow Creek. Below Lee Bridge there are several subsidiary canalised waterways, the most important being Bow Creek, the Old River Lee, the City Mills River and Waterworks River, St. Thomas's Creek, Abbey Creek and Channelsea River.

The Hertford Union (or Ducketts) Canal connects the Waterway with the Regents (now Grand Union) Canal (see **No. 46**), about 3 miles above the entrance. The River Stort joins the River Lee at Feldes Weir, Hoddesdon, 7 miles below Hertford.

Distance. From the entrance to Hertford Town Mill 27¾ miles.

Tidal Information. As far as Old Ford Locks, all branches of the river are tidal.

High water at Limehouse about 10 minutes before London Bridge.

Spring tides rise 20 ft.,

Neap tides rise 16 ft.

Old Ford Locks about 3 minutes after London Bridge.

Towing Path. Throughout navigation, except Old River Lee section, St. Thomas's Creek, Bow Creek, Abbey Creek and Channelsea River.

MAIN LINE—Limehouse to Hertford.

Maximum Dimensions for Craft Using Waterway

Length		88 ft.
Beam	From Limehouse to any point short of Old Ford Locks ..	19 ft.
	From Old Ford Locks to any point short of Ponders End Lock	18 ft.
	From Ponders End Lock to Hertford	15 ft. 6 ins.
Draught	From Limehouse to Enfield Lock	5 ft.
	From Waltham Common Lock to Hertford	4 ft. 6 ins.
Headroom	(headroom at Lee Bridge) ..	7 ft. 6 ins.

BOW CREEK—From Junction with Main Line to Barking Road Bridge about 1¼ miles.

Length	90 ft.
Beam	19 ft. 6 ins.
Draught	5 ft.

OLD RIVER LEE, CITY MILLS RIVER and WATERWORKS RIVER.

Length	88 ft.
Beam	19 ft.
Draught	5 ft.

Locks. 22 along main river, Limehouse to Hertford.
Bow Creek—Bow Tidal Lock.
Bow Back River—City Mills Lock.
Old River Lee—Carpenters Road Lock.
St. Thomas's Creek—Marsh Gate Lock.
Abbey Creek—Abbey Mills, Tide Gates.

Bridges. 60.

Approx. Time taken to Navigate From River Thames to Hertford approximately 1 day. From River Thames to Bishops Stortford (via Rivers Lee and Stort), 1½ days.

Speed Limit. 3 miles per hour in artificial cuts and 4 miles per hour in old Nagivation channels.

Sunday Navigation. The Locks are not open on Sundays.

Statutory Charges. **Lock Tolls.** For pleasure boats 1/- a lock in either direction, excepting Bow Tidal Lock, the toll for which is 4/- or free on the level.)*

** These charges are now subject to a temporary surcharge of 50%.*

Tributary of the River Lee
RIVER STORT

Authority. As River Lee.

From and To. From junction with the River Lee at Hoddesdon to Bishops Stortford.

Distance. 13¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	88 ft.
Beam	13 ft. 4 ins.
Draught	5 ft.
Headroom	7 ft. 6 ins.

Locks. 15.

Bridges. Numerous.

Speed Limit. 3 miles per hour in artificial cuts. 4 miles per hour in Old River Navigation channels.

Towing Path. Throughout navigation.

Sunday Navigation. The Locks are not open on Sundays.

Statutory Charges. 1/- per lock in either direction for pleasure craft. Millers' Tolls are also payable at Brick Lock, Latton Lock and Sawbridgeworth Lock at the rates of 6d. per boat.*

* *These charges are now subject to a temporary surcharge of* 50%.

Distance Table.	*Miles.*	*Furlongs.*
Hertford Town Mill to:		
Hertford, Dicker Mill Bridge	—	4
Hertford Lock No. 1	—	6
Balance Engine House, New River Water Company's Intake	1	2
Ware Lock No. 2	2	2
Ware Bridge	2	7
Amwell, Hard Mead Lock No. 3	3	6
Amwell Marsh Bridge	4	2
Stanstead Lock No. 4	4	6
Stanstead Bridge	5	1
Rye House Bridge	6	5
Junction with River Stort	7	1
Fieldes' Weir Lock No. 5	7	2
Dobbs' Weir Lock No. 6	8	—
Carthagena Lock No. 7	8	6
Broxbourne Bridge	9	2
Wormley, Aqueduct Lock No. 8	10	6
Holy Field Marsh Bridge	11	2
Cheshunt Lock No. 9	11	6
Cheshunt Dock	12	4
Waltham Common Lock No. 10	12	6
Waltham, Town Bridge and Lock No. 11	13	6
Rammey Marsh Lock No. 12	14	—
Enfield Lock, Engineer and Manager's Offices, Toll Offices and D. and I.W. Executive's Workshops	14	6
Ponder's End Lock No. 14	16	6
Pickett's Lock No. 15	17	6
Bleak Hall Bridge	18	6
Stonebridge Lock No. 16	20	—
Tottenham Lock No. 17	20	6
Lee Bridge	23	—
Pond Lane Flood Lock No. 18	23	2
Junction with Hertford Union Canal	24	7
Old Ford Locks No. 19 and Toll Office	25	—
Junction with Old River Lee through Old Ford Tide Gates	25	—
Junction with St. Thomas's Creek	25	6
Bow Bridge	25	6
Bow Toll Office, and junction with Bow Creek through Bow Tidal Lock	26	2
Bromley Stop Lock No. 20	26	1
Brittania Stop Lock No. 21	27	4
Limehouse Lock No. 22 and Toll Office, junction with River Thames	27	6

Navigation of Old River Lee through Old Ford Tide Gates

Old Ford Tide Gates, junction with Main Line of River, to:		
Junction with St. Thomas's Mill Stream	—	1
Junction with City Mills River	—	2
Junction with Waterworks River	—	3

Distance Table.	*Miles.*	*Furlongs.*
St. Thomas's Mill Stream is navigable, and is in length ..	—	4
City Mills River is navigable to the head of City Mill, and is in length	—	5
Waterworks River is navigable to West Ham Waterworks, and is in length	—	5
St. Thomas's Creek		
Bow Bridge, junction with Main Line of River, to:		
Marsh Gate Lock	—	1
Tail of City Mill	—	2
Bow Creek		
Head of Bow Creek at tail of Three Mills to:		
Junction with Abbey Creek	—	0½
Junction with Main Line of River through Bow Tidal Lock	—	2½
Barking Road Bridge, limit of jurisdiction of the D. and I.W.E., and junction with portion of Bow Creek under jurisdiction of the Port of London Authority	1	2½
Abbey Creek		
Distance from junction with Bow Creek to Abbey Mills, junction with Channelsea River	—	4
Channelsea River		
Abbey Mills, junction with Abbey Creek to Stratford Wharves	—	4
River Stort		
Bishop's Stortford, to:		
South Mill Lock No. 1	—	4
Twyford	2	—
Spelbrook	3	—
Tednambury	4	6
Sawbridgeworth	5	—
Shearing Mill Lock No. 6	5	3
Harlow	7	—
Harlow Lock No. 8	7	1
Latton	8	—
Burnt Mill	9	2
Parndon	9	6
Hunsdon	11	—
Roydon Lower Lock No. 15	12	7
Junction with River Lee	13	6

No. 63

LEEDS & LIVERPOOL CANAL

Authority. The Divisional Officer, Docks & Inland Waterways Executive, North-Western Division, Central Station, Liverpool, 1.

'Phone: Royal 6731.

Telegrams: 'Inwex, Liverpool.'

From and To. Leeds to Liverpool.

General Remarks. Entered from the Aire and Calder Navigation at Leeds, and passing through Shipley, Skipton, Burnley, Blackburn and Wigan. The canal rises to nearly 500 feet over the Pennines.

Connections. The two most important branches are—

(1) Rufford Branch to junction with the River Douglas Ribble Estuary.

(2) Leigh Branch from Wigan to the Northern end of the Bridgewater Canal.

Distance. Leeds to Liverpool .. .. 127¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length:

From Leeds to tail of 21st Lock at Wigan 62 ft.

From tail of 21st Lock to Liverpool .. 72 ft.

Beam .. .. 14 ft. 4 ins.

Draught .. .. 3 ft. 9 ins.

Headroom .. .. 9 ft.

Locks. There are 92 locks in all, 45 on the Leeds side of the summit and 52 on the Liverpool side. Lock gates worked by Boat Crews.

Bridges. Numerous.

Tunnels.

Foulridge, near Colne	1,640 yards.	No towing path.
Gannow, near Burnley	559 yards	No towing path.

Approx. Time taken to Navigate. About one week.

Charges. Same as those shown for Grand Union Canal.

Payment: In advance to: The Traffic Officer, D. and I.W.E., Windsor Buildings, George Street, Liverpool.

LEIGH BRANCH

From and To. From junction with the Main Leeds—Liverpool Canal at Wigan to junction with the Bridgewater Canal at Leigh.

Distance. 7¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	14 ft. 4 ins.
Draught	3 ft. 9 ins.
Headroom	8 ft.

Locks. 2. Lock gates worked by Boat Crews.

Bridges. Numerous.

Charges. Same as Main System.

STANLEY DOCK CUT BRANCH

From and To. Liverpool, junction with Main Line to Stanley Dock.

Distance. ¼ mile to Stanley Dock. (It is a further ⅜ mile to the Mersey.)

Dimensions. Same as Leigh Branch.

Locks. 4.

RUFFORD BRANCH

From and To. Junction with Main Line Leeds and Liverpool Canal at Lathom to junction with River Douglas (River Ribble Estuary) at Tarleton. The River Ribble is controlled by: The Ribble Navigation, Dock Offices, Preston, Lancs.
'Phone: Preston 86711.
Telegrams: 'Ribble, Preston.'

Distance. 7¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	62 ft.
Beam	14 ft. 3 ins.
Draught	3 ft. 6 ins.
Headroom	8 ft.

Locks. 8. Locks worked by Boat Crews.

Bridges. Numerous.

Charges. Same as Main System.

Other Branches. Springs Branch to Skipton Rock Staiths ½ mile long.
Walton Summit Branch .. .. .. 3 miles long.
Dimensions for these are the same as for Rufford Branch.

APPLICABLE TO WHOLE SYSTEM

Speed Limit and Bye-Laws. 4 miles an hour.
It is advisable to procure a copy before using navigation.

Towing Path. Throughout navigation except through Foulridge and Gannow Tunnels.

Remarks. Commercial vessels take preference at locks.

Charges. Same as those shown for Grand Union Canal.

Payment: In advance to: The Traffic Officer, D. and I.W.E., Windsor Buildings, George Street, Liverpool.

Distance Table.

	Miles.	*Furlongs.*
Leeds, River Lock, and junction with Aire and Calder Navigation, to:		
Leeds Wharf and Office Lock No. 2	—	2
St. Anne's Ing Lock No. 3	—	4
Oddy Locks Nos. 4 and 5 (Staircase)	—	6
Spring Garden's Locks No. 6	1	—
Armley Wharf	1	4
Kirkstall Wharf	3	—
Kirkstall Lock No. 7	3	4
Kirkstall Forge Locks	4	—
Newlay Locks Nos. 11, 12 and 13 (Staircase)	4	4

Distance Table.	*Miles.*	*Furlongs.*
Rodley Wharf	6	2
Apperley Bridge, Wharf and Dobson Locks	9	—
Strangford Basin	9	7
Field Locks Nos. 16, 17 and 18 (Staircase)	10	2
Junction with Bradford Canal (Abandoned)	12	4
Shipley Wharf	12	6
Hirst Lock No. 19	14	—
Dowley Gap Locks Nos. 20 and 21 (Staircase)	14	3
Bingley, Dubb Wharf	15	2
Bingley 3 Rise Locks No.'s 22, 23 and 24 (Staircase)	15	3
Bingley 5 Rise Locks No.'s 25, 26, 27, 28 and 29 (Staircase)	16	2
Morton Wharf	17	2
Stockbridge Wharf	18	3
Silsden Wharf	22	4
Kildwick Wharf	24	2
Snaygill Bridge	27	6
Skipton Wharf, and junction with Springs Branch	29	—
Bottom Lock, Gargrave, and Holme Bridge Lock No. 30	33	2
Gargrave Wharf	33	6
Top Lock Gargrave	35	—
Bottom Lock, Banknewton No. 36	35	2
Top Lock, Banknewton No. 41	35	6
Bottom Lock, Greenberfield No. 42	40	4
Top Lock, Greenberfield No. 44	40	6
Coates Wharf (Barnoldswick distant half-a-mile)	41	4
Salterforth Wharves	43	4
Foulridge Wharf	45	—
North-east end of Foulridge Tunnel	45	1
Top Lock, Barrowford No. 45	46	6
Barrowford Wharf	47	2
Bottom Lock, Barrowford No. 51	47	4
Nelson Wharf	48	6
Brierfield Wharf (Lob Lane)	50	2
Reedley Colliery	51	6
Bankhall Colliery	53	—
Burnley Wharf, and Walker Hey Wharf, Burnley	54	4
Gannow Bridge Coal Tips	56	—
Rose Grove Wharf	56	4
Hapton Bridge	58	2
Enfield Wharf	62	2
Church New Wharf (Accrington distant one mile)	63	6
Church Wharf	64	—
Aspen Collieries	64	2
Rishton Bridge	66	—
Whitebirk Bridge	68	6
Blackburn, Dry Dock Wharf	70	—
Blackburn, Eanam Wharf, and Grimshaw Park Coal Wharves	70	2
Blackburn Top Lock No. 52	71	—
Blackburn, Nova Scotia Wharf and bottom lock	71	4
Cherry Tree Wharf	73	—
Stamworth Bridge and Quarries	75	—
Blackburn Corporation, Finnington Depot	75	4

Distance Table.	*Miles.*	*Furlongs.*
Riley Green Bridge	76	—
Wheelton Wharves	78	6
Top Lock, Johnson's Hillock No. 58	79	2
Tail of Bottom Lock, Johnson's Hillock and junction with Walton Summit Branch	79	6
Botany Wharf (Chorley distant one mile)	81	—
Cowling Bridge	82	2
Adlington Wharf	85	—
Aberdeen Coal Tip	86	—
Red Rock Bridge	87	4
Wigan Top Lock No. 65	90	—
Rose Bridge	91	—
Branch to Ince Hall Colleries	91	4
Junction with Leigh Branch, between Locks No.'s 85 and 86	92	—
Wigan Bottom Lock	92	2
Wigan Wharf and Winstanley Coal Tip	92	4
Wigan Corporation Wharf	93	—
Pagefield New Lock No. 88	93	3
Douglas Bank Coal Tip	93	6
Ell Meadow Lock No. 89 (two locks side by side)	94	—
Crook Lock No. 89	94	4
Orrel Coal Tip	94	6
Norley Coal Tip	95	—
Dean Lock No. 90	96	—
Appley Bridge	97	4
Appley Lock No. 91	98	—
Parbold Quarry Wharf	98	4
Parbold Bridge	99	4
Junction with Rufford Branch	102	4
Burscough Bridge Wharf	103	2
Burscough, New Lane Bridge	104	2
Scarisbrook, Heaton's Bridge	106	—
Scarisbrook Bridge (Southport distant 4 miles)	107	—
Halsall Bridge	108	4
Dawn Holland Cross Bridge	110	6
Lydiate, Holme's Bridge	112	6
Maghull, Red Lion Bridge	114	2
Maghull Hall Bridge	114	6
Pye's Bridge, Melling	116	6
Blue Anchor Bridge	118	—
Old Roan Bridge	118	6
Netherton Bridge	119	6
Gorsey Lane Bridge	121	—
Litherland Bridge	122	6
Linacre Gas Works	123	6
Bootle Corporation Wharf	124	—
Bootle Wharf and Coffee House Bridge	124	4
Bankhall Wharf	125	4
Sandhills, Liverpool Corporation Wharf	125	6
Sandhills, Commercial Road Wharves	126	—
Liverpool, junction with Stanley Dock Cut	126	4
Liverpool, Pall Mall, Wharves and Warehouses	127	2

Springs Branch

Distance Table.	*Miles.*	*Furlongs.*
Junction with Main Line to:		
Mill Bridge	—	2
Skipton Rock Stone Staiths	—	4

Walton Summit Branch

Junction with Main Line to:		
Johnson's Hillock Bridge Wharf	—	2
Moss Bridge Wharves	1	2
Radburn Bridge Wharf	2	—
Walton Summit	3	—

Leigh Branch

Junction with Main Line to:		
Pearson and Knowles' Coal Tip	1	2
Park Lane Coal Tip	1	6
Crippin's Coal Tip	2	—
Edge Green Basin	4	4
Plank Lane Lock	5	4
Bickershaw Colliery Basin	5	6
West Leigh Coal Tip	6	2
Leigh Wharf	7	—
Junction with Stretford and Leigh Branch of Manchester Ship Canal Company's Bridgewater Canal	7	2

Rufford Branch or Lower Douglas Navigation

Junction with Main Line to:		
Moss Lock No. 4	—	6
Baldwin's Lock No. 6	1	4
Marsh Moss Bridge and Wharves	2	4
Rufford Lock No. 7	3	—
Rufford Canal Warehouse	3	1
Sollom	5	2
Bank Bridge and Wharves	6	2
Town End Bridge and Wharf	6	6
Railway Sidings	7	—
Tarleton Lock No. 8, junction with tidal River Douglas	7	2
River Ribble, Estuary, and junction with River Douglas	11	2

No. 64

LYDNEY CANAL AND HARBOUR

Authority. The Divisional Officer, Docks & Inland Waterways Executive, S.W. Division, Dock Office, Gloucester.
'Phone: Gloucester 24421.
Telegrams: ' Dainwex, Gloucester.'

From and To. Lydney Station to River Severn.

Distance. 1 mile.

Maximum Dimensions for Craft Using Waterway. (Not Basin).

Length	100 ft.
Beam	24 ft.
Draught	12 ft.
Headroom	Unlimited.

Locks. 1. (There is 1 Lock between the tidal basin and canal and 1 pair of Tidal Gates from tidal basin to Severn Estuary.)

Towing Path. Throughout waterway.

General Remarks. Larger vessels can enter the Tidal Basin. Dimensions for such craft are as follows:—

Length	Up to 180 ft.
Beam	Up to 33 ft.

Draught:
Up to 24 ft. on Spring tides and 12 ft on Neap tides.

This Tidal Basin is entered from the River Severn through Tidal Gate.

Tolls and Charges. On application to above authority.

No. 65

MANCHESTER BOLTON & BURY CANAL

Authority. Divisional Officer, Docks and Inland Waterways Executive, North-Western Division, Central Station, Liverpool, 1.
'*Phone:* Central 6731.
Telegrams: 'Inwex, Liverpool.'

From and To. Salford to Bury and Bolton.

Distance.

Salford to Bury	12½ miles.
„ „ Bolton	10¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	68 ft.
Beam	14 ft. 2 ins.
Draught	3 ft. 6 ins.
Headroom	9 ft.

Locks. 17. (Not all these are workable.)

Tunnels. Two short tunnels near Salford, and one short tunnel near Bury.

Charges. Same as those shown for Grand Union Canal.

Towing Path. Throughout navigation, except tunnels.

General Remarks. This canal is in very poor condition and all three sections are isolated by dams. The Bolton Branch has been partly filled in and is unusable. Bury Branch is cut-off from the rest of Canal by the de-watered section above Prestolee Locks. Main canal is breached in two places and was piped during the war. Only length navigable is from a point south of Clifton to Salford, and a section of the Bury Branch, viz.: Ladyshore Colliery to Bury.

Distance Table.

	Miles.	*Furlongs.*
Salford to top of Prestolee Locks, Little Lever Summit Level		
From junction with River Irwell (Upper Reach) to:		
Salford Oldfield Road Top Lock No. 6	—	3
Clifton Aqueduct	4	5
Outwood Giants Seat Bottom Lock No. 8	6	1
Little Lever, Top of Prestolee Locks No. 17, junction with Branches to Bolton and Bury—Summit Level	8	—
Prestolee Locks to Bolton		
Little Lever, Farnworth Bridge Aqueduct	8	7
Bolton Wharves (commencement)	10	6
Prestolee Locks to Bury		
Little Lever, Bailey Bridge	8	2
Little Lever, Ladyshore Bridge	8	6
Radcliffe, Bank Top Bridge	11	5
Bury, Wharves (commencement)	12	4

No. 66

MANCHESTER SHIP CANAL

Authority. The Manchester Ship Canal Company, Ship Canal House, King Street, Manchester, 2.

'*Phone:* Deansgate 2244.
Telegrams: ' Canal, Manchester.'

Note: (The Canal is used by large Ocean-going vessels up to 15,000 tons deadweight. It is purely a commercial waterway.)

From and To. From Eastham Locks, junction with the River Mersey to the Docks, Manchester.

Distance. 36 miles.

Maximum Dimensions for Craft Using Waterway.

Mode Wheel, Barton, Irlam, and **Latchford Large Locks**:

Length	600 ft.

These locks are further divided by an intermediate pair of gates so that alternative locks of 450 ft. and 150 ft. in length respectively, can be made.

Beam	65 ft.

Mode Wheel, Barton, Irlam, and **Latchford, Small Locks**:

Length	350 ft.

These locks are further subdivided by an intermediate pair of gates, so that alternative locks of 120 ft. and 250 ft. in length, respectively can be made.

Beam	45 ft.

Eastham Large Lock:

Length	600 ft.
Beam	80 ft.

Maximum Dimensions for Craft Using Waterway.

Eastham Medium Lock:

Length	350 ft.
Beam	50 ft.

Eastham Small Lock:

Length	150 ft.
Beam	30 ft.

Side locks giving access to the Canal from the Tidal River Mersey:—

(a)	**Runcorn Old Quay**	Length	250 ft.
		Beam	45 ft.
(*b*)	**Runcorn, Bridgewater Lock**	Length	400 ft.
		Beam	45 ft.
(*c*)	**Weston, Mersey**	Length	600 ft.
		Beam	45 ft.
	Draught		28 ft.
	Headroom		70 ft.

Locks. 5. (Mode Wheel, Barton, Irlam, Latchford, Eastham.)

Towing Path. There is a towing path only from Messrs. Pyke's Flour Mill, Ordsall Lane, Salford to Woden Street, footbridge Manchester, at the Head of the Canal.

Tidal Information. When the tide in the River Mersey rises to a level of 26 ft. 2 ins. above Liverpool Bay Datum, which takes place on about 7 or 8 days in a fortnight, it enters the Ship Canal at Eastham, and affects the level of the water in the bottom pound of the canal to the tail of Latchford Locks.

High water at Eastham 12 minutes after Liverpool.

High water in the Ship Canal at Runcorn and at the tail of Latchford Locks about 1 hour 15 minutes after Liverpool.

Ordinary Spring tides rise	3 ft. 6 ins.
High „ „ „	5 ft. 6 ins.

Tidal levels above Liverpool Bay Datum at Eastham Locks:—

	ft.	*ins.*
High water at Equinoctial Spring tides	31	6
Average High water Spring tides	28	4

	ft.	ins.
Ordinary water level of Ship Canal between Eastham and Latchford ..	26	2
Average High water at Neap tides ..	24	2½
,, Low water of Neap tides ..	5	3½
,, Low water of Spring tides ..	1	8¾

Tidal levels below Liverpool Bay Datum (10 ft. below old Dock Sill) at Eastham Locks:—

	ft.	ins.
Excavated depth of approach channel at Eastham (available depth announced from time to time)	13	0
Eastham Locks Sills	13	0

Bridges. Provided the height of masts or funnels is not more than 71 ft. 6 ins. from the water-line, vessels can pass under the fixed bridges under normal conditions. During floods or high tides only 70 ft. is available.

Connections. **River Mersey**, at Eastham.

Shropshire Union Canal, at Ellesmere Port.

River Weaver, at Weston Marsh.

Bridgewater Canal, at Runcorn.

Mersey and Irwell Navigation, at Warrington, and Rixton Junction.

Runcorn and Latchford Canal, at Twenty Steps Lock.

River Irwell, Upper Reach.

Side Locks giving access from the Ship Canal to the tidal River Mersey are situated at:—

Runcorn, Old Quay.

Runcorn, Bridgewater Lock.

Weston Mersey.

Warning. Small craft owners navigating canal should get into touch with the Harbour Master or his nearest Assistant about traffic movements on the Ship Canal. If there is heavy sluicing at the Locks it is not safe for small craft to attempt a passage.

Inter Communication Between Locks. The Locks and swing bridges are all connected by private telephone with each other and with the Head Office and Dock Office.

General Notes. This waterway is only used by Yachtsmen as a through-route, and care should be taken at all stages of the journey. The entrance to the Ship Canal at Eastham is 25 miles from the Bar at the mouth of the River Mersey, and the access is from the sea *via* the lower estuary. The access channel has been excavated to a depth of 13 ft. below Liverpool Bay Datum.

Branches:—

MERSEY AND IRWELL NAVIGATION

From and To. Rixton Junction, junction with Manchester Ship Canal to Warrington Bank Quay, junction with River Mersey.

Distance. 7¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length.	Rixton Junction to Warrington Lock	72 ft. 8 ins.
	Through Warrington Lock ..	69 ft. 7 ins.
	Warrington Lock to Bank Quay, Warrington	Not limited.
Beam.	Rixton Junction to Warrington Lock	16 ft. 4 ins.
	Through Warrington Lock ..	17 ft. 9 ins.
	Warrington Lock to Bank Quay, Warrington	Not limited.
Draught		5 ft.
Headroom.	Rixton Junction to Warrington Lock	11 ft. 6 ins.
	Warrington Lock to Bank Quay, Warrington, at High water ..	8 ft.

Locks. 3.

Towing Path. There is a towing path throughout, with the exception of a distance of about 100 yards to the East of Warrington Bridge, for which length towing horses are taken through the street.

RIVER IRWELL—UPPER REACH

From and To. Manchester, Woden Street Footbridge and junction with Manchester Ship Canal to Hunt's Bank.

Distance. 1⅜ miles.

Maximum Dimensions for Craft Using Waterway.	**Length**	Not limited.
	Beam	25 ft.
	Draught. Woden Street to Water Street Warehouse	5 ft. 6 ins.
	Water Street Warehouse to Bonded Warehouse	4 ft. 6 ins.
	Headroom	15 ft.

Locks. Nil.

Towing Path. There is a towing path from Woden Street Footbridge to Albert Bridge only.

WALTON LOCK BRANCH

Connects Mersey and Irwell Navigation near Arpley with Manchester Ship Canal.

Length. 3½ furlongs.

Maximum Dimensions of Craft Using Waterway.	**Length**	150 ft
	Beam	30 ft.
	Draught	8 ft.
	Headroom (at High water)	14 ft.

Locks. 1 (Walton).

Towing Path. None.

RUNCORN AND LATCHFORD CANAL

From and To. Junction with Mersey and Irwell Navigation Main Line and head of Manor Lock to Junction with Manchester Ship Canal.

Distance. 1¼ miles.

Maximum Dimensions for Craft Using Waterway.	**Length**	72 ft. 3 ins.
	Beam	18 ft. 4 ins.
	Draught	5 ft.
	Headroom	10 ft. 6 ins.

Locks. 2.

Note.—Manor Lock has a pair of flood gates at its upper end to keep out the Mersey floods.

Towing Path. Throughout navigation.

Tidal Information for Branches. High water on Spring tides will flow to Woolston Weir on the Weir stream of the River Irwell, just below Woolston Lock.

High water at Bank Quay, Warrington, on Spring tides about 1 hour 15 minutes after Liverpool.

Spriug tides rise 8 ft. to 9 ft.

High water at Warrington Lock on Spring tides about 1 hour 20 minutes after Liverpool.

Spring tides flow from the River Mersey to the West end of Walton Lock.

High water at Walton Lock about 1 hour 20 minutes after Liverpool.

Spring tides rise 8 ft. to 9 ft.

Distance Table.

	Side of Canal.	*Distance from Eastham Locks.* Miles.	*Distance from Manchester.* Miles.
Eastham Locks	—	—	36
Eastham Lay-bye	E. and W.	$\frac{1}{4}$	$35\frac{3}{4}$
Eastham Crane Berth	W	$\frac{1}{2}$	$35\frac{1}{2}$
Bankfield Wharf	W	$\frac{5}{8}$	$35\frac{3}{8}$
Hooton Wharf	W	$1\frac{3}{8}$	$34\frac{5}{8}$
Mount Manisty	E	$1\frac{3}{4}$—$2\frac{3}{8}$	$34\frac{1}{4}$—$33\frac{5}{8}$
Bowaters Mersey Paper Mills, Ltd.	W	2	34
Pool Hall Wharf	W	$2\frac{1}{2}$	$33\frac{1}{2}$
Ellesmere Port Wharf	W	$2\frac{7}{8}$	$33\frac{1}{8}$
Ellesmere Port (Grain Warehouse)	W	$3\frac{1}{8}$	$32\frac{7}{8}$
Stuart Wharf	S	$3\frac{1}{2}$	$32\frac{1}{2}$
Manchester Dry Docks Co. Ltd., Ellesmere Port (Pontoon)	S	$3\frac{3}{4}$	$32\frac{1}{4}$
Stanlow Wharf	S	$3\frac{7}{8}$	$32\frac{1}{8}$
I.C.I. (Dyestuffs) Wharf	S	$4\frac{1}{8}$	$31\frac{7}{8}$
Anglo-American Oil Co. Ltd., Barge Wharf	S	$4\frac{3}{8}$	$31\frac{5}{8}$
Shell-Mex and B.P. Ltd., Barge Wharf	S	$4\frac{1}{2}$	$31\frac{1}{2}$
Stanlow Oil Docks and Turning Basin	N	$4\frac{1}{2}$	$31\frac{1}{2}$
Stanlow Lay-bye	S	$4\frac{5}{8}$	$31\frac{3}{8}$
Ince Oil Berth	S	$5\frac{3}{8}$	$30\frac{5}{8}$
Ince Tying-up Berth	S	$5\frac{5}{8}$	$30\frac{3}{8}$
Ince Wharf	S	$6\frac{5}{8}$	$29\frac{3}{8}$
Holpool Gutter	S	$7\frac{3}{4}$	$28\frac{1}{4}$
Saltport Pumping Stage	S	$9\frac{5}{8}$	$26\frac{3}{8}$
Weaver Turning Basin	—	$9\frac{7}{8}$	$26\frac{1}{8}$
Weston Marsh Lock	E	$9\frac{7}{8}$	$26\frac{1}{8}$
Weaver Sluices	W	$10\frac{1}{8}$	$25\frac{7}{8}$

Distance Table.	*Side of Canal.*	*Distance from Eastham Locks.*	*Distance from Manchester.*
		Miles.	*Miles.*
Weston Mersey Lock (Entrance)	W	10⅞	25⅛
Delamere Dock	E	11⅛	24⅞
Weston Point Salt Works (I.C.I.) (Tip)	E	11¼	24¾
Runcorn Lay-bye	E	11½	24½
Bridgewater Lock	N	11¾	24¼
Runcorn Docks	S	12¼	23¾
Runcorn Railway Bridge	—	12½	23½
Widnes Transporter Bridge	—	12⅝	23⅜
Old Quay Lock	N	13	23
Old Quay Swing Bridge	—	13¼	22¾
I.C.I. (General Chemicals) Wharf	N	13½	22½
I.C.I. (Chem. and Met.), Astmoor Wharf	N	14	22
I.C.I. (Chem. and Met.) Works	N	14¼	21¾
Stone Delph Lay-bye	S	15⅛	20⅞
Randles Sluices	N	15⅜	20⅝
Moore Lane Lay-bye	N	16⅜	19⅝
Moore Lane Swing Bridge	—	17⅛	18⅞
Haydock Coal Wharf	N	17½	18½
Acton Grange Viaduct	—	17⅞	18⅛
Chester Road Swing Bridge	—	18¾	17¼
Warrington Wharf and Walton Lock	N	19	17
Northwich Road Swing Bridge and Twenty-Steps Lock	—	19⅜	16⅝
Latchford High Level Bridge	—	20⅛	15⅞
Knutsford Road Swing Bridge	—	20⅜	15⅝
Latchford Viaduct	—	20¾	15¼
Latchford Locks	—	21	15
Thelwall Pumping Stage	N	21½	14½
Thelwall Ferry	—	21¾	14¼
Statham Pumping Station No. 3	N	22½	13½
Statham Pumping Station No. 2	N	22¾	13¼
Statham Pumping Station No. 1	N	23⅛	12⅞
Rixton Junction	N	24	12
Warburton High Level Bridge	—	25⅛	10⅞
Millbank Wharf	S	26	10
Cadishead Ferry	—	26⅝	9⅜
Cadishead Viaduct	—	26⅞	9⅛
Partington Coaling Basin	N and S	27—27⅜	9—8⅝
Irlam Wharf (Lancs. Steel Corpn.)	N	27¾	8¼
Mersey Weir	S	28	8
Irlam Viaduct	—	28⅛	7⅞
Irlam Wharf (C.W.S.)	N	28⅛	7⅞
Irlam Locks	—	28⅜	7⅝
Irlam Ferry	—	28⅝	7⅜
Boysnope Wharf (Manchester Corporation)	N	29⅝	6⅜
Hulmes Bridge Ferry	—	29⅝	6⅜
Barton Locks	—	30⅜	5⅝
Barton Road Swing Bridge	—	31¼	4¼

Distance Table.

	Side of Canal.	*Distance from Eastham Locks.*	*Distance from Manchester.*
		Miles.	*Miles.*
Barton Swing Aqueduct	—	31¾	4¼
Barton Oil Berth	S	31⅞	4⅛
Irwell Park Wharf	N	32¼	3¾
Eccles Oil Wharf	N	32½	3½
Guiness Wharf	S	32¾	3¼
Corn Products, Ltd.	S	32⅞	3⅛
Weaste Oil Wharf	N	33¼	2¼
Weaste Wharf	N	33½	2½
Southern Oil Wharf	N	33⅝	2⅜
Anglo-American Oil Wharf	S	33¾	2¼
Mode Wheel Locks	—	33⅞	2⅛
Manchester Dry Docks Co., Ltd.	S	34	2
Salford Quay	N	34—34¼	2—1¾
British Oil and Cake Mills, Ltd.	S	34¼	1¾
No. 9 Dock Entrance	N	34¼	1¾
Trafford Wharf	S	34⅜—34⅝	1⅝—1⅜
Turning Basin, Nos. 8, 7 and 6 Docks	—	34⅝	1⅜
C.W.S. Sun Mills	S	34¾	1¼
Dock Railway Swing Bridge	—	34⅞	1⅛
Trafford Road Swing Bridge	—	35	1
English and Scottish C.W.S.	N	35⅛	⅞
R. and W. Paul, Ltd.	N	35¼	¾
J. Jackson and Sons	N	35⅜	⅝
Trafford Mills, Ltd.	N	35⅜	⅝
Docks, Nos. 4, 3, 2 and 1	S	35⅜—35⅝	⅝—⅜
Cornbrook Wharf	S	35¾	¼
Woden Street Bridge	—	36	—

Mersey and Irwell Navigation

Main Line, Rixton Junction to Bank Quay, Warrington

	Miles.	*Furlongs.*
Rixton Junction, junction with Manchester Ship Canal to:		
Commencement of Butchersfield Canal	—	2½
Termination of Butchersfield Canal	—	4
Statham Lane River Bridge	1	1
Woolston Lock and Bridge, commencement of Woolston Canal	2	—
Paddington Soap Works	3	—
Paddington Lock, Termination of Woolston Canal	3	5
Junction with Runcorn and Latchford Canal	4	2
Warrington, Howley Quay and Warehouses	4	5
Warrington Lock and Weir	5	—
Warrington Mersey Mills	5	1
Railway Bridge, Arpley (M.R.)	5	5
Junction with Walton Lock Branch to Manchester Ship Canal	6	4

Distance Table.	*Miles.*	*Furlongs.*
Deviation Railway Bridge	6	6
Warrington Bank Quay, junction with River Mersey, under jurisdiction of Upper Mersey Navigation Commissioners	7	6

Runcorn and Latchford Canal

Junction with Mersey and Irwell Navigation—Main Line—and head of Manor Lock to:		
Black Bear Wharf and Latchford Road Bridge	—	4
Deviation Railway Bridge	—	6
Wilderspool Turnbridge	—	7
Twenty-steps Swing Bridge and Lock	1	1
Junction with Manchester Ship Canal	1	2

River Irwell Upper Reach

Manchester, Woden Street Footbridge, and junction with Manchester Ship Canal to:		
Junction with Hulme Locks Branch of Bridgewater Canal	—	1
Regent Road Bridge	—	2
Prince's Bridge, and junction with Manchester, Bolton and Bury Canal	—	4
Junction with Manchester and Salford Junction Canal	—	5
Manchester Ship Canal Company's Bridgewater Warehouses, Water Street and Irwell Street Bridge	—	6
Albert Bridge	—	7
Bonded Warehouse	1	—
Blackfriars Bridge	1	1
Victoria Bridge and Station Approach	1	2
Hunt's Bank	1	3

Walton Lock Branch

Junction with Mersey and Irwell Navigation—Main Line—to:		
Walton Lock	—	$2\frac{1}{2}$
Junction with Manchester Ship Canal	—	$3\frac{1}{2}$

No. 67

MARKET WEIGHTON DRAINAGE AND NAVIGATION

Authority. Market Weighton Drainage Board, Regent House, Pocklington, Yorkshire.
'Phone: Pocklington 2189.

From and To. Old Sod House, near Holme to the River Humber.

Distance. 6 miles.

Maximum Dimensions for Craft Using Waterway.

Length	70 ft.
Width	14 ft. 10 ins.
Draught	4 ft. 6 ins.

Locks. 1. (Lock has two pairs of sea-gates and two pairs of navigation-gates.)

Towing Path. Throughout navigation.

Tolls. 3d. per ton of Cargo. Small Launches and Pleasure Craft, 2/6.

General Remarks. This canal is used mainly for commercial traffic to a brickyard at Broomfleet. Navigation up to the ruins of Old Sod House Lock is very uncertain. At the state of tide at which one can normally approach, one locks down from the Humber, to the canal. It is difficult to approach from the River owing to constantly changing channels. At certain times, as after very heavy rain, etc., being a drain, it may be used for sluicing off the land and craft cannot enter.

Distance Table.

	Miles.	*Furlongs.*
Tail of Old Sod House Lock, and head of navigation, to:		
Sandholme Landing	2	—
Newport Bridge	2	6
Weighton (or Humber) Lock, junction with River Humber	6	—

No. 68

RIVER MEDINA (ISLE OF WIGHT)

Authority. (*a*) Cowes to the "Folly Inn": Cowes Harbour Commissioners, Cowes, I.o.W.)
(*b*) "Folly Inn" to Newport: Newport Corporation, Newport, I.o.W.
'*Phone:* Newport 2493.

From and To. Cowes to Newport.

Distance. (*a*) 2 miles; (*b*) 2½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	,, ,,
Draught:	
To "The Folly," Low Water Springs	5 ft.
To Newport—Neap Tides	5 ft. 6 ins.
Spring Tides	8 ft. 6 ins.
At the Entrance Channel there is 8 ft of water at Low Water Springs.	
Headroom	Unlimited

Tidal Note.

Mean ordinary Spring rise	11 ft.
Neap rise	8½ ft.

River dries at Spring tides from Newport to Dodnor.

Locks. Nil. Tidal throughout.

Towing Path. None.

Repair Facilities. Motor engine repairs can be dealt with promptly at Cowes and Newport.

Newport Corporation Section.

Charges. Registered tonnage dues 1d. per ton on merchant vessels.

Yacht dues 1/- per day, 5/- per week, £2 0s. 0d. per annum—under 10 ton.

Wharfage tolls 3½d. per ton to 1/8 per ton, and a few commodities at 3/4 per ton.

Cowes Harbour.

Schedule of Tolls and Charges payable under the
COWES HARBOUR ORDER, 1931

Mooring Rates. For using mooring buoys and posts and moorings, the property of the Commissioners.

	s.	d.	
Yachts not exceeding 20 tons register	1	0	per day
,, exceeding 20 tons reg. and not exceeding 35 tons	2	0	,,
,, exceeding 35 tons reg. and not exceeding 50 tons	2	6	,,
,, exceeding 50 tons reg. and not exceeding 100 tons	3	0	,,
,, exceeding 100 tons reg. and not exceeding 200 tons	4	6	,,
,, exceeding 200 tons reg. and not exceeding 300 tons	5	6	,,
,, exceeding 300 tons reg. and not exceeding 500 tons	6	6	,,
,, exceeding 500 tons reg.	7	6	,,

Rates for the Reservation of Berths for Mooring in a selected Position.

	£	s.	d.	
Open boats		1	0	per annum
Yachts not exceeding 2½ tons register ..		2	6	,,
,, exceeding 2½ tons reg. and not exceeding 5 tons		5	0	,,
,, exceeding 5 tons reg. and not exceeding 25 tons		7	6	,,
,, exceeding 25 tons reg. and not exceeding 50 tons		10	0	,,
,, exceeding 50 tons reg. and not exceeding 100 tons	1	0	0	,,

	£.	s.	d.	
Yachts exceeding 100 tons reg. and not exceeding 200 tons	1	10	0	per annum
„ exceeding 200 tons reg. and not exceeding 300 tons	2	0	0	„
„ exceeding 300 tons reg. and not exceeding 400 tons	3	0	0	„
„ exceeding 400 tons reg. and not exceeding 500 tons	4	0	0	„
„ exceeding 500 tons reg. and not exceeding 600 tons	5	0	0	„
„ exceeding 600 tons reg. and not exceeding 700 tons	6	0	0	
„ exceeding 800 tons reg.	7	0	0	„

Note.—The Commissioners will not hold themselves nor any of their officers liable for any loss or damage which may be sustained by any yacht through mooring in any position which may be indicated by the Harbour Master before or after payment of the above charge.

For use of Lighter for lifting anchor or any like purpose in Harbour.

Per day or part of a day .. .. By arrangement.

For use in the Roadstead .. .. „ „

For each vessel using the stern moorings provided by the Commissioners when laid up upon any recognised mud berth for a period of four months and not exceeding one year:—

	£	s.	d.
Yachts not exceeding 100 tons register	4	10	0
„ exceeding 100 tons and not exceeding 150 tons reg.	4	17	6
„ exceeding 150 tons and not exceeding 200 tons reg.	5	5	0
„ exceeding 200 tons and not exceeding 250 tons reg.	5	12	6
„ exceeding 250 tons and not exceeding 300 tons reg.	6	0	0
„ exceeding 300 tons and not exceeding 350 tons reg.	6	7	6
„ exceeding 350 tons and not exceeding 400 tons reg.	6	15	0
„ exceeding 400 tons and not exceeding 450 tons reg.	7	2	6

	£.	s.	d.
Yachts exceeding 450 tons and not exceeding 500 tons reg.	7	10	0
,, exceeding 500 tons and not exceeding 550 tons reg.	7	17	6
,, exceeding 550 tons and not exceeding 600 tons reg.	8	5	0
,, exceeding 600 tons and not exceeding 650 tons reg.	8	12	6
,, exceeding 650 tons and not exceeding 700 tons reg.	9	0	0
,, exceeding 700 tons reg. for every 50 tons reg. or part thereof above the first 700 tons in addition to £9 for the first 700 tons		7	6

Vessels using the moorings for less than four months, to pay half scale charge only.

General Remarks. This is the principal yachting centre of the British Isles and the headquarters of the Royal Yacht Squadron. Every facility for the yachtsman will be found on the Medina. Silting of the entrance channel has been fought by the authorities and the new breakwater at the entrance now forces the tides to scour the main channel, which is regularly dredged also.

Anchorage. Private moorings are placed in 6 ft. of water, near the south end of the eastern breakwater. Harbour board moorings are beyond the pontoon.

No. 69

RIVER MEDWAY

Authority.

From Sheerness to Hawkwood: The Medway Conservancy, High Street, Rochester.
'Phone: Chatham 3689.

From Hawkwood (4 miles below Allington Lock) **to Old College Lock, Maidstone**: The Medway Lower Navigation Co., 9, King Street, Maidstone.
'Phone: Maidstone 2864.

From Old College Lock, Maidstone, to Tonbridge: The Kent Rivers Catchment Board, Clerk's Dept., County Hall, Maidstone.
'Phone: Maidstone 4395. Extension 584.

Engineer's Dept., 76/78, College Road, Maidstone.
'Phone: Maidstone 2279.

or Divisional Engineer, Town Lock, Medway Wharf Road, Tonbridge.

From and To.

From junction with Tidal River at Allington Lock to Tonbridge.

Distance.

Sheerness to Tonbridge, 43 miles.

Note.

Yachtsmen intending to navigate to Tonbridge are advised to give early notice to the Divisional Engineer, Kent Rivers Catchment Board, 46, High Street, Tonbridge. *'Phone*: Tonbridge 92. This is necessary in case any repairs to the locks are in progress, or dredging of shoals.

Tidal Information.

High water at Allington Lock about 50 minutes after Sheerness.

On the Lock side there is less than 2 feet of water at low tide, with about 10 feet at high water Springs and 7 feet at high water Neaps.

The Lock is open to traffic 3 hours before and 2 hours after high tide, depth of water permitting.

Maximum Dimensions for Craft Using Waterway.

From Allington Lock to Maidstone.

Length	186 ft.
Beam	21 ft. 6 ins.
Draught	6 ft. 6 ins.
Headroom (Maidstone)	10 ft. 6 ins.

Headroom of Bridges below Allington Lock—

Rochester Bridge.. 22 ft. 6 ins. H.W. Ordinary Tide
Aylesford .. .. 10 ft. 6 ins. „ „

Maidstone to Tonbridge.

Length	80 ft.
Beam	18 ft. 6 ins.
Draught	Must not exceed 5 ft. below Hampstead and 4 ft. 6 ins. above
Headroom	8 ft. 6 ins. normal

Locks.

One Lock (Allington) between Rochester and Maidstone.
10 locks between Maidstone and Tonbridge.
Locks generally worked by Lock Keepers, and are open on Sundays and Bank Holidays.

Towing Path.

From New Hythe to Tonbridge.

Bridges.

Numerous.

Speed Limit and Bye-Laws.

5 miles per hour.
Notice boards are placed at Allington Lock to which Yachtsmen are advised to give attention.
Craft are prohibited from mooring along the towing path, and no vessel shall be moored to, or remain at, any property belonging to the River Authorities, without the permission of the Officer-in-charge thereof.

Charges.

No river dues.

Lock Tolls (Kent Rivers Catchment Board).

For every Steam or Motor Launch ..	0	1	0
For Dinghy, Canoe, Skiff	0	0	3
For every other kind of boat	0	0	6

The above charges to be for passing once through, by or over each lock, and for returning on the same day.

Lock Tolls (Medway Lower Navigation Co.).
Allington Lock.
Pleasure Boats, 1/-, in either direction.

Distance Table.	*Miles.*	*Furlongs.*
Tonbridge Wharf and Bridge to:		
Tonbridge Town Lock No. 1 and Gas Works	—	2
Hartlake Wharf and Porter's Lock No. 3	3	—
East Lock No. 4	3	6
Foord Green Bridge	4	2
Oak Weir Lock No. 5	4	4
Norwood Bridge	5	—
Arnold's Mill Head	6	—
Brandbridge's Wharf and Arnold's Mills and Lock No. 6	6	4
Railway Bridge and Stoneham Lock No. 7	7	—
Hutson's Yard	7	2
Mouse Bay	7	4
Yalding Wharf	8	—
Hampstead Lock No. 8	8	4
Wateringbury, Hutson's Wharf	10	—
Wateringbury, Liney's Wharf	10	2
Teston Bridge	11	4
Teston Lock No. 9	12	—
Barming Bridge	12	6
Lewis's Wharf and Farleigh Water Works	13	2
Ellis's Wharf	13	4
Point Shoot	14	2
Touil Paper Mills and Benstead's and Constable's Wharves	15	—
Maidstone, Old College Locks, boundary of The Kent Rivers Catchment Board and Medway Lower Navigation Co.	16	—
Medway Mill	16	6
Allington Lock No. 11 (sea lock with intermediate pair of gates)	18	—
Forstal	18	6
Preston	19	—
Aylesford	19	2
Mill Hall	20	—
New Hythe	21	—
Hawkwood, boundary of Medway Lower Navigation Co., and Medway Conservancy	22	—
Snodland	23	—
Halling	24	2
Wouldham	25	—
Cuxton	26	6
Rochester Bridge	29	2
Strood	29	2
Chatham	30	4
Brompton and Gillingham	34	—
Port Victoria	41	—
Mouth of Swale and Queenborough Pier	42	2
Sheerness, junction with the Estuary of the River Thames	43	—

No. 70

RIVER MERSEY

Authority.

Lower Mersey.

(*a*) **Garston to Liverpool.**

Mersey Docks and Harbour Board, Dock Office, Liverpool.

'*Phone:* Central 6010.

Upper Mersey.

(*b*) **Bank Quay, Warrington, to Garston.**

Upper Mersey Navigation Commission, Runcorn, Lancs.

'*Phone:* Runcorn 2138.

From and To. Bank Quay, Warrington, to Liverpool.

Distance. (*a*) 6½ miles; (*b*) 18¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	,, ,,
Draught. Spring Tides to Warrington	9 ft.
Headroom	82 ft.

Locks. Nil.

Towing Path. None.

Connections. Leeds and Liverpool Canal (via Liverpool Docks).

Mersey and Irwell Navigation at Warrington.

Manchester Ship Canal at Runcorn and Weston.

General Remarks. River below Garston is only suitable for seagoing vessels as the Tides of the Mersey are very dangerous. The navigation channel above Garston is marked for daylight, and dark navigation with illuminated buoys, and above the Runcorn Transporter Bridge to Warrington is marked with dumb buoys.

UPPER MERSEY

Tolls. Pleasure boats, fishing boats and yachts (whether mechanically propelled or not) navigating the channels of the Upper Mersey:—

(1) Exceeding 25 ft. overall .. .. £2 2s. 0d.
(2) Not exceeding 25 ft. overall .. £1 1s. 0d.

Vessels entering the Manchester Ship Canal locks at Eastham are exempt from payment of tolls to the Upper Mersey Navigation Commissioners, except all vessels proceeding to, from, or through Ellesmere Port, the Weston Marsh Lock, the Weston Point Docks or Locks, the Runcorn Docks, or along the Weaver Navigation, the Bridgwater Canals, or the Shropshire Union Canal.

Caution. Navigation between the Leeds and Liverpool Canal and Runcorn should not be attempted by river and canal craft due to dangerous tides. Some types of craft could navigate the river between the canals at Liverpool and Manchester, but before any such journey is attempted advice should be obtained from the navigation authorities. Only under ideal conditions, with a pilot, could a narrow boat do the passage.

Tidal Information. High water (full and change) at Garston 13 minutes after Liverpool.

High water (full and change) at Weston Point 25 minutes after Liverpool.

High water (full and change) at Runcorn 30 minutes after Liverpool.

High water (full and change) at Bank Quay, Warrington, 1 hour 12 minutes after Liverpool.

At Warrington Spring tides rise 8 ft. to 9 ft.

Distance Table.

Left Bank. *Miles.*	*Furlongs.*		**Right Bank.** *Miles.*	*Furlongs.*
		Bank Quay, Warrington, junction with Mersey and Irwell Navigation to:		
		Fiddler's Ferry, junction with St. Helens Canal through Fiddler's Ferry Lock..	3	—
		Widnes, junction with main entrance to St. Helens Canal	7	—
		Runcorn, junction with Manchester Ship Canal through Runcorn Old Quay		
7	2	Lock.		
		Runcorn Bridge.		
7	4	Widnes, West Bank Dock	7	5

Left Bank.			Right Bank.	
Miles.	*Furlongs.*		*Miles.*	*Furlongs.*
8	4	Runcorn, junction with Manchester Ship Canal through Bridgewater Lock.		
9	4	Western Point, junction with Manchester Ship Canal through Western Mersey Lock.		
18	2	Eastham, junction with main entrance to Manchester Ship Canal.		
		Garston	18	6
		Dingle Point	21	3
		Birkenhead.		
24	0	Liverpool, Prince's Landing Stage ..	24	3
		Liverpool, Salisbury Dock, giving access, through Collingwood and Stanley Docks to the Stanley Dock Cut, Branch of the Leeds and Liverpool Canal	25	3
43	1	Mersey Bar Light Ship	43	1

No. 71

MIDDLE LEVEL NAVIGATION

Authority. Middle Level Commissioners, March, Cambridgeshire. *'Phone :* March 3232.

General Remarks. Middle Level is the name given to the area containing those network of Waterways lying between and connecting the River Nene with the River Ouse. All are artificial cuts or old streams improved for drainage and intended mainly for drainage of the Fens, but also for transporting agricultural produce, etc., in the districts. As will be noted from the Table of Dimensions, these Waterways can only be navigated by small craft.

Yachtsmen who are not familiar with these waterways can obtain local advice from the Inland Waterways Association, Fenlands Branch. A. S. Cavender, Esq., Hon. Sec., 199, High Street, Cottenham, Cambs.

A full list of the Drains is as follows:—

Kings Dike	Ramsey High Lode
Whittlesey Dike	New Dike
Bevils Leam	Well Creek
Old River Nene	Twenty Foot River
Old Bedford River	Pophams Eau
Farcet River	Sixteen Foot River
Black Ham Drain	Forty Foot River
New Dike	Middle Level Drain
	Counter Wash Drain

The Main Line of Waterway may be considered to be from the River Nene at Peterborough (Stanground Lock) to the junction with the Great Ouse at Salters Lode Sluice. The following waterways cover this navigation.

From Peterborough (Stanground Lock).
Kings Dike.
Whittlesey Dike (part of).
Old River Nene (part of) or the Twenty Foot River.
Well Creek.

Distance. From Peterborough (Stanground Lock), River Nene, to Salters Lode Sluice, River Ouse, about 30 miles.

Maximum Dimensions for Craft Using Waterway.

Length	46 ft.
Beam	11 ft.
***Draught** (for craft passing from the Nene to the Ouse)	2 ft. 6 ins.
Headroom	8 ft.

*Most of the channels have a depth from 5 to 9 ft.

Locks.

Kings Dike	—One Stanground Lock entrance and exit from system.
Farcet River	—One at Horsey.
Whittlesey Dike	—One At Whittlesey.
Old River Nene	—One Marmount Priory, Upwell.
Well Creek	—One Salters Lode (entrance to and exit from system).
Old Bedford	—One Old Bedford Sluice, exit and entrance (tidal doors only).
Forty Feet River	—One at Welches Dam, entrance to Old Bedford.
,, ,,	—One Horseway Lock.

There are one or two locks on the other Waterways. Lock gates worked by Lock Keepers and Boat Crews jointly. Craft can only pass Old Bedford Sluice on the back level, that is, on the level of the ebb tide.

Bridges. Numerous.

Speed Limit and Bye-Laws. 4 miles an hour.
Copies can be obtained at Middle Level Offices, March.

Charges. **Canal Dues.** Pleasure craft 10/-. A week's permit for these can be obtained at the entrance lock at a fee of 5/-.

Payment : Navigation Tolls as above payable at the Locks—Stanground, Marmount Priory, Salters Lode, Old Bedford and Horseway.

Towing Path. Throughout navigation. This is called locally a "haling way." Path does not go under bridges, and frequently changes from one side of the navigation to the other without a roving bridge.

Kings Dike

Distance Table.	*Miles.*	*Furlongs.*
Head of Stanground Sluice (Lock), and junction with Stanground Branch of River Nene, called "Broadwater," to:		
Junction with Farcet River	1	1
Fields End Bridge	2	2
Whittlesey Village, junction with Whittlesey Dike	4	2

Farcet River

Junction with Kings Dike and Horsey Sluice (Lock) to:		
Farcet Village	1	7
British Railways (E.R.) Main Line Bridge ¾ mile west of Yaxley Village	3	3

Whittlesey Dike

Whittlesey Village, junction with Kings Dike to:		
Whittlesey or Ashline Sluice (Lock)	—	3½
Angle Corner, junction with Twenty-foot River and Bevils Leam	2	6
Floods Ferry, junction with Old River Nene	6	1

Bevils Leam

Angle Corner, junction with Whittlesey Dike and Twenty Foot River, to:		
Chapelbridge	1	4½
Pondersbridge	3	5
Tebbit's Bridge	4	4
Mere Mouth, junction with Old River Nene and Black Ham Drain	5	—

Black Ham Drain

Mere Mouth, junction with Bevils Leam, and Old River Nene, to:		
British Railways (E.R.) Main Line Bridge, ¾ mile southwest of Yaxley Village	3	5

Old River Nene

Mere Mouth, junction with Bevils Leam and Black Ham Drain to:		
Stoke Bridge	2	4
Nightingale's Corner, junction with New Dike	2	6
St. Mary's Village and Bridge	3	4
Saunders Bridge, junction with Ramsey High Lode	5	6
Wells Bridge, junction with Forty Foot River	6	5
Benwick Village and Bridge	10	5
Floods Ferry, junction with Whittlesey Dike	13	2

Distance Table.	*Miles.*	*Furlongs.*
Blackfriars Bridge	14	2
March	18	2
Twenty Foot End, junction with Twenty Foot River	20	3½
Popham's Sea End, junction with Popham's Eau	22	3
Marmount Priory Sluice (Lock)	24	1
Upwell	25	3
Outwell, junction with Well Creek and Wisbech Canal (not navigable—abandoned)	26	1

New Dike

Nightingale's Corner, junction with Old River Nene, to:		
Holme Station, British Railways (E.R.)	3	2

Ramsey High Lode

Saunder's Bridge, junction with Old River Nene, to:		
Ramsey	1	1

Well Creek

Outwell, junction with Old River Nene and Wisbech Canal (not navigable—abandoned), to:		
Aqueduct over Middle Level Drain	1	2
Nordelph	3	3
Salter's Lode Sluice (Lock) and junction with River Ouse	5	3

Twenty Foot River

Angle Corner, junction with Whittlesey Dike and Bevils Leam, to:		
Poplar Tree Bridge	—	5
Beggars Bridge	1	2
Infields Bridge	4	2
Goosetree Farm	5	6
Hobbs Bridge	6	6
Twenty Foot End, junction with Old River Nene	10	3

Popham's Eau

Popham's Eau End, junction with Old River Nene, to:		
Three Holes Bridge, junction with Sixteen Foot River	2	2
Junction with Middle Level Drain	2	4

Middle Level Drain

Junction with Popham's Eau to:		
Pingle Bridge	1	3
Aqueduct carrying Well Creek over the Middle Level Drain	2	—

Sixteen Foot River

Distance Table.	*Miles.*	*Furlongs.*
Three Holes Bridge, junction with Popham's Eau, to:		
Cottons Corner	—	6
Bedlam Bridge	4	1
Stonea Railway Station	5	1
Boots Bridge	6	6
Junction with Forty Foot River	9	5

Forty Foot River, or Vermuyden's Drain

Wells Bridge, junction with Old River Nene, to:		
Forty Foot Bridge	—	4
Puttocks Bridge	3	2
Carter's Bridge	5	2
Chatteris Dock (Chatteris distant 1 mile)	6	0
Junction with Sixteen Foot River	7	6
Horseway Village	8	1
Horseway Sluice (Lock)	8	4
Welches Dam Sluice (Lock), and junction with Old Bedford River and Counter Wash Drain	10	7

Old Bedford River

Welches Dam, junction with Forty Foot River, and Counter Wash Drain, to:		
Purls Bridge	—	6
British Railways (E.R.) Railway Bridge)	2	5
Welney Village and Bridge	6	—
Old Bedford Sluice, Salters Lode and junction with River Ouse	12	2

Counter Wash Drain

Welches Dam, junction with Forty Foot River and Old Bedford River to:		
Mepal Pumping Engine	3	—

No. 72

MONMOUTHSHIRE CANAL

Authority. Chief Docks Manager, Docks and Inland Waterways Executive, South Wales Docks, Pierhead Buildings, Cardiff.
'Phone: Cardiff 8100.
Telegrams: ' Dainwex, Cardiff.'

From and To. Newport (Llanarth Station) to Pontymoyle (Junction with Brecon and Abergavenny Canal).

Distance. 9 miles. Crumlin Branch, 10¾ miles long.

Maximum Dimensions for Craft Using Waterway.

Length	64 ft. 9 ins.
Beam	9 ft. 2 ins.
Draught	3 ft.
Headroom	5 ft. 10 ins.

Locks. 31. Crumlin Branch, 32 locks.

Tunnels. Cwmbran, 87 yards long.

Towing Path. Throughout navigation except through Cumbran Tunnel.

Connections. Brecon and Abergavenny Canal at Pontymoyle.

General Remarks. This canal is in a very bad way and most of the locks are unworkable. The weed and general neglect by previous Railway owners make this canal scarcely canoeable. It has been recently transfered to the above authority and some change in its condition may take place as it leads to extremely attractive country.

Distance Table.	*Miles.*	*Furlongs.*
Pontymoyle, junction with Brecon and Abergavenny Canal (Pont-y-pool distant ½ mile), to:		
Coedygric Wharf	—	4
Sebastopol	1	—
Pontrhydyyn Wharf	1	2
Cwmbran Tunnel	1	6
Pontnewydd Locks Nos. 1 to 5	2	2
Cwmbran Siding	3	4
Oakfield Wharf	4	—
Tycock Wharf and Brickyard	4	4
Llantarnan Wharf and Parfitt's Brickyard	5	4
Malpas Wharf	7	—
Malpas Lock No. 29	7	2
Malpas Junction, junction with Crumlin Branch	7	4
Crindau Bridge	7	6
Tunnel Wharf	8	—
Newport, Corporation Wharf	8	6
Newport, Llanarth Street	9	—

Crumlin Branch

Malpas Junction, junction with Main Line, to:		
Cefn Wharf	1	6
Pont-y-mason Bridge	3	—
Gile Aqueduct	4	2
Moriah Bridge	4	6
Risca, Navigation Bridge	5	2
Crosskeys	6	6
Pont-y-waun	7	—
Abercarn Colliery	8	2
Celynen Colliery	9	2
Newbridge	9	4
Crumlin	10	6

No. 73

RIVER NEATH

Authority. Neath Harbour Commissioners, Charles Street, Briton Ferry, Glam.

From and To. Neath (Main Road Bridge) to Swansea Bay.

Distance. 6½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	,, ,,
Draught	9 ft. on Spring tides, at High Water
Headroom	Not limited.

Locks. None. Tidal throughout.

Towing Path. None.

Connections. Previously a connection could be made to Tennant's Canal *via* Red Jacket Pill Branch of the river. This canal is now in a derelict state (*see* special note).

Tidal Information. At Neath, Spring tides rise 13 ft. 6 ins.

Special Note. The adjoining Neath Canal is derelict. This is owned by the Melin Tinplate Works, Neath, Glamorganshire. Navigable to a canoe between Briton Ferry (Briton Ferry Canal—derelict) and Clyne, near Resolven, with portages at Giant's Grave (pipe and low bridge) and Locks 16 to 19. A canoe could get down the canal from Lock 15 above Ynysarwed Farm. Above Aberdulais there is a heavy current against the canoeist. This canal connects with the derelict Tennant Canal at Aberdulais. This is canoeable between Aberdulais and Jersey Marine. The agent for this canal, which has not been abandoned by Act of Parliament, is:—

John M. Leeder & Son,
46, Waterloo Street,
Swansea.

Distance Table.	*Miles.*	*Furlongs.*
Neath, Main Road Bridge, to:		
Junction with Red Jacket Pill, leading to Tenant's Canal (Canal is totally unnavigable although not abandoned by Parliament)	3	—
Entrance to Briton Ferry Docks	4	—
Swansea Bay, low water	6	4

No. 74

RIVER NENE

Authority. (*a*) **River Mouth to Bevis Hall**:
Borough of Wisbech, Harbour Master's Office, Dock Cottage, Crabmarsh, Wisbech.
'Phone: Wisbech 980.

(*b*) **From Bevis Hall to Northampton**: The River Nene Catchment Board, Engineers Office, North Street, Oundle, Northants.
'Phone: Oundle 2184/5.

From and To. The Wash to Northampton.

General Remarks. From its entrance from the Wash to the Dog-in-a-Doublet lock about 5 miles below Peterborough the river is tidal. From the Wash to Bevis Hall, a distance of about 13 miles, the river is under the jurisdiction of the Port of Wisbech Authority, above Bevis Hall to Northampton, the Nene Catchment Board.

Vessels of 2,000 tons navigate to just below Wisbech Bridge.

Distance. From the Wash to Northampton.. .. $91\frac{3}{4}$ miles

West Bridge Branch ($5\frac{1}{2}$ furlongs in length), in Northampton. This is not navigable above the Gas Works.

Stanground Branch (5 furlongs in length) from Peterborough to Stanground Lock.

Connections. With the Middle Level Navigation (for the River Ouse, etc.) at Peterborough. With the Grand Union Canal at Northampton.

Warning to Yachtsmen. It is sometimes necessary to moor large cargo vessels at any point between Wisbech and the River end, all fours, i.e., with wires fore and aft and to both banks.

Yachtsmen are therefore warned to stem the tide and wait till the vessel is able to slack away wires. There is no proper mooring place for yachtsmen at Wisbech.

Also large vessels when under way, cannot get out of the centre of the fairway.

Tides.

Run of Tides.

Wisbech	Springs ..	Flood 3 hours. Ebb 9 ,,
	Neaps ..	Flood 4 hours. Ebb 8 ,,
Sutton Bridge	Springs ..	Flood 4 hours Ebb 8 ,,
	Neaps ..	Flood 5 hours. Ebb 7 ,,

Note: Tides are much influenced by winds both as regards times and heights. Strong winds from W.N.W. through North to N.E., usually cause the flood tide to flow earlier, and raise the height of water as much as 2 to 3 feet above that predicted. Strong winds from the East through South to W.S.W. produce the opposite effects.

Times and depths are also influenced by the amount of fresh water in the river.

Tides run strongly for several miles above Wisbech and often exceed 4 knots, even at Neaps.

Important Note. Conditions in the tidal compartment of the river are liable to variation and people who intend to use the river should make application to the River Nene Catchment Board, Oundle, or to the Harbour Master, Wisbech, if they are near the limits of draught, beam, etc.

(The information is believed to be correct but cannot at present be guaranteed.)

Maximum Dimensions for Craft using Waterway.

	The Wash to Wisbech.	*Wisbech to Peterborough.*	*Peterborough to Northampton.*
Length	260 ft.	130 ft.	78 ft.
Beam	40 ft.	19 ft.	14 ft. 6 ins.
Draught	17 ft.	6—7 ft.	5 ft.
Headroom	No limit	12 ft.	7ft. 6 ins. above L.W.

Towing Path. Throughout navigation. This changes from one side of the river to the other without a roving bridge. There is no towing path on the West Bridge and Stanground Branches.

Locks. **Wisbech to Peterborough.** One at Dog-in-a-Doublet. Resident Lock Keeper (Power operated.)

From Peterborough to Northampton. 37 locks. Locks worked by Boat Crews. (*See* "Special Note" below.)

Bridges. From the Wash to Bevis Hall, 2, namely:

One Swing Bridge at Sutton; and

One Fixed Bridge at Wisbech.

From Bevis Hall to Northampton, 69 Fixed.

Speed Limit and Bye-Laws. In that part of the river under the jurisdiction of the Wisbech Port Authority, the speed limit must be such as not to damage river banks or cause inconvenience. For that part of the river under the jurisdiction of the River Nene Catchment Board, Bye-Laws for pleasure craft can be obtained on application to Oundle.

Approx. Time taken to Navigate. From the sea to Wisbech about 2 hours with the tide.

Charges. From the Sea to Bevis Hall, by arrangement with the Harbour Master, Dock Cottage, Crabmarsh, Wisbech.

From Bevis Hall to Northampton, application should be made to the River Nene Catchment Board. No toll is charged for passing through Dog-in-a-Doublet Lock. Other locks 2/6 for the first lock and 1/- for each subsequent lock, 6d. per lock for the return journey.

Pilotage. For Pilotage upstream from Wisbech contact should be made by yachtsmen with Pilot E. M. C. Dale. The Osborne, Nene Quay, Wisbech. '*Phone:* Wisbech 1419.

Special Note re Locks. Above Peterborough all locks except 3, have a fixed windlass for the bottom (guillotine) gates and for the top gates a windlass is required. The exceptions are: (*a*) Ditchford (nr. Wellingborough), where 24 hours' notice is required before opening the lock; (*b*) Rush Mills (nr. Northampton), where the special windlass is padlocked to the gate, but the normal keys supplied which fits all the gates unlocks the windlass; (*c*) Northampton Lock. Keys for this lock are kept at the Nene Toll House, South Bridge. (Mr. J. Turner, Lock-keeper.)

Distance Table.	*Miles.*	*Furlongs.*
Northampton, junction with (via Grand Union Canal Lock), Northampton Branch of the Grand Union Canal, to:		
Junction with Branch to West Bridge, Northampton (5½ furlongs in length)	—	0½
Northampton, South Bridge	—	1
Northampton Lock No. 1	—	3
Rush Mills Lock No. 2	1	7
Abington Lock No. 3	2	7
Weston Favell Lock No. 4	3	4
Clifford Hill Lock No. 5	4	3
Billing Lock No. 6	4	7
Cogenhoe Lock No. 7	6	2
Whiston Lock No. 8	7	4
White Mills Lock No. 9	8	3
Barton Locks No. 10	9	1
Doddington Lock No. 11	10	1
Wollaston Lock No. 12	11	1½
Upper Wellingborough Lock No. 13	12	4
Wellingborough Bridge	12	7
Lower Wellingborough Lock No. 14	13	4
Ditchford Lock No. 15	15	3½
Higham Ferrers Lock No. 16	17	5
Irthlingborough Bridge	18	1
Irthlingborough Lock No. 17	18	5
Upper Ringstead Lock No. 18	21	1
Lower Ringstead Lock No. 19	21	5
Woodford Lock No. 20	24	—
Denford Lock No. 21	24	7
Thrapston Bridge	26	1
Islip Lock No. 22	26	3½
Titchmarsh Lock No. 23	28	5
Wadenhoe Lock No. 24	31	1½
Lilford Lock No. 25	32	3
Upper Barnwell Lock No. 26	34	5
Lower Barnwell Lock No. 27	35	—
Ashton Lock No. 28	37	—
Oundle Bridge	38	—
Cotterstock Lock No. 29	39	1
Perio Lock No. 30	40	7
Warmington Lock No. 31	43	3
Elton Lock No. 32	44	7
Yarwell Lock No. 33	47	7
Wansford Lock No. 34	49	1
Wansford Bridge	49	5
Waternewton Lock No. 35	52	7
Alwalton Lock No. 36	54	7
Orton Lock No. 37	58	5
Peterborough Bridge	60	5
Peterborough, junction with Branch to Stanground and Middle Level Navigations	61	1
Dog-in-a-Doublet Lock No. 38 (power-operated, with emergency hand operation)	65	5

Distance Table.	*Miles.*	*Furlongs.*
Popeley's Gull	67	4
Cross Guns	70	4
Guyhirne	73	7
Bevis Hall	77	2
Wisbech Town Bridge	79	6
Wisbech, junction with Wisbech Canal (abandoned and unnavigable)	79	7
Horse Shoe Bend	80	4
Osborne House	80	7
West Waltham Ferry	82	6
Junction with New South Holland Fen Drain (sluice entrance is only opened at flood times)	86	5
Sutton Bridge	87	3
The Wash at Crabs Hole, Mouth of River..	91	6

No. 75

NORTH WALSHAM CANAL

Authority. North Walsham Canal Company, Ltd., Ebridge Mills, North Walsham, Norfolk.

From and To. Junction with River Ant to Honing Lock. (Honing Lock to Swafield Bridge is now impassable due to lack of maintenance.)

Distance. 2¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	50 ft.
Beam	12 ft. 4 ins.
Draught	3 ft.
Headroom	7 ft.

Locks. (*None in use.*) 3. (In the last century the total was 5, but 2 went out of use in 1892.)

Towing Path. None.

Tolls. Pleasure Craft, 2/6 each.

General Remarks. Locks are not workable, but craft can navigate up to Honing Lock and there is room to turn. This section still usable, is in a very weedy state, at certain times of the year. Branch to Dilham is derelict.

Distance Table.

Junction with River Ant to:	*Miles.*	*Furlongs.*
Honing Lock No. 1	2	2
Honing Common Bridge	2	4
Briggate Lock and Mill No. 2	3	3
Ebridge Lock and Mill No. 3	5	1
Spa Common Bridge (North Walsham distant 1 mile)	6	0½
Bacton Wood Lock No. 4	6	1
Austin Bridge	6	4½
Swafield Bridge and Mills	7	3½

No. 76

THE NORFOLK & SUFFOLK BROADS

Authorities.

The rivers are under the management of the following authorities.

River Yare—Norwich (River Yare) Commissioners.

River Chet—Chet Valley Drainage Commissioners.

River Bure—Norfolk (River Bure) Commissioners.

River Waveney—Suffolk (River Waveney) Commissioners ;

They are under the control and general superintendence of the Great Yarmouth Port and Haven Commissioners, 21, South Quay, Great Yarmouth.
'*Phone :* Gt. Yarmouth No. 2518.

Oulton Broad and Dyke—Oulton Broad Joint Committee, Town Hall, Lowestoft.
'*Phone:* Lowestoft 1270.

Scale of charges, made by the Great Yarmouth Port and Haven Commissioners for navigating or using Oulton Broad and Dyke, apply to the Suffolk (River Waveney) Commissioners, being the authority for the collection of tolls.

New or Haddiscoe Cut under the jurisdiction of the Railway Executive, the scale of charges of the Great Yarmouth Port and Haven Commissioners apply.

General Remarks.

The Norfolk and Suffolk Rivers cover about 98 miles of waterways, most of which are navigable for light draught craft.

The three main rivers are the Yare, Bure and Waveney, all of which are tidal and may be entered either via Lowestoft or Yarmouth.

Motor Launch Bye-Laws.

The following are short extracts taken from the Bye-Laws issued by the Great Yarmouth Port and Haven Commissioners, for the Regulation and Licensing of motor craft on the Rivers Yare, Bure and Waveney.

The Bye-Laws do not apply to Oulton Broad and Dyke, for which see *page* 202.

Application of Bye-Laws. 2.—These Bye-laws shall be applicable to the Rivers Yare, Bure and Waveney, hereinafter called the Rivers.

Interpretation. 3.—In these Bye-laws the words and expressions hereinafter mentioned have the meanings hereby assigned to them respectively, viz. :—

" Motor Launch " means any vessel propelled by an internal combustion engine or an electric motor or by a detachable outboard engine.

" Master " means any person having or taking the command charge or management of the vessel for the time being.

" Owner " shall mean the person for the time being registered as the owner of any vessel under the Bye-laws.

" Officer of the Commissioners " means any person authorised to carry out the provisions of these Bye-laws.

Licences for Motor Launches. 4.—(i) A person shall not by himself his servant or agent use or navigate any motor launch upon the Rivers unless a licence under these Bye-laws relating to the launch be then in force.

(ii) Upon application made to the Commissioners for a licence either

(*a*) by the owner of a motor launch registered under the Acts and Order of 1866 to 1924 or the Bye-laws at present in force, or

(*b*) by a person desirous of registering any motor launch under the Bye-laws and provided that reasonable facilities are afforded for inspecting the launch in order to ascertain whether it complies with these Bye-laws.

(iii) Every person applying for the inspection of a motor launch shall do so in writing addressed to the Commissioners at their head office or to the Tonnage Office at Carrow Bridge, Norwich, and shall specify the name and address of the owner and where the launch can be inspected.

(iv) If after being inspected a launch is found by the officer of the Commissioners to comply with the requirements the Commissioners shall grant to the owner a licence in writing. Provided that in the case of visiting launches which do not comply with the schedule of requirements attached to these Bye-laws a licence may be granted for a period not exceeding 14 days.

(v) The Commissioners shall when granting a licence provide for identification purposes, a plate which shall remain the property of the Commissioners, and the Master of the launch shall keep such plate or plates in a conspicuous position visible to the public upon the launch and shall not transfer such plate to any other vessel. Alternatively, the identification marks may be painted on the vessel, the size, colour and position to be approved by the Commissioners.

(vi) The owner of every motor launch in respect of which a licence has been granted shall upon being required so to do by notice in writing, give to any officer of the Commissioners reasonable facilities for the inspection of the launch in order that it may be ascertained whether the requirements are mantained in accordance with the provisions of these Bye-laws and if upon any such further inspection a launch is found in the opinion of the officer of the Commissioners not to comply with the requirements it shall be lawful for the Commissioners to cancel the licence or to suspend the same until the launch be found to comply with the provisions.

Requirements as to Construction and Equipment.

5.—(i) Subject to the provisions of Bye-law 4 (iv) every motor launch used or navigated on the Rivers shall conform to the requirements set out in the Schedule hereto.

(ii) If any motor launch used or navigated on the Rivers shall not conform to such requirements, the Commissioners may serve a notice to the owner requiring within a reasonable time not being less than fourteen days, to bring such motor launch into conformity with the requirements, such notice shall contain the requirements prescribed.

(iii) A person shall not by himself his servant or agent use or navigate any motor launch which shall not conform to the requirements of the Commissioners in respect of which any such notice as is hereinbefore mentioned shall have been served upon the owner.

Production of Plate or Identification Marks.

6.—The master of every launch shall on demand shew to any officer of the Commissioners the plate or identification marks in these Bye-laws mentioned.

Saving for Certain Motor Launches.

7.—These Bye-laws shall not apply to a motor launch being towed or holding a valid B.O.T. passenger steamer's certificate.

8.—These Bye-laws shall come into operation on the 25th day of March, 1931.

Penalties.

9.—Any person offending against any of these Bye-laws shall for every offence be liable to a penalty not exceeding £5 and in the case of a continuing offence to a further daily penalty not exceeding the like amount.

SCHEDULE OF REQUIREMENTS.

Clear View.

1.—The steering gear shall be placed to give the helmsman a clear view forward and over each quarter.

Silencer.

2.—Efficient means of silencing the exhaust of the engine shall be fitted and no cut-outs shall be used, including outboard motors.

Reversing Gear.

3.—Every motor launch fitted with an engine exceeding 4 brake horse power or 300 cubic centimeters shall have an effective form of mechanical reversing gear or other approved means of checking the speed of the launch.

Fire Extinguisher and Life-saving.

4.—Every launch shall be provided with at least one fire extinguisher of a type approved by the Commissioners, also a lifebuoy or lifebuoys or such other life-saving apparatus as may be approved by the Commissioners. This shall not apply to dinghys not exceeding 14 feet in length fitted with outboard motors.

BYE-LAW 4 (V)

Plates or Identification Marks.

The Commissioners recommend that the plates they supply should be fixed in three places, namely, on each side of the bow and on the stern of the motor launch. The painted identification marks referred to in this Bye-law are not to be less than 3½ ins. in size, and should be either black with a white background, or white with a varnished or dark background.

EXTRACTS FROM GENERAL RIVER BYE-LAWS.

Speed.

Every power vessel navigating the rivers shall be navigated with care and caution and at a speed and in a manner which shall not endanger the safety of other vessels or moorings or cause damage thereto or to the banks of the rivers.

Prevention Of Nuisances. No person shall, while using or while in or upon or about the rivers or the banks or shores thereof or any land of the Commissioners, do or cause or incite any other person to do any of the following acts :—

(*a*) Commit any offence against decency or be otherwise disorderly or bathe without proper bathing dress or drawers.

(*b*) Use obscene, scandalous, abusive, indecent or improper language to the annoyance of any person who shall be using or who shall be in or about the rivers or the banks or shores thereof.

(*c*) Do any act which may cause damage to any person or property or occasion a nuisance, obstruction or annoyance to the public or to any person.

(*d*) Use any fire-arm or air-gun.

(*e*) Do any act injuriously affecting the amenity of the rivers or the safety of persons using the same.

Lights. Moving craft.

All power craft must exhibit navigation lights at night. Penalty for breach of any of the above Bye-laws not exceeding £5.

Moored Craft. (Clause 43.)

"No vessel shall moor alongside of another or others if any part of such vessel by so mooring extends more than 40 ft. in the navigable channel in the River Yare below the junction of the Rivers Yare and Wensum, otherwise Yare, and 30 ft. in all other parts of the rivers and any vessel moored outside of another or any singly-moored vessel any part of which extends 30 feet or more into the channel shall by night exhibit on that part of the vessel which extends furthest into the channel a white light capable of providing visibility all round for a distance of 1 mile."

Oulton Broad.

The Bye-laws made by The Oulton Broad Joint Committee in respect to Oulton Broad are very similar to those issued by the Great Yarmouth Port and Haven Commissioners, and may be had on application to the Town Clerk, Town Hall, Lowestoft.

It should be mentioned that under Bye-law 4, no private moorings may be laid without the written consent of the Harbour Master.

Mooring, Cautionary Advice. Before mooring to banks or elsewhere, yachtsmen should always ascertain whether there will be sufficient water to lie afloat at low tide.

Registration Certificates. Under the River Bye-laws, 1946, **all pleasure boats using the Rivers are required, before being used, to exhibit a Certificate** in a holder (supplied by the Commissioners upon payment of toll), renewable each year.

Scale of Charges. The following charges, made by the Great Yarmouth Port and Haven Commissioners, **apply to all rivers except where otherwise stated.**

(*a*) Motor Yachts, etc. .. per ton per annum 11/3
Minimum 15/-, Maximum £11 5s.

(*b*) Sailing Yachts .. .. per ton per annum 7/6
Houseboats, etc. Minimum 11/3, Maximum £7 10s.

(*c*) Rowing Boats, Punts, etc. .. per annum 6/-.

Oulton Broad. Sea-going pleasure vessels of not less than 5 tons entering and remaining upon Oulton Broad for a period not exceeding 28 consecutive days are charged a toll of 15/- only.

Rivers. Sea-going pleasure vessels of not less than 5 tons entering the Ports of Yarmouth or Lowestoft from Sea and from Ports other than Yarmouth or Lowestoft and using the Rivers Yare, Bure or Waveney, for a period not exceeding 18 days are allowed a rebate of 50 per cent. off the tolls (*a*) or (*b*).

Registration. In addition to above tolls a registration fee of 3/9 is charged in respect of vessels (*a*) and (*b*) and 1/6 in respect of (*c*). These registration fees, are not payable on vessels visiting the Rivers from any river outside the jurisdiction of the Commissioners and using the same for not more than 14 days.

The above Tolls and Fees are payable before a pleasure boat is allowed to use the Rivers or Oulton Broad and may be paid at the under-mentioned places:—

Port and Haven Commissioners, Head Office, 21 South Quay, Great Yarmouth.

Collector's Office, Carrow Bridge, Norwich.

OULTON BROAD & DYKE

General Remarks. This waterway connects the River Waveney through Mutford Lock with Lake Lothing, Lowestoft Harbour and the sea. *Navigation lights must be shown at night, by moving craft.*

Distance. From Lowestoft Harbour to River Waveney, 4½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	86 ft.
Beam	20 ft.
Draught	9 ft.
Headroom	Unlimited.

Locks. Mutford or Oulton Lock.

Bridges. All swing bridges.

Proceeding through to Lake Lothing from Lowestoft Harbour, care must be taken in navigating Lowestoft Swing Bridge. Its height is rather deceptive and numerous craft find trouble owing to this reason. Attention must be given to the tides also here.

Towing Path. None.

Tolls. Scale of charges of the Great Yarmouth Port and Haven Commissioners apply.
The controlling authority for the collection of tolls other than mooring tolls is the Suffolk (River Waveney) Commissioners.

Tidal Information. Oulton Broad and Dyke are tidal.
High water at Lowestoft 42 minutes after Yarmouth.

Spring tides rise 6 ft. 6 ins.
Neap „ „ 5 ft. 3 ins.

Mutford Bridge Lock, east end has high water at the same time as Lowestoft. The west end of the Lock has high water 3 hours later than the east end. Water at both ends of the Lock makes a level 2 hours after high water, and 2 hours after low water, at Lowestoft.

Moorings. There are numerous facilities for mooring on Oulton Broad at the yachting station and elsewhere.

Rates for Oulton Broad.

In respect of Vessels not out of Commission.

(*a*) For each vessel, Yacht, Sailing or other boat (not being an open Rowing Boat), Houseboat, or Hulk, using any of the moorings in the Broad, or moored to the Quays or Banks adjoining the Broad :—

	For any period not exceeding 1 *year.*
Not exceeding ½ tons	£0 5 0
Exceeding ½ ton and not exceeding 2½ tons	0 10 0
,, 2½ tons ,, ,, 5 ,,	0 15 0
,, 5 ,, ,, ,, 10 ,,	1 0 0
,, 10 ,, ,, ,, 20 ,,	1 10 0
,, 20 ,, ,, ,, 30 ,,	2 0 0
,, 30 tons	3 0 0

(*b*) For each open rowing-boat using any of the moorings in the Broad, 5/-. Moored to the Quays or Banks adjoining the Broads, 2/6 per annum.

In respect of Vessels out of Commission.

For every vessel out of Commission (other than a Pleasure Boat) :—

	For any period not exceeding 1 *year.*
Not exceeding 15 tons	£6 0 0
Exceeding 15 tons	10 0 0

Provided that as an alternative to the foregoing rates, a fee of 10/- per week or 2/- per day may be paid in respect of any vessel using any of the moorings in the Broad or moored to the Quays or Banks adjoining the Broad, and that no additional charge shall be made for the use of moorings supplied by the Committee or of mooring posts belonging to the Committee.

Oulton Broad Yachting Station.

The station is under the control of the Lowestoft Corporation, and is situated at the eastern end of the Broad, within 100 yards of the main road at Oulton Broad. There is a Harbour Master, and full facilities are available for yachtsmen.

The station comprises 700 feet of quay, protected by piers.

Depths of water alongside quay about 5 ft.

Charges for Mooring at Yachting Station.

	First 24 hrs. or less.	*Subsequent 24 hrs. or less.*
Motor Boats—		
Motor Boats not exceeding 30 ft. in length	2/-	1/6
Motor Boats exceeding—		
30 ft. but not exceeding 40 ft. in length	2/6	2/-
40 ,, ,, ,, 50 ,, ,,	3/6	3/-
50 ,, ,, ,, 60 ,, ,,	4/-	3/6
60 ,, ,, ,, 70 ,, ,,	4/6	4/-
70 ,, ,, ,, 80 ,, ,,	5/-	4/6
80 ,, ,, ,, 90 ,, ,,	5/6	5/-
90 ,, ,, ,, 100 ,, ,,	6/-	5/6
100 ft. in length	6/6	6/-
Boats other than Motor Boats—		
Boat of 6 tons and under	2/-	1/6
Boats exceeding—		
6 tons but not exceeding 12 tons ..	2/6	2/-
12 ,, ,, ,, 18 ,, ..	3/6	3/-
18 ,, ,, ,, 24 ,, ..	4/-	3/6
24 ,, ,, ,, 30 ,, ..	4/6	4/-
30 ,, ,, ,, 36 ,, ..	5/-	4/6
36 ,, ,, ,, 42 ,, ..	5/6	5/-
42 ,, ,, ,, 48 ,, ..	6/-	5/6
48 tons	6/6	6/-

The charges will be enforced after the first hour's mooring.

Where an annual mooring fee has been paid to the Oulton Broad Joint Committee, the above charges for mooring at the Yacht Station will be subject to a reduction of 6d. per night.

During the winter months the charges per day will be 50% of those shown in the first column above.

Watering Charges.

Up to 2 gallons	Free
Not exceeding 10 gallons	6d.
,, ,, 50 ,, ...	1/-
,, ,, 100 ,, ...	1/6
Over 100 gallons	2/-

Harbour Masters' Office.

At Yacht Station.
'Phone : Oulton Broad 246.

Distance Table.	*Miles.*	*Furlongs.*
Junction with River Waveney at north end of Oulton Dike to:		
Oulton Dike Staith	1	2
West end of Oulton Broad	1	4
Mutford Bridge Lock, Staith, east end of Oulton Broad, and entrance to Lake Lothing	2	2
Lowestoft Bridge	4	1
Mouth of Lowestoft Harbour	4	3½

RIVER WAVENEY

General Remarks.

The southernmost of the three main rivers of the Broads has a common entrance with the River Yare at the west end of Breydon water near Great Yarmouth. It may also be entered from Lowestoft Harbour via Lake Lothing, Oulton Broad and Dyke.

From its entrance to Bungay it is 25¾ miles long, and is tidal to Shipmeadow Lock.

Navigation lights must be shown at night, by moving craft.

Distance.

From junction with River Yare at west end of Breydon Water to Bungay	25¾ miles.
Junction with River Yare to Shipmeadow Lock	21½ miles.

Tidal Information.

It is high water at

St. Olaves Bridge about 2½ hours after Yarmouth.

Beccles about 4 hours after Yarmouth.

The tide usually flows up, to Beccles, where there is an average rise of 2½ feet. Above this to Shipmeadow (or Geldeston) Lock the tidal limit, there is a rise of about 1 ft. 9 ins. *The stream is very strong from the entrance to Somerleyton.*

Maximum Dimensions for Craft Using Waterway.

From Junction with River Yare to Beccles :—	
Length	Not limited
Beam	Not limited
Draught	About 6 ft.
Headroom (*see Bridges*)	8 ft. 4 ins.
From Beccles to Bungay (locks out of order at present):—	
Length	70 ft.
Beam	16 ft.
Draught	3 to 4 ft.
Headroom (*see* Bridges)	6 ft. 8 ins.

Locks. The navigation above Shipmeadow (or Geldeston) Lock is now discontinued except for row boats. Beyond Shipmeadow there are two other locks, Ellingham and Wainford.

Towing Path. None.

Bridges. Between the entrance and Bungay are the following bridges :--

		Approximate Headroom at H.W.	*Channel width*
St. Olaves Railway	*Swing* ..	No limit	55 ft.
St. Olaves	*Fixed* ..	8 ft.	78 ft. 6 in.
Somerleyton	*Swing* ..	No limit	54 ft. 4 in.
Aldeby Railway	*Swing* ..	No limit	45 ft.
Beccles Road	*Fixed* ..	6 ft. 6 in.	41 ft.
Beccles Railway	*Swing* ..	9 ft. 6 in.	54 ft.

Tolls. Payable to the Great Yarmouth Port and Haven Commissioners, 21, South Quay, Yarmouth.

The rates are the same as those ruling on the other rivers.

Moorings. Along the River Waveney, there is free mooring and landing at the following yachting centres :—

Beccles, Burgh St. Peter, Staithe, St. Olaves.

For mooring along the banks and elsewhere a charge of from 1/- to 2/6 per night may be made.

Beccles. At the Yacht Station, situated in the cut at the east end of the town. The station is maintained by the Town Council.

Charges.

	First Night.	*2nd and 3rd Nights.*
Under 30 ft.	1/6	1/-
30-40 ft. ..	2/-	1/6
Over 40 ft.	2/6	2/-

St. Olaves. At Fullers Yacht Station and Johnson's Yard. At Bell Inn Quay also along the quay above the bridge.

RIVER WAVENEY BROAD

Fritton Decoy, land locked as Blocka Run connectin the Broad with the river is not navigable.

Distance Table.	*Miles.*	*Furlongs.*
Bungay Staiths to:		
Wainford Mill and Lock } Locks out of order	—	5
Ellingham Mill and Lock } Locks out of order	2	—
Shipmeadow Lock	4	1½
Nine Poplars	6	1½
Beccles Railway Bridge (E.R.)	7	2½
Beccles Town Bridge	7	3½
Stanley Brickyard Staith	8	7½
Beccles Railway Bridge (E.R.). Swing Bridge	9	2
Aldeby Staith	10	1
Norlingham Staith	10	4
Six Mile Corner	11	6
Seven Mile Corner	12	5
Carlton Share Mill	14	0½
Burgh St. Peter Staith and Ferry	14	3½
Junction with Oulton Broad and Dyke	15	2
Somerleyton Dike	18	1½
Somerleyton Staith and Ferry	18	2
St. Olave's Railway Bridge	19	6
Haddiscoe, Bagshaw's Staith and Junction with New or Haddiscoe Cut	20	1
St. Olave's Bridge and Staiths	20	3½
Burgh Staith and Brickyard	25	1
Burgh Castle	25	3
Junction with River Yare at west end of Breydon Water	25	6

Geldeston Dike.

Length ½ mile and is very shallow.

Somerleyton Dike.

Length 110 yards (available for mooring).

NEW OR HADDISCOE CUT

Authority. Civil Engineer, British Railways, Eastern Region, King's Cross, London, N.1.
'Phone: Terminus 4200; Ext. 3320.

From and To. This cut, linking the River Waveney and Yare, is 2¼ miles long, and is under the jurisdiction of the Railway Executive.

Tides and Depths. The cut is tidal throughout, and has a rise of 2 to 3 feet. There is a depth of 8 feet of water in the centre of the channel at ordinary low tide.

Maximum Dimensions of Waterway.

Width	70 ft.
„ of channel	40 ft.
Depth	8 ft. low tide.
Headroom (*see Bridges*)	Unlimited.

Locks. Nil.

Bridge. **Haddiscoe Lift Bridge.**
Span 30 feet. Charge for lifting, 2/-.
Twenty-four hours' notice to be given for Sunday lifting between 1st November and 31st March each year, to the Station Master, Haddiscoe.

Towing Path. None.

Distance Table.

	Miles.	*Furlongs.*
Reedham, junction with River Yare to:		
Road Bridge, "Queens Head" (P.H.)	1	5
Haddiscoe Bridge, and Station (E.R.)	2	1½
Haddiscoe, junction with River Waveney	2	3

RIVER YARE

(The River Wensum forms the first 2¾ miles of the Navigation.)

From and To and General Remarks. The centre river of the Broads, is entered from the sea at Yarmouth haven, and running through Breydon Water is navigable as far as Norwich, a distance of 30 miles. The river is tidal to Coldham Hall.

Navigation lights must be shown at night, by moving craft.

Distance. Yarmouth Haven Entrance to Norwich Foundry Bridge .. .. 30 miles.

Tides. It is high water at :—

Reedham about 2½ hours after Yarmouth.
Cantley „ 3 „ „ „
Buckenham „ 3½ „ „ „
Norwich „ 4 „ „ „

At Reedham Springs rise about 3 feet and at Norwich 1 foot 9 inches (average).

The tide runs very strongly at Yarmouth and across Breydon water to as far as Reedham, *requiring great care.*

Maximum Dimensions for Craft Using Waterway.

Length .. .. 176 ft. on high tide.
Beam .. .. 30 ft. „ „
Draught .. .. .. 11 ft. 6 ins. „ „
Headroom (*see Bridges*) .. Unlimited as far as Norwich, *see Bridges.*

Locks. Nil.

Bridges.

		Approximate Headroom at H.W. Open	Closed.	*Channel width.*
			ft. in.	ft. in.
Yarmouth Haven Bridge	*Bascule*	No limit	9 6	90 0
Breydon Railway	*Swing*	No limit	15 6	59 0
Reedham Railway	*Swing*	No limit	10 0	54 6
Norwich, Trowse Railway	*Swing*	No limit	9 5	44 0
„ Carrow Road	*Bascule*	No limit	14 0	39 0
„ Foundry Road	*Fixed*	—	7 0	54 0
East End Thorpe. Old River	*Fixed*	—	6 2	—

The River Wensum is navigable for 1½ miles above the Yacht Station to Norwich New Mills. There are several bridges, all fixed, in the following order from the yacht station :—

	Approximate Headroom at H.W.
Bishop Bridge	10 ft. 6 ins.
Whitefriars Bridge	12 ft. 0 ins.
Fye Bridge	9 ft. 6 ins.
St. George's Bridge..	10 ft. 2 ins.
Duke's Palace Bridge	12 ft. 9 ins.
St. Miles Bridge	9 ft. 9 ins.

Tolls. Payable to the Great Yarmouth Port and Haven Commissioners. The tolls are the same as those ruling on the other rivers.

Towing Path. None.

Moorings Yarmouth and Norwich at the Yacht Stations.
Along the River Yare, there is free mooring and landing at the following yachting centres :—

Berney Arms, Reedham, Cantley Red House, Buckenham, Coldham Hall, Brundall, Surlingham, Bramerton Woods End Inn, Norwich.

For moorings along the banks and elsewhere, a charge of from 1/- to 2/6 per night may be made.

Yarmouth Yacht Station.

This station is under the control of the Norfolk and Suffolk Broads Yacht Owners' Association, Ltd. It is situated towards the northern end of the town, on the River Bure just within its junction with the River Yare.

Length of quay is about 1,500 feet and there is a depth of about 5 feet of water alongside.

An attendant is on duty throughout daylight hours during the yachting season.

The station is suitable and available for yachts of the inland type with not more than 9 ft. 6 in. height of superstructure above water level, to negotiate fixed bridges. Facilities at station.

Charges for Mooring at Yacht Station.

	First 24 *hours* (or less)	*Second* 24 *hours* (or less)
Boats not exceeding 6 tons ..	1/6	1/6
,, exceeding 6 tons but under 12 tons	3/-	3/-
,, of 12 tons and over	4/-	4/-
Motor Boats under 30 ft. in length	1/6	1/6
,, ,, 30 ft. and over, but under 40 ft. ..	3/-	3/-
,, ,, 40 ft. and over in length	4/-	4/-

Each period of 48 hours treated as a fresh mooring.

Watering Charges.

Boats under 10 tons	6d.
,, of 10 tons and over..	1/-

Norwich Yacht Station.

The Yacht Station is under the control of the Norwich Corporation, and is situated near Thorpe Station, just above the Foundry Bridge. Attendants are on duty throughout daylight hours.

Mooring Charges.

	First 24 *hours* (*or less*)	*Second* 24 *hours* (*or less*)
Boats not exceeding 6 tons ..	1/6	9d.
,, exceeding 6 tons but under 12	3/-	1/6
,, of 12 tons and over	4/-	2/3
Motor Boats under 30 feet in length	1/6	9d.
,, ,, 30 feet and over but under 40 feet in length	3/-	1/6
,, ,, 40 feet and over, in length	4/-	2/3

Each period of 48 hours treated as a fresh mooring.

(**Note.**—These are 1949 charges and may be revised in 1950.)

Watering Charges.

At Yacht Station quay.

There is no extra charge for water.

At Thorpe.

Moorings available in the Old river, and at Village Green Quay, also at the Boatyards.

RIVER YARE BROADS & BRANCHES

BRANCH RIVER FROM RIVER YARE:

RIVER CHET

Authority. Chet Valley Drainage Commissioners,
c/o Cadge & Gilbert, Solicitors,
Loddon, nr. Norwich.
'Phone: Loddon 206.

From and To. Junction to River Yare to Loddon.

Distance. 3½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	,, ,,
Draught	Spring tides, 4 ft.

Locks. None.

General Remarks. Turning is difficult at Loddon except at high water.

BREYDON WATER

General Remarks and Navigational Warning. This large inland lake is situated westward of Yarmouth. It is generally shallow, except for the channel of the River Yare, which is towards its southern shore, and which is marked by *black* stakes on its northern and *red* stakes on its southern side. These stakes should not be approached too closely, as the mud extends right up to them. At the Yarmouth end of Breydon, the **Knowle,** an extensive shoal, must be avoided. It is, however, well marked with posts and dolphins.

Through the Yarmouth bridges and across Breydon Water, the tide runs with considerable strength, and on this account, *the approach to Yarmouth from Breydon, and the navigation through the bridges, especially from the Yare to the Bure and vice versa, is difficult, especially for strangers with sailing craft.*

Knowledge and judgment is required as to the right moment for lowering canvas and masts, bearing in mind the necessity for keeping sufficient way on to negotiate the bridges.

Proceeding through Vauxhall Bridge, yachtsmen should time their arrival in order to negotiate it at slack tide about 1½ hours after low water, when there is generally 6 to 7 feet of water in the fairway.

The best time to start to cross Breydon Water is about 3 hours before high water, and up the River Bure at 2 hours before high water.

Caution. *In navigating through for the first time, strangers are advised to seek local assistance.*

There are no licensed pilots for this navigation, and as there are no fixed charges, *yachtsmen before accepting the assistance of a pilot, should be most careful to make arrangements as to price beforehand.*

In this respect, the Yarmouth attendant, on duty at the Yacht Station, will always be pleased to give advice. *'Phone:* Great Yarmouth 2794.

ROCKLAND BROAD

About 66 acres.

Depth about 3 feet.

Craft must keep to channel. Entrance to dike leading to Broad maked by a large sign. Alternative entrance through "The Fleet."

Rockland Dike is 3 furlongs in length, and "The Fleet" is 5 furlongs long.

SURLINGHAM BROAD

Depth about 2 ft.

HARDLEY DIKE

Length 2½ furlongs.
Depth 2 to 3 ft.

LANGLEY DIKE

Length 2½ furlongs.
Depth 2 to 3 ft.

BARNES DIKE

Length 3 furlongs.
Depth 2 to 3 ft.

LOOP LINE OF OLD RIVER ROUND THORPE VILLAGE

Length 5½ furlongs.

Depth 3 ft.

TROWSE MILLS CUT

Length nearly 1 mile.

Depth 3 ft.

River Yare

(The first 2¾ miles of the Navigation is the River Wensum.)

Distance Table.	*Miles.*	*Furlongs.*
Norwich, New Mills, to:		
Norwich, Fye Bridge	—	4½
Norwich, Bishop Bridge	1	1½
Norwich, Foundry Bridge, and Thorpe Station (E.R.)	1	4
Norwich, New Carrow Bridge, and Toll Office	2	0½
Norwich, east end of Colman's Works, and junction with Branch to Trowse Mills (River Yare)	2	6½
West end of Thorpe New Cut, and western junction of loop line of old river round Thorpe Village	3	1
East end of Thorpe New Cut, and eastern junction of loop line of river round Thorpe Village	3	6
Whitlingham	4	1
Thorpe Hospital (County Mental Hospital)	4	7
Postwick Hall	6	—
Bramerton Staith	6	4
Surlingham, Brickyard Staith	7	3
Surlingham Ferry and Staith	8	2
Entrance to Surlingham Broad	9	3
Brundall Station (E.R.)	9	6
Exit from Surlingham Broad	10	—
Coldham Hall Ferry and Staith	10	2½
Junction with Barnes' Dike	10	3½
Junction with Strumpshaw Dike (not navigable)	10	5¼
Junction with Rockland Dike, leading to Rockland Broad (light craft, e.g. dinghy only at present)	11	4½
Buckenham Staith	12	5
Buckenham Ferry	12	7
Junction with Hasingham Dike (not navigable)	13	5
Junction with Langley Dike	14	6½
Cantley Ferry and Railway Station (E.R.)	15	6½
Hardley Brickyard Staith	17	0½
Junction with Hardley Dike	17	2½
Hardley Cross, junction with River Chet	18	3
Norton Staith	18	5
Reedham Ferry	18	7
Reedham, junction with New Cut (owned by Railway Executive)	20	2
Upper Seven Mile House	21	7
Six Mile House	22	7
Berney Arms Staith and Railway Station (E.R.)	24	4

Distance Table.	*Miles.*	*Furlongs.*
Western extremity of Breydon Water and junction with River Waveney	24	6
Breydon Railway Bridge	28	4
Yarmouth, eastern extremity of Breydon water, and junction with River Bure	28	5
Yarmouth Bridge	28	7
Gorleston Ferry	30	2
Gorleston, mouth of River	31	5

Branch to Trowse Mills (River Yare)

Junction with Main Line of Navigation to:

Trowse Station (E.R.)	—	6½
Trowse Mills (not navigable to here at present due to weeds)	—	7½

Loop Line of Old River round Thorpe Village

Western junction with Main Line of Navigation to:

Thorpe Staith	—	4½
Eastern junction with Main Line of Navigation	—	5½

Barnes' Dike

Length from junction with Main Line of Navigation to:

Staith at Upper End	—	3

Rockland Dike and Rockland Broad

Junction with Main Line of Navigation to:

Commencement of Rockland Broad	—	5
Rockland Staith on Rockland Broad	—	7

(A line of posts marks the navigation channel across the Broad.)

Langley Dike

Length from junction with Main Line of Navigation to:

Staith at upper end	—	2½

Hardley Dike

Length from junction with Main Line of Navigation to:

Hardley Staith	—	2½

Surlingham Broad (near Brundall)

(A small Broad suitable for light craft only.) Distance navigable about 3 furlongs.

RIVER BURE

From and To and General Remarks.

The northernmost of the three main Broads rivers, is entered out of the River Yare close by Vauxhall station, Yarmouth, and is navigable to Coltishall, a distance of 31½ miles above its entrance. Above this point the locks are out of order to head of navigation at Aylsham.

The Bure has several tributaries, the most important of which are the Rivers Thurne and Ant. The river is tidal to Wroxham.

Navigation lights must be shown at night.

Distances.

Entrance Junction with the River Yare to Coltishall	31½ miles.
Coltishall to Aylsham	9¼ miles.

Tides.

It is high water (according to winds) at

Acle Bridge about 3½ hours after Yarmouth.

Horning „ 4 „ „ „

The tide usually flows up to Horning, and backs up the water in the river to Wroxham bridge, where there is an average rise and fall of about 4 inches.

The tide runs strongly between Yarmouth and Acle.

Towing Path.

None.

Maximum Dimensions for Craft Using Waterway.

From River Yare Junction to Coltishall Staith.

Length	about 75 ft.
Beam	about 16 ft.
Draught	4 to 5 ft.
Headroom (*see Bridges*)	

Maximum Dimensions of Craft using Locks.

Length.	All Locks	54 ft.
Beam.	Coltishall Lock	13 ft. 9 ins.
	Other Locks	12 ft. 8 ins.
Draught		3½ ft.
Headroom (*see Bridges*)		

Locks. 5 (out of order at present).

Bridges. The following bridges span the river from the entrance to Wroxham.

		Approximate Headroom at H.W. ft. in.	*Channel Width.* ft. in.
Vauxhall	Fixed	7 0	100 0
Runham Suspension ..	,,	6 0	64 0
Yarmouth Railway ..	,,	15 0	98 10
Acle Road	,,	12 0	78 0
Wroxham Road	,,	7 3	26 5
,, Railway ..	,,	10 0	47 0

Speed Limit. A power craft shall not be navigated at a higher speed than five statute miles per hour over the ground between the following places, namely :

Horning. From half a mile above the boundary of the "Swan Hotel" premises, to a quarter of a mile below the "Ferry."

Wroxham. From the Railway Bridge to the northern entrance to the Broad.

Potter Heigham. From three-quarters of a mile above, to one mile below the Road bridge, spanning the River Thurne on the road leading from Yarmouth to Wroxham.

Penalties. If any breach of these Bye-laws be committed then any person committing such breach or aiding or abetting therein shall be liable to a penalty of and shall forfeit a sum not exceeding £5 for every offence.

Tolls. Payable to the Great Yarmouth Port and Haven Commissioners.

Moorings. For Yarmouth Yachting Station (*see* page 89)
Along the River Bure, there is free mooring and landing at the following yachting centres :—

Stokesby, Acle, Horning, Wroxham, Coltishall.

For mooring along the banks and elsewhere, a charge of from 1/- to 2/6 per night may be made.

RIVER BURE BROADS & BRANCHES

SOUTH WALSHAM BROAD (reached by Fleet Dike, $\frac{7}{8}$ mile long).

At western end is Common Broad, which is private, but owner allows cruising and sailing. Draught available is 4 to 5 ft.

RANWORTH BROAD (reached by Ranworth Dike, $\frac{3}{8}$ mile long).

Not available for navigation, but the eastern end, popularly known as Malthouse Broad, is open. Depth is about 3 to 4 ft.

COCKSHOOT BROAD AND DIKE. Chained and private.

GREAT SALHOUSE BROAD (adjoins river).

Depth of water, 4 to 5 ft.

LITTLE SALHOUSE BROAD (adjoins river).

Depth of water, 4 to 5 ft.

WROXHAM BROAD (adjoins river).

112 acres in extent. (Public Staith in south-west Corner.)

HOVETON GREAT BROAD. 105 acres. Chained and private.

LITTLE HOVETON BROAD (popularly known as Blackhouse Broad.)

Depth of water, 3 to 4 ft. Chained and private.

Short Dikes are as follows:—

Upton Dike is $\frac{3}{8}$ of a mile long and **Acle Dike** is a $\frac{1}{4}$ of a mile long.

The following Broads are land-locked as Much Fleet, which connects them to the River Bure, is not navigable even for rowing-boats:—

FILBY, ORMESBY, ROLLESBY, LILY

Distance Table.	*Miles.*	*Furlongs.*
Aylsham Bridge and Staiths to:		
Aylsham Lock	1	—
Burgh Bridge	2	3

Distance Table.	*Miles.*	*Furlongs.*
Burgh Lock	3	—
Oxnead Lock	3	6
Lamas Church	5	3
Buxton Lamas Lock	5	7
Coltishall Bridge	9	0½
Coltishall Lock	9	2
[Aylsham to Coltishall is not navigable except for light craft as the Locks are derelict]		
Boundary of Aylsham Navigation	9	4
Cotishall Staith	10	—
Cotishall Anchor Inn	10	4
Belaugh Village	11	3
Wroxham Railway Bridge	14	5½
Wroxham Bridge	14	7
Junction with North Entrance to Wroxham Broad	16	—
Junction with South Entrance to Wroxham Broad	16	4
Junction with entrance to Little Salhouse Broad	17	0½
Junction with western entrance to Great Salhouse Broad	17	2
Junction with eastern entrance to Great Salhouse Broad	17	4
Entrance to Hoveton Great Broad, private (the entrance is chained)	18	—
Entrance to Hoveton Little Broad (private)	19	1
Lower Street, Horning	19	6
Horning Ferry	20	4
Cockshoot Dike, leading to Cockshoot Broad (this is private, and the entrance is chained)	20	7
Junction with Ranworth Dike, leading to Malthouse Broad, and Ranworth Broad. (Ranworth is chained and private)	22	2
Junction with River Ant	23	4
Junction with Fleet Dike	24	1
St. Benedict's Abbey	24	6½
Thurne Mouth, junction with River Thurne	26	2½
Junction with Upton Dike	27	7
Acle Bridge	29	1
Junction with Acle Dike	29	7
Muck Fleet Dike, not navigable. (Communicates with Lily, Filby, Rollesby and Ormesby Broads)	30	4
Stokesby Ferry and Staith	31	—
Tunstall Dike, not navigable	31	6½
Stracey Arms Inn and Staith	32	3
Herringby Staith	33	5
Six Mile House	34	2
Runham Staith	34	5
Runham Swim Ferry and Five Mile House	35	3
Mautby Swim Ferry	36	2½
Three Mile House	37	6
Two Mile House	38	7
Yarmouth Yacht Station	40	2
Yarmouth, Public Staith and Suspension Bridge	40	3
Yarmouth, junction with River Yare and eastern extremity of Breydon Water	40	5

RIVER ANT

From and To. This tributary of the Bure is entered 6 miles above Acle, and about 1½ miles beyond the River Thurne, runs northward through Barton Broad to Dilham, with a branch to Stalham.

Distance. Junction with River Bure to Junction with North Walsham Canal, 8 miles.

Tides. The tidal effect is not felt very much beyond Ludham Bridge, the rise and fall being about 7 inches.

Maximum Dimensions for Craft Using Waterway.

Length	.. up to about 30 ft.
Beam	.. up to about 12 ft.
Draught	varies from 3 to 6 ft.
Headroom (*see Bridges*)	7 ft.

Locks. Nil.

Bridges.

		Approximate Headroom at H.W.	*Width of Channel*
Ludham Road	*Fixed*	8 ft.	21 ft. 3 ins.
Wayford Road	„	7 ft.	13 ft. 10 ins.

Towing Path. None.

Tolls. Payable to the Great Yarmouth Port and Haven Commissioners. The tolls are the same as ruling on the other rivers.

Moorings. Along the River Ant, there is free mooring and landing at the following yachting centres :—

Ludham, Stalham, Wayford.

For mooring along the banks or elsewhere, a charge of from 1/- to 2/6 per night may be made.

RIVER ANT BROADS & BRANCHES

BARTON BROAD

About 270 acres in extent.

Depth about 3 ft. to 3 ft. 6 ins.

Craft should keep within the black posts for Sutton, Wayford and Honing, passing Pleasure Hill Island on the left.

SUTTON BROAD

Depth about 3 to 4 ft. (This Broad is full of reeds and only the channel is available for navigation.)

CROME'S BROAD

Chained and private.

STALHAM DIKE

Depth about 3 to 4 ft.

Length 1 mile 1 furlong.

OLD LIME KILN DIKE

Depth about 3 to 4 ft.

Length about ½ mile.

(Staith at end for Neatishead Village.)

Distance Table.	*Miles.*	*Furlongs.*
Junction with River Bure to:		
Ludham Bridge	—	7
Irstead Church	4	1
Southern entrance of River to Barton Broad	4	4

(*Note.*—For Sutton, Stalham, Wayford and Honing craft should keep to the right between the black posts passing Pleasure Hill Island on the left.)

Distance Table.	*Miles.*	*Furlongs.*
There are four staiths on Barton Broad:		
Irstead Staith, at the end of the western arm of the Broad, and distant about 1 mile from the southern entrance of the river to the Broad. (This is a staith 200 yards from Neatishead Village, near the end of Old Lime Kiln Dike, which leads out of the western arm of Barton Broad.)		
Callow Green Staith. Private. North shore of the western arm of the Broad, ¾ mile from southern entrance of river to the Broad.		
Catfield Staith. Eastern shore of the Broad, ⅜ mile from southern entrance of river into the Broad.		
Barton Turf Staith. North-west corner of the Broad and about ¼ mile from northern entrance of the river.		
Northern entrance of River to Barton Broad	5	6
Junction with Stalham Dike	6	2½
Wayford Bridge and Staiths	7	7
Junction with North Walsham and Dilham Canal	8	0½

Stalham Dike.

Junction with River Ant to:		
Junction with Sutton Dike		4
Stalham Staiths	1	1

RIVER THURNE

From and To. This tributary of the Bure is entered about 3½ miles above Acle, and connects Hickling Broad, Horsey Mere and Martham Broad with the main waterway.

Distance. Entrance to Head of River (Martham Broad), 6 miles.

Tides. The river is tidal, the average rise and fall being about 8 inches.

Maximum Dimensions for Craft Using Waterway.

Length	About 35 ft.
Beam	About 7 ft. 6 ins.
Draught	About 3 ft.
Headroom (*see Bridges*)	7 ft.

Locks. Nil.

Bridges.

		Approximate Headroom at H.W.	*Channel Width*
Potter Heigham Road	*Fixed*	7 ft.	21 ft.
,, ,, Railway	,,	8 ft.	70 ft.

Take great care navigating through the road bridge, which is very narrow.

Bye-Laws, Speed Limit. There is a speed limit of 5 miles per hour for motor craft, from 1 mile below to three-quarters of a mile above Potter Heigham Bridge.

Towing Path. None.

Tolls. Payable to the Great Yarmouth Port and Haven Commissioners. The tolls are the same as those ruling on the other rivers.

Moorings. Along the River Thurne there is free mooring and landing at the following yachting centres :—

Potter Heigham, Martham Staithe.

For mooring along the banks or elsewhere, a charge of from 1/- to 2/6 per night may be made.

RIVER THURNE BROADS & BRANCHES

HEIGHAM SOUND

About 127 acres in extent.

Depth about 3 ft.

HICKLING BROAD (reached through Candle Dike, Heigham Sound and White Slea Meres).

The largest broad with exception of Breydon Water.

Depth about 3 ft. Catfield Dike is not navigable.

Generally shallow. Keep near posts where water is the best. Excellent mooring at "Pleasure Boat" (P.H.).

HORSEY MERE

Depth from 2 to 3 ft.

MARTHAM BROAD

Depth from 2 to 3 ft. (Sock Drain is not navigable).

WHITE SLEA BROAD

Depth from 3 to 4 ft.

WOMACK WATER

Depth about 4 ft. Length $\frac{7}{8}$ mile.

BLACKFLEET BROAD

Depth about 1 ft.

THURNE DIKE

Depth about 3 ft. Length $\frac{1}{8}$ mile.

River Thurne

Distance Table.	*Miles.*	*Furlongs.*
Thurne Mouth, junction with River Bure, to:		
Junction with Thurne Dike	—	3
Junction with Womack Water	1	2½
Pug Street Staith	2	2

Distance Table.	*Miles.*	*Furlongs.*
Potter Heigham Bridge	3	—
Junction with Candle Dike (leading to Hickling Broad, Horsey Mere and New Cut)	4	4
Martham Staith and Ferry	4	6½
Kelfleet Dike, not navigable	5	3
Head of the navigation of the River, and junction with navigation across Martham Broad to West Somerton	5	5½

Navigation through Candle Dike, Heigham Sound and White Slea Mere to Hickling Broad

South end of Candle Dike, and junction with River Thurne, to:		
North end of Candle Dike and southern extremity of Heigham Sound	—	3
North-western extremity of Heigham Sound, and junction of Dike leading to White Slea Mere	1	1½
Southern extremity of White Slea Mere	1	2½
North-western extremity of White Slea Mere, and junction of Dike leading to Hickling Broad	1	4½
South-eastern extremity of Hickling Broad	1	5
Hickling Broad. There are three staiths, namely Hickling Staith, Catfield Staith, and a private staith near Hickling Staith. Lines of posts mark the navigation channel across the Broads to the Staiths.		

Navigation through Candle Dike, Heigham Sound, Meadow Dike and Horsey Mere to Lown Bridge, Palling, on Waxham New Cut

South end of Candle Dike, and junction with River Thurne, to:		
North end of Candle Dike and southern extremity of Heigham Sound	—	3
North-eastern extremity of Heigham Sound and junction with Meadow Dike	1	1½
Southern extremity of Horsey Mere	2	1
(There is one staith on Horsey Mere situated at its eastern end, distant about 7 furlongs from the southern extremity of the Mere.)		
Northern extremity of Horsey Mere and junction with Waxham New Cut	2	6
Waxham Bridge (navigation ceases here except for a dinghy or canoe)	4	—
Lown Bridge, 1 mile from Palling Village	6	2

Navigation across Martham Broad to West Somerton

Junction with River Thurne to:		
Western extremity of Martham Broad	—	1
Eastern extremity of Martham Broad, and junction of Dike leading to West Somerton	—	4
West Somerton Staiths, 2 miles from Martham Station	—	7

No. 77

NOTTINGHAM CANAL

Authority. Docks and Inland Waterways Executive.

General Remarks. This canal from Lenton Chain to the Erewash Canal has been abandoned, and the rest of it, between Lenton Chain and the River Trent is now incorporated in the Trent Navigation to which reference should be made (*See* **No. 109**, River Trent).

Length. 2½ miles.

Branches. 1. In Nottingham from near Boots Warehouse to Manvers Street, length ¼ mile. There is a short arm of 200 yards from this branch known as Poplar Cut.

Maximum Dimensions for Craft Using Waterway. As River Trent, Nottingham Section.

Locks. 2 (Trent and Castle).

Charges. The D. and I.W.E. standard charges do not apply to this waterway. These are statutory and are listed with those for the River Trent.

No. 78

RIVER GREAT OUSE

Authority. River Gt. Ouse Catchment Board, Elmhurst, Brooklands Avenue, Cambridge.
'*Phone :* Cambridge 3287.

From and To. From Bedford to King's Lynn and the Wash (*see General Remarks*).

General Remarks. The River Ouse is navigable from Earith to Tempsford Bridge above Eaton Socon Lock. Beyond this point the structures are derelict.
At Earith the Ouse becomes tidal, and is continued along a 20½ miles artificial cut, known as the Hundred Foot or New Bedford River. At Earith also the Old River under the following names, Old West, Ely Ouse and Ten Mile, branches off and rejoins the main River at Denver. The Old River has junction with the River Cam and has three tributaries, the River Lark, Little Ouse (or Brandon River) and River Wissey.

Tidal Information. Levels in the Hundred Foot River are affected as far as Mepal on neap tides and up to Earith on spring tides. The tidal effect on the old course of the river is slight but some reduction in level occurs at low water when Denver Sluice is opened for discharge purposes. Apart from this, the old course is maintained at a normal navigation level of 13 ft. 8 ins. above Denver Lock Sill. High water at Denver Sluice is approximately one hour after King's Lynn (Alexandra Dock).

At Earith	Spring Tides rise about	1 ft. 6 ins.
At Denver Sluice	,, ,, ,,	11 ft. 6 ins.
	Neaps ,, ,,	8 ft.

MAIN RIVER

Distances.

Bedford to St. Neots	approximate	15 miles.
,, ,, Huntingdon	,,	25 ,,
,, ,, St. Ives	,,	30 ,,
,, ,, Earith Bridge		38½ ,,
,, ,, King's Lynn (Alexandra Dock)		72½ ,,
,, ,, The Wash		74¾ ,,
Earith Bridge to King's Lynn		34½ ,,

Special Note. A map of the Fenland waterways can be obtained from Appleyard, Lincoln and Co. (Boat Builders), of Ely.

Maximum Dimensions for Craft using Waterway.

Length. **Tempsford Bridge to Earith** (Brownshill Staunch Lock) .. 100 ft.

Earith to Denver and the Wash
Not limited, but maximum length at Denver Lock .. .. 70 ft.

Beam: Tempsford Bridge to Earith .. 10 ft. 6 ins.
Earith to Denver .. .. .. 12 ft. 6 ins.
Denver to the Wash .. .. 17 ft. 6 ins.

Width of Channel: Tempsford Bridge to Earith .. .. about 30 ft.
Earith to Denver .. 30 to 40 ft.
Denver to Wash .. 50 to 70 ft.

Draught. **Tempsford Bridge to Earith**

At minimum water level there is, generally speaking, a minimum draught of 4 ft. 6 ins. on this section of river with the exception of a length of approximately two miles below St. Neots Paper Mills, where the draught is only 2 ft. 0 ins.

Earith to Denver Sluice

The depth available from Earith to Denver is considerably influenced by the amount of fluvial water, but under dry weather conditions the minimum draught is only 1 ft. 0 ins. approximately at low water, spring or neap tide. During a high neap tide the draught would be about 2 ft. 0 ins. and on a high spring tide about 3 ft. 0 ins. to 3 ft. 6 ins.

Denver to King's Lynn

The depth of water from Denver Sluice to King's Lynn varies according to the tide and river discharges. The minimum depth at low water spring tides is approximately 1 ft. 0 ins. and on neap tides about 2 ft. 6 ins. For purposes of navigation, the maximum permissible draught on spring tides may be taken as 10 ft. 0 ins. and on neaps about 6 ft. 0 ins.

King's Lynn to the Wash

Rise, Springs .. .. .. 23 ft. 6 ins.
Rise, Neaps .. .. .. 19 ft. 6 ins.
(Measured on Alexandra Dock Gauge.)

Locks.

Bedford to Earith, 14 locks and 3 staunches.

Tempsford Bridge to Earith, 9 locks.

Denver Sluice or Lock	**Length**	70 ft.
	Width	15 ft.
	Draught	17 ft. 6 ins.

Length, if passing Denver Sluice on the levels of the tides—**not limited.**

Bridges.

Tempsford Bridge to Earith, 12 Bridges and 2 Footbridges. Minimum Headroom 7 ft. 1 in. at St. Ives Railway Bridge.

Earith to Denver: Headroom under Bridges:

	Spring Tide H.W. ft. in.	*Neap Tide H.W.* ft. in.
Earith Bridge	11 9	14 8
Sutton Gault	9 6	13 4
Mepal	10 9	14 2
Railway Bridge	8 9	13 6
Welney	7 10	12 8

The headroom given is for average Spring and Neap tides, Spring 23 ft. 6 ins., Neap 19 ft. 6 ins., measured on Alexandra Dock Gauge.

Denver to Wash: Headroom under Bridges:

	Spring Tide H.W. ft. in.	*Neap Tide H.W.* ft. in.
*Downham	8 2	12 9
Stow	7 9	12 4
Railway	12 2	16 9
Magdalen	7 8	12 2
St. Germans	8 2	12 9
Railway	15 8	20 3
Free Bridge	9 4	13 11

*Care is necessary coming upstream through this bridge.

Locks.

	Draught. ft. in.	Width. ft. in.	Length. ft. in.	Headroom under Gates.	ft. in.
Eaton Socon (R.G.O.C.B.)	4 0	10 6	103 6	Approx.	8 10
St. Neots (R.G.O.C.B.)	2 0	10 9	108 0	,,	12 4
Buckden (R.G.O.C.B.)	4 0	11 2	100 0	(Pointing Doors)	
Brampton (R.G.O.C.B.)	4 0	10 9	104 0	Approx.	9 3
Controlled by Huntingdon and Godmanchester Joint Committee:—					
Godmanchester	3 7	11 2	100 0	Approx.	13 10
Houghton ..	3 10	11 6	102 0	,,	14 3
Hemingford ..	3 9	11 9	99 6	,,	14 0
Controlled by Borough of St. Ives:—					
St. Ives Staunch	3 2	11 0	102 9	Approx.	14 0
Brownshill Staunch (R.G.O.C.B.)	5 0	13 3	100 0	,,	10 0
				(Dependent on D/S. W.L.)	

Towing Path. Throughout the navigation, except at certain bridges, e.g. Huntingdon, to Kings Lynn.

OLD RIVER

General Remarks. The Old River comprises the following :—
Old West River from Earith to junction with River Cam.
Ely Ouse, junction with River Cam to Littleport.
Ten Mile River, Littleport to Denver.

Distance.

Earith to Denver, approximate	30	miles
Old West River ,, ...	11¼	,,
Ely Ouse ,, ...	9	,,
Ten Mile River ,, ...	10½	,,

Maximum Dimensions for Craft Using Waterway.

Length	Governed by Hermitage and Denver Locks 90 ft. and 70 ft. respectively. (Length is not limited through Denver Sluice, if passing through when the tide makes a level.)	
Beam	Hermitage Lock	12 ft. 6 ins.
	Denver Sluice	17 ft. 6 ins.
Draught	Hermitage Lock	3 ft. 0 ins.
	Old West River—	
	Hermitage Lock to Flat Bridge .. approx.	2 ft. 6 ins. to 3 ft.
	Flat Bridge to Aldreth Causeway	5 ft. 6 ins.
	Aldreth Causeway to junction River Cam ..	5 ft. 6 ins.
	Ely Ouse .. .. Min.	8 ft. 0 ins.
	Ten Mile River	9 ft. 6 ins.
	Denver Lock .. U/S	14 ft. 0 ins.
	D/S. L.W.	8 ft.–9 ft.

Locks. 2 (Hermitage and Denver).

Bridges. **Hermitage to Denver: Headroom under Bridges:**

		ft.	in.
Railway Bridge	Old West	8	4
Willingham Flat Bridge	Old West	9	4
Aldreth	Old West	10	6
Twenty-Pence	Old West	10	4
Stretham Ferry	Old West	10	3
Stretham Wooden Bridge	Old West	11	1
Military Road Bridge	Old West	10	6
Wooden Bridge	Old West	11	4
Railway	Old West	11	4
Newmarket Railway	Ely Ouse	10	10
Ely High Bridge	Ely Ouse	10	8
Cutter Railway Bridge	Ely Ouse	10	7
Muckhill Railway Bridge	Ely Ouse	10	9
Beet Factory Footbridge	Ely Ouse	11	8
Beet Factory Pipe Line	Ely Ouse	11	10
Adelaide Railway Bridge	Ely Ouse	10	10
Adelaide Road Bridge	Ely Ouse	13	11
Sandhill Bridge	Ely Ouse	11	4
Littleport Bridge	Ten Mile	11	2
Hilgay Toll Bridge	Ten Mile	10	3
Railway Bridge	Ten Mile	12	3
Denver Sluice Foot Bridge	Ten Mile	13	10
Denver Sluice Road Bridge	Ten Mile	15	2

Headroom downstream water levels:

	ft.	in.	
Denver Sluice Foot Bridge	7	7	H.W.S.T.
	11	7	H.W.N.T.
Denver Sluice Road Bridge	8	11	H.W.S.T.
	12	11	H.W.N.T.

Distance Table.

	Bedford to:	*Miles.*	*Furlongs.*
	Bedford, Duck Mill Lock No. 1	—	2
	Cardington Lock No. 2	2	—
Unnavigable at present as locks are out of order.	Castle Lock	3	5
	Willington Lock No. 5	5	6
	Old Mills Lock No. 6	6	4
	Great Barford and Great Barford Lock No. 7	7	2
	Roxton Lock No. 8	9	5
	Tempsford Staunch No. 9	10	1
Little Barford		12	5
Eaton Socon and Eaton Socon Lock No. 10		13	7
St. Neots		15	—

Distance Table.	*Miles.*	*Furlongs*
St. Neots Lock No. 11	16	2
Belford	16	5
Great Paxton	18	—
Offord Cluney	20	1
Brampton and Brampton Lock No. 13	23	1
Godmanchester Lock No. 14	24	3
Huntingdon	25	1
Hartford	26	2
Houghton Lock No. 15	27	7
Hemingford Lock No. 16	29	3
St. Ives Bridge (an ancient and beautiful structure)	30	6
St. Ives Staunch No. 17	31	1
Holywell	33	4
Brownshill or Over Staunch No. 18	36	2
Earith Village	38	—
Earith, commencement of Hundred Foot River, and junction with old course of River—Earith to Denver—and Earith Bridge	38	4
Sutton Bridge	42	1
Mepal Bridge	43	3
Oxlode	47	4
Welney Suspension Bridge	52	6
Termination of Hundred Foot River, and junction with old course of River—Earith to Denver—at the Tail of Denver Sluice	58	6
Salter's Lode, junction with Old Bedford River and junction with Well Creek	59	1
Downham Bridge (Downham Market distant 1 mile)	60	1
Stow Bridge	62	7
Magdalen Bridge	66	—
Wiggenhall Bridge	68	—
Commencement of Eau Brink Cut	68	3
The Free Bridge, and termination of Eau Brink Cut	71	3
Kings Lynn, entrance to Kings Lynn Docks	72	6
The Wash, mouth of River	74	6

Old Course of River—Earith to Denver

Earith, junction with Main Line of River and Hermitage Sluice, Lock No. 1, to:		
Aldreth Bridge	3	3
Twenty Pence Ferry	7	1
Streatham Ferry	8	6
Pope's Corner, junction with River Cam	11	5
Ely Station Dock	14	3
Appleyard, Lincoln and Company's Boatyard	14	4
Junction with River Lark	18	6
Littleport Bridge	20	7
Brandon Creek, junction with Little Ouse	24	2
Southery Ferry	25	3
Hilgay Bridge	28	—
Denver Sluice, and junction with Main Line of River, Lock No. 2	31	1

GREAT OUSE TRIBUTARIES

LITTLE OUSE OR BRANDON RIVER

From and To. From junction with the Old River at Brandon Creek to Wilton Bridge.

Distance. 10 miles 2 furlongs. Lakenheath Lode 3¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. Not limited.

Beam .. .. Unrestricted.

Draught .. Min. 4 ft. 6 ins. near Wilton Ferry.

Headroom (*see Bridges*).

Locks. Nil.

Towing Path. Throughout navigation.

Bridges.

Headroom under Bridges:	ft.	in.
Brandon Creek Bridge	10	6
St. John's Road Bridge	10	4
St. John's Foot Bridge	9	9
Wilton Bridge	10	6

General Remarks. Navigation to Thetford is now not possible due to lack of maintenance. Lakenheath Lode is navigable via Stallode Wash to Lakenheath Village.

RIVER LARK

From and To. From Junction with the Ely Ouse at Branch Bridge near Littleport, to West Row.

General Remarks. This river formerly was navigable to Bury St. Edmunds, but is now only navigable for small craft to West Row.

Distance. 10 miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. 88 ft.

Beam .. .. 14 ft. 6 ins.

Draught .. .. Min. 4 ft. 6 ins. to Isleham.
Min. 2 ft. 6 ins. upstream of Isleham.

Headroom (*see Bridges*).

Towing Path. Throughout navigation.

		ft.	in.
Locks.	One, Isleham—**Draught** ..	2	9
	Length ..	88	0
	Width ..	15	0

Bridges.

Headroom under Bridges:	ft.	in.
Prickwillow Railway Bridge	10	3
Prickwillow Road Bridge	10	3
Judes Ferry Bridge	10	7

RIVER WISSEY

From and To. From Ten Mile River to Stoke Ferry.

Distance. 10 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	Unrestricted.
Draught	Min. about 3 ft. 6 ins.
Width of Channel	30 ft. to 40 ft.
Headroom (*see Bridges*).	

Locks. Nil.

Towing Path. Throughout navigation.

Bridges.

Headroom under Bridges:	ft.	in.
Hilgay Railway Bridge	10	4
Hilgay Road Bridge	8	0
Beet Factory Railway Bridge	8	7
Beet Factory Pipe Lines (2)	10	1
Stoke Ferry Bridge	9	4

APPLICABLE TO WHOLE SYSTEM

Speed Limit. and Bye-Laws. Usual regulations regarding speed.
There are no special bye-laws affecting yachts, but navigation lights should be carried and no obstruction must be made when mooring.

Charges. The matter of charges on pleasure craft is in abeyance until the locks on the upper reaches of the river have been put in a state of repair. There are, however, small tolls for the locks always in use.

SOUTH LEVEL RIVERS

The South Level is an area of the River Great Ouse Catchment Board running south-west from Denver Sluice along the New Bedford River or Hundred Foot River to Over, then south-east to Stow-cum-Quy, then north-east to Methwold, Norfolk and then back north-west to Denver. Such rivers as the Old West, the Cam, the Lark, Little Ouse and Great Ouse and their tributaries are in this area.

Little Ouse Brandon River

Distance Table.		*Miles.*	*Furlongs.*
Staunches are out of order and navigation has not been maintained in a navigable condition.	Thetford Bridge to:		
	Thetford Staunch	—	4
	Thetford Middle Staunch	1	7
	Turfpole Staunch	2	6
	Fison's Factory	3	3
	Croxton Staunch	3	6
	Santon Staunch	5	2
	Santon Downham	5	7
	Brandon Bridge	8	6
	Brandon Staunch	9	1
	Sheepwash Staunch	10	5
Wilton Ferry		12	1
Wilton Bridge		13	—
Junction with Lakenheath Lode		17	—
Brandon Creek, junction with River Ouse		22	4

River Lark

West Row to:			
Lee Brook		—	4
Isleham Sluice (Lock)		1	2
Prickwillow		9	6
Junction with River Ouse		11	6

River Wissey

Ten Mile River to:			
Hilgay Bridge (Inn)		2	1
Tramway Bridge (Beet Factory Line)		4	7
Ferry, Five Mile House		5	4
Northwold Fen		8	—
Stoke Ferry Bridge		10	—

No. 79

RIVER OUSE (Sussex)

Authority. From Horse Shoe Sluice, about half-a-mile above Newhaven Harbour to Lewes Bridge the river is under the jurisdiction of The Newhaven Harbour and Ouse Lower Navigation Trustees, 211, High Street, Lewes, Sussex.

Distance. From Newhaven Harbour entrance to Lewes Bridge, about 8 miles.

Tides and Navigation. The river is tidal and navigable at high water to Lewes Bridge for craft drawing up to 6 feet—at their own risk. Above Lewes it is possible for small craft only to navigate up to the ruins of Hamsey Lock. High water at Lewes about 1 hour after Newhaven. Spring tides rise 9 to 10 ft.

Locks. None.

Towing Path. Overgrown, owing to non-use.

Bridges. 5. With depths and headroom as follows :—

	Approx. Depths at H.W.S.T.	*Clearance at High Water.*
Southease Bridge	14 ft.	10 ft.
2 Bridges at entrance to Glynde Reach (Not over main River)	8 ft.	5 ft.
Southerham Bridge (Southern Railway Bridge) ..	14 ft.	10 ft.
Lewes Town Bridge ..	10 in.	very little clearance except at low tide.

General Remarks. The upper reaches were navigable, but are now useless to anything but canoes as the locks are completely derelict.

Distance Table.	*Miles.*	*Furlongs.*
Ruins of Hamsey Lock to:		
Lewes Corporation Wharf	1	2
Lewes Bridge	1	4
Lewes Portland Cement and Lime Works	2	—
Southerham Swing Bridge (Brit. Rlys. S.R.)	2	2
Sound Bridge (not a bridge over the navigation)	3	6
Southease Bridge (swing bridge)	5	2
Piddinghoe	6	7
Newhaven Bridge	8	4
Newhaven Harbour Mouth	9	4

No. 80

RIVER OUSE (Yorkshire)

Authority. Between Trent Falls and Swale Nab the River is under the jurisdiction of three Authorities :—

(1) **Trent Falls to Skelton Railway Bridge**:—The Divisional Officer, Docks and Inland Waterways Executive, North-Eastern Division, Dock Street, Leeds, 1.
Telegrams: ' Dainwex, Leeds.'
'Phone: Leeds 20957/8.

(2) **Skelton Railway Bridge.** Goole, to Widdington Ings:—Ouse and Foss Navigation Trustees, Secretary, Town Clerk of York, Guildhall, York.
'Phone: Escrick 29.

(3) **Widdington Ings to Swale Nab**:—Linton Lock Navigation Commissioners, 5/6, New Street, York.
'Phone: York 4688.

For continuation of waterway to Ripon, *see* River Ure, which is owned by the Docks and Inland Waterways Executive.

From and To and General Remarks. Trent Falls junction with River Humber, River Trent River Ouse and Swale Nab junction with River Ure Navigation to Ripon. This Waterway is tidal as far as Naburn Locks. The Linton Lock Navigation Commissioners include members of the Inland Waterways Association, North-Eastern Branch.

Connections. The river has junction with Goole Docks and the Aire & Calder Navigation; the River Aire at Asselby Island; the River Derwent at Barmby-on-March (17 miles above Trent Falls); Selby Canal at Selby; River Wharfe at Cawood.

Distances.

Trent Falls to Swale Nab	61¾ miles
Goole to Swale Nab	52½ „
Trent Falls to Naburn Locks	37¼ „
Trent Falls to Goole	8 „

Maximum Dimensions for Craft Using Waterway.

Trent Falls to Naburn Locks.

Length		Not limited
Beam		Not limited
Draught :	**Between Trent Falls and Goole—**	
	Spring Tides	18 ft.
	Neap „	12 ft.
	Between Goole and Selby—	
	Spring Tides	13 ft.
	Neap „	8 ft.
	Between Selby and Naburn Locks—	
	Spring Tides	9 ft. 6 ins. to 10 ft.
	Neap „	7 ft. to 8 ft.

Naburn Locks to York.

Length	134 ft.
Beam	25 ft.
Draught	9 ft. 6 ins.
Headroom	From Trent Falls to Ouse Bridge, York, all bridges movable. Not limited

York to Swale Nab.

Length	60 ft.
Beam	15 ft. 4 ins.
Draught	4 ft.
Headroom	16 ft. 4 ins.

Tidal Constants for River.

High Water.

Trent Falls :—40 minutes after Hull.

Goole :—1 hour after Hull : rise 9 ft. to 13 ft.

Selby :—2½ hours after Hull : rise 4 ft. to 8 ft.

Naburn Locks :—4 hours after Hull : rise 3 ft. to 8 ft.

Locks.

2. Linton Lock and Naburn Locks. (Twin Lock at Naburn.)

Naburn Locks closed on Sunday night. Lock gates at Naburn worked by Lock Keepers.

Towing Path. There is a towing path from Swale Nab to the junction with River Wharfe, except for a short distance in York.

Bridges. 7 swing bridges between Goole and York. 3 bridges above York.
Maximum Headroom, 16 ft. 4 ins.

Charges. **Lock tolls** at Naburn Lock, 1/6 minimum, including return same day. 7/6 maximum. Dinghy in tow 3d. extra.

For pleasure craft the above tolls have been increased by 25%.

Caution. Between Goole and Selby there is generally heavy traffic, and strangers are advised to seek local knowledge.

Linton Lock is not in very good order and great care is necessary (December, 1949), but efforts to repair the flood water damage are going to be made during 1950.

Distance Table.	*Miles.*	*Furlongs.*
Swale Nab, junction with River Ure Navigation, and junction with River Swale (not navigable) to:		
Aldwark Bridge	4	2
Junction with Ouseburn, or Ouse Gill Beck (not navigable)	5	5
Linton Lock	7	6
Newton-on-Ouse	8	6
Widdington Ings	9	6
Junction with River Nidd (not navigable)	10	—
Beningbrough	11	2
Overton	13	2
Nether Poppleton	13	6
Rawcliffe Ings	14	6
Clifton Ings	15	6
York, Lendal Bridge	17	4
York, Ouse Bridge	17	6
York, Skeldergate Bridge	18	—
York, junction with River Foss	18	2
Bishopthorpe	20	6
Naburn Village and Ferry	22	2
Acaster Malbis	22	6
Naburn Locks	23	4
Acaster Selby	26	2
Junction with River Wharfe	28	—
Cawood	29	—
Kelfield	30	2
Riccall Landing	31	4
Barlby	35	2
Selby	36	6
Selby, junction with Selby Branch of Aire and Calder Navigation	37	—

Distance Table.	*Miles.*	*Furlongs.*
Hemingbrough	42	2
Barmby-on-the-Marsh, junction with River Derwent	43	4
Long Drax Railway Bridge	44	1
Asselby Island, junction with River Aire	47	2
Airmyn Ferry	47	6
Howden Dike, Ferry and Shipyard	50	—
Hook Village (right bank) and Skelton Village (left bank)	50	6
Goole, entrance to Docks, and junction with Aire and Calder Navigation Main Line	52	6
Goole, junction with portion of the River Don known as the Dutch River	52	7
Swinefleet	54	6
Saltmarshe	56	6
Whitgift	57	6
Blacktoft	59	6
Trent Falls, junction with Rivers Humber and Trent	60	6

No. 81

OXFORD CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, South-Eastern Division, Transport House, Reservoir Road, Ruislip, Middlesex.

'Phone: Ruislip 4081.

From and To. Junction with the River Thames at Oxford to junction of the Coventry Canal at Hawkesbury. (Alternative route to Thames is via Dukes Cut Branch.

Connections. The Oxford Canal has also junction with the Grand Union Canal at Napton Junction and shares the same waterway from there to Braunston Junction. *See* **No. 46.**

Distance. 78 miles.

Wyken New Colliery Loop Line Branch ..	¾ mile
Stretton Wharf Branch	¼ mile
Brinklow Wharf Branch	¼ mile
Rugby Wharf Branch	¼ mile
Braunston Branch	½ mile
Dukes Cut Branch	¾ mile

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	7 ft.
Draught	3 ft. 6 ins.
Headroom	7 ft.

Locks. 46. Lock gates worked by Boat Crews.

Bridges. 73. Maximum headroom, *see* Maximum Dimensions.

Towing Path. Throughout navigation.

Tunnels. One at **Newbold**, 250 yards long. Towing path.

Speed Limit. 5 miles an hour.

Approx. Time taken to Navigate. Three to four days, according to daily mileage, but it is possible to get through in two days.

Charges. **Canal Dues and Lock Charges.** Same as those shown for Grand Union Canal. Apply Divisional Traffic Officer, D. and I.W.E., South-Eastern Division, Port of London Authority Building, Seething Lane, E.C.3.

For seasonal charges and moorings *see* Grand Union Canal.

Distance Table.	*Miles.*	*Furlongs.*
Hawkesbury Junction and Stop Lock No. 1, junction with Coventry Canal, to:		
Tushes Bridge	1	—
Junction with branch to Wyken Old Colliery (not navigable)	1	4
Northern junction of Wyken New Colliery Loop Line Branch	1	6
Southern junction of Wyken New Colliery Loop Line Branch	2	2
Ansty Bridge	3	6
Hopsford Valley Aqueduct	5	—
Lord Craven's	5	2
Grime's Bridge, Combe	6	4
Stretton Stop Lock and Toll Office, junction with Stretton Wharf Branch	7	2
North end of Brinklow Hill, junction with Brinklow Wharf Branch	7	6
Easenhall Lane Bridge	8	—
Hall Oaks Corner	8	2
Hungerfield	9	—
North end of Walton's Hill, junction branch to Fennis Field Lime Works (not navigable)	9	4
Cathian Lane Bridge	10	2
Newbold and Harborough Road Bridge, junction with branch to Norman's and Walker's Lime Works (not navigable)	11	—
Newbold Wharf	11	4
Junction with Rugby Wharf Branch	12	4
Brownsover Wharf	13	—
Brownsover Mill	13	4
Clifton New Wharf, junction with branch to Clifton Mill (not navigable)	14	—
Hillmorton Bottom Lock No. 4	15	2
Hillmorton	15	4
Kilsby Road Bridge	16	6
Barby Road Bridge	17	4
Barby Wood Bridge	18	4
Willoughby Wharf	21	—
Braunston Turn, junction with Braunston Branch	22	6
Wolfhamcote	23	4
Nethercote	24	6
Flecknoe	25	—
Shuckburg Wharf	26	2
Napton Junction, junction with Birmingham—London Main Line of the Grand Union Canal	27	6

Distance Table.	*Miles.*	*Furlongs.*
Coventry Road Bridge	28	2
Napton Wharf	28	6
Napton Brickyard	29	—
Napton Bottom Lock No. 5	30	—
Marston Doles and top of Napton Locks (No. 13)	31	6
Griffin's Bridge, Wormleighton	37	—
Sherne Hill Bridge	39	—
Fenny Compton	39	2
Claydon Top Lock No. 14	42	6
Broadmoor Bridge	44	4
Cropredy	45	4
Grimsbury Mill	49	2
Banbury, Tool Office, Lock No. 26 and Wharves	50	—
Twyford Wharf (Kings Sutton dustant one mile)	52	6
Adderbury	55	—
Nell Bridge Wharf	55	4
Aynho Wharf (Aynho distant one mile)	56	6
Souldern Wharf	57	2
Somerton Wharf	59	—
Upper Heyford Mill	61	2
Lower Heyford Mill	62	2
Lower Heyford	62	6
North Brook	64	6
Washford Hill Stone Quarries	66	2
Kirklington, Enser's Mill Lock No. 36	66	6
Enslow	68	—
Canal enters River Cherwell	68	4
Thrupp	70	4
Langford Lane Wharf	71	—
Kidlington Bridge and Round Ham Lock No. 39	71	6
Yarnton Lane Bridge	72	2
King's Bridge Wharf	73	4
Tail of Shuttleworth's Lock No. 41, and junction with Dukes Cut Branch, leading to River Thames	74	—
Wolvercote Bridge and Lock No. 42	74	6
Summerton	75	6
Heyfield Road Wharf	76	—
Oxford, Walton Well Bridge	76	4
Oxford, junction with Branch to River Thames through Isis Lock	77	—
Oxford, Wharves and Warehouses	77	4

Wyken New Colliery Loop Line Branch

Northern junction with Main Line to:		
Junction with Canal to Wyken Colliery (¼ mile long)	—	3
Southern Junction with Main Line	—	6

Braunston Branch

Length from junction with Main Line to:		
Braunston Stop Lock, Toll Office, Wharf, and junction with Grand Union Canal—Main Line	—	4

No. 82

RIVER PARRETT

Authority. Bridgwater Corporation, Bridgwater Port and Navigations Harbour Master's Office, Bridgwater, Somerset.
Telegrams: 'Harbour Master, Bridgwater.'
'Phone: Bridgwater 3207.

From and To. Dunwear to Bridgwater Bar.

Distance. 20½ miles.

Maximum Dimensions for Craft Using Waterway.

Length		Not limited
Beam		,, ,,
Draught:		
To Bridgwater—Spring Tides		17 ft.
	Neap Tides	8 ft.
To Dunwear—	Spring Tides	3 ft.

Headroom. Unlimited to Bridgwater Town Bridge.

Locks. None. Tidal throughout. (Flood Gates at Oath and Langport are no longer usable.)

Towing Path. None below Bridgwater. Above Bridgwater towing path for 2 miles.

General Remarks. Navigation on the Rivers Yeo, Tone and Ivel is not now possible as locks have been replaced by sluices.

Connections. Tributary River Brue is navigable for 1½ miles to Highbridge.

Tolls. 1½d. per ton net registered.
3d. per ton net registered to craft from abroad.

Tidal Information. The tides are strong below Bridgwater, and with exception of the lowest tides, they form a "bore" below Combwich which varies in height from 2 to 4 ft.
High water at Bridgwater Town 12 minutes after Bridgwater Bar. Spring tides rise 15 ft. Neap tides rise 4 ft.

Distance Table.	*Miles.*	*Furlongs.*
Dunwear Brick Works to:		
Bridgwater, Town Bridge	1	4
Bridgwater, entrance to Dock, and Bridgwater and Taunton Canal	1	7
Dunball	5	—
Combwich	10	—
Stert Point	14	1
Junction with River Brue, forming Branch to Highbridge	14	5
Burnham-on-Sea	15	4
Bridgwater Bar, mouth of River	20	4

River Brue

Length from junction with River Parrett to Highbridge ..	1	4

No. 83

POCKLINGTON CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Eastern Division, Dock Street, Leeds, 1.
'Phone: Leeds 20957/8.
Telegrams: ' Dainwex, Leeds.'

From and To. Cottingwith Ferry to Junction with River Derwent to Canal Head, Pocklington.

Distance. 9½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	57 ft.
Beam	14 ft. 3 ins.
Draught	4 ft.
Headroom	9 ft.

Towing Path Throughout navigation.

Locks. 9.

General Remarks. This canal has not been used since 1937. At the present moment it is unnavigable and it is badly silted up at Cottingwith. The locks are in a bad state of repair, as no maintenance has been carried out.

Tidal Information. High water at Cottingwith 4 hours 20 minutes after Hull. Neap tides are not felt above Cottingwith.

Distance Table.	*Miles.*	*Furlongs.*
Barmby-on-the-Marsh Junction with River Ouse to:		
Cottingwith Ferry Junction with River Derwent, and commencement of Pocklington Canal	11	4
Cottingwith Lock No. 1	11	6
East Cottingwith	11	8
Storthwaite	13	1
Gardham Lock No. 2	13	3
Hagg Bridge	13	6

Distance Table.	*Miles.*	*Furlongs.*
Melbourne	16	3
Thornton Lock No. 3	16	6
Warbutt Lock No. 4	17	5
Beilby	18	4
Coates Lock No. 5	19	2
Sandhill Lock No. 6	19	5
Giles Lock No. 7	20	2
Canal Head (distance of 1 mile from Pocklington)	21	0

No. 84

RIPON CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Eastern Division, 1, Dock Street, Leeds, 1.
'Phone: 20957/8.
Telegrams: ' Dainwex, Leeds.'

General Remarks. Open for small pleasure craft and motor launches only. Draught not to exceed 2 ft. 6 ins.

From and To. From junction with the River Ure at Oxclose Lock to Ripon.

Distance. 2⅛ miles.

Maximum Dimensions for Craft Using Waterway.

Length	57 ft.
Beam	14 ft. 6 ins.
Draught	4 ft. 9 ins.
(This figure due to lack of dredging is nearer 2 ft. 9 ins.)	
Headroom	8 ft. 6 ins.

Locks. 2. Littlethorpe and Ripon.
Previous notice for lock opening must be made beforehand to the Ripon Motor Boat Club.

Bridges. 2.

Towing Path. Throughout navigation.

Charges. Apply to above address.

Distance Table.

Oxclose Lock and junction with Ripon Canal to:	*Miles.*	*Furlongs.*
Littlethorpe Lock	1	2
Ripon Lock	1	4
Ripon Wharf	2	1

No. 85

RIVER ROACH

Authority. None, an open navigation.

From and To. Junction with River Crouch at Wallasea Ness to near Rochford.

Distance. 9¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. Not limited

Beam .. .. „ „

Draught. 6 ft. at H.W.S.T. to Great Stambridge Mill

Headroom .. .. Unlimited

Locks. Nil. Tidal throughout.

Towing Path. None.

Branches. There is deep water half-way round Potton Island on its west side and light craft can use this channel to enter Havengore Creek, and go out to sea near the ancient track called "The Broomway" at high water. The maximum draught is only 3 ft.

Special Note. For further details see *Pilot's Guide to the Thames Estuary.*

Distance Table.	*Miles.*	*Furlongs.*
Junction with River Crouch to:		
The Quay	1	2
Potton Point, junction with "The Middleway"	3	—
Eastend	4	1
Barling Ness, junction with Potton Creek	4	6
Rochford Mill	9	2

No. 86

ROCHDALE CANAL

Authority. Rochdale Canal Company, 75, Dale Street, Manchester. *'Phone :* Central 2503.

From and To. From junction with the Calder and Hebble Navigation at Sowerby Bridge, to junction with the Ashton Canal and Bridgewater Canal, Manchester.

General Remarks. Pleasure craft discouraged because of the number of Locks. This canal is also in bad state of maintenance, and parts are unnavigable at present.

Distance.

From Sowerby Bridge to junction with Ashton Canal	31¾ miles
From Sowerby Bridge to junction with Bridgewater Canal	33 „
Rochdale Branch	½ mile
Heywood Branch	1½ miles

Maximum Dimensions for Craft Using Waterway.

Length	74 ft.
Beam	14 ft. 2 ins.
Draught	4 ft.
Headroom	9 ft.

Locks. 83 to the junction with Ashton Canal. 92 to Castlefield junction with Bridgewater Canal.

Bridges. Numerous.

Tunnels. Sowerby Long Bridge, 43 yards. Towing path.
Knott Mill, Manchester, 78 yards. Towing path.

Towing Path. Throughout navigation.

Distance Table.	*Miles.*	*Furlongs.*
Sowerby Bridge, junction with Calder and Hebble Navigation, to:		
Sowerby Bridge Wharf and Wharf Mill	—	2
Fourth Lock	—	4
Morris's Mill, Foundry and Mill	—	6
Hollin's Mill	1	—
High Royd	1	4
Longbottom Bridge	1	6
Crowther's Mill and Copper House Mill	2	—
Denholme	2	2
Luddenham Foot Wharf	2	4
Luddenham Upper Foot	2	6
Brierley Bridge and Mill	3	2
Ewood Holmes	3	4
Mytholmroyd Wharf	4	2
Broadbottom and Hawksclough	4	4
Pothouse and Fallingroyd Bridge	4	6
End Mayroyd Estate	5	—
Mayroyd Mill	5	4
Hebden Bridge Wharf	5	6
Hebble End Crane	6	—
Mytholm and Stubbings	6	2
Horsehold Wood or Whiteley's Mill	6	4
Rawden Mill Lock No. 12	7	—
Callis Bridge	7	2
Burnt-acres Bridge, and Eastwood, or Wood Mill	7	6
Holmcoat Lock No. 14	8	—
Stoodley Bridge and Hincliffe's Mill	8	2
Shaw Bridge	8	4
Lob Mill, Ingham's Mill and Woodhouse Bridge	9	—
Millwood	9	2
Kilnhurst Bridge, Sandholme Wharf and Derdale Mill	9	4
Baltimore Bridge	9	6
Todmorden Wharf and Waterside	10	—
Dobroyd	10	2
Shade	10	4
Gauxholme Wharf	10	6
Copperas House Mill and Smithy Holme	11	—
Holling's Clough and Lacey's Mill	11	4
Inchfield Mill, Travis Mill, Birk's Wharf and Walsden	11	6
Nip Square and Winterbutlee	12	—
Light Bank Lock No. 31	12	2
Deanroyd Bridge and Lane Bottom	12	4
Stonehouse	12	6
Warland Wharf and East Summit Lock No. 36	13	—
Steanorbottom	13	2
Longlees	13	4
West Summit Lock No. 37	13	6
Chelburn, Sladen Wood, Tetlow's Wharf, Punchbowl Wharf and Rock Nook	14	—
Tappit Mill, Green Vale Mill and Sladen Mill Bridge	14	4
Benthouse and Windy Bank	15	—
Durn Wharf and Littleborough Bridge	15	4

Distance Table.	*Miles.*	*Furlongs.*
Littleborough Wharf	15	6
Cleggswood Colliery Staith	16	—
Bank Bridge	16	2
Brown Lodge and Smithy Bridge	16	6
Little Clegg	17	—
Clegg Hall Bridge	17	4
Belfield Mill	17	6
Belfield Hall, Fir Grove and Wallhead	18	—
Moss Swivel Bridge	18	6
Walker Bridge	19	—
King's Mills	19	4
Royd's Branch, Moss Lock Bridge and junction with Rochdale Branch, between Locks Nos. 50 and 51	19	6
Lower Place Bridge	20	—
Dicken Green Mill	20	2
Lower Hey	20	4
Hartley Bridge	20	6
Gorrell's Bridge	21	—
March Barn Bridge	21	2
Castleton and Marland	21	4
Blue Pits Lower Lock No. 53	21	6
Maden Fold, Trub Smithy, and junction with Heywood Branch, between Locks Nos. 53 and 54	22	—
Hopwood Moss	22	6
Slattock's and Laneside	23	2
Touchet Hall	23	6
Andrew's Coal Pit	24	—
Boarshaw Lane	24	2
Scowcroft Lane	24	4
Walk Mill, McDougall's Works	24	6
Chadderton Bridge, Mill's Hill Wharf and Irishman's Bridge	25	—
Boundary Mill	25	2
Firwood Mill, Kay Lane Lock No. 64, Linnet Wharf and Slack's Valley	26	—
Whitegate Bridge	27	—
Earnshaw Lane	27	2
Bower Colliery Coal Staith and Wrigley Head Bridge	27	4
Tail of Tailsworth Lock No. 65	28	—
Back Lane Bridge	28	4
Tanner's Field	28	6
Newton Heath	29	—
Newton Heath Swivel Bridge	29	2
Ten-acres Mill	29	6
Grimshaw Wharf	30	—
Anthony Lock No. 77	30	2
Coal Pit, Lock No. 80, Miles Platting	30	4
Cobler, Lock No. 81, Miles Platting	30	6
Butler Lane and Bengal Arm	31	—
Pott Street Arm	31	2
Brownsfield Arm, north and south	31	4
Manchester, Brownsfield Lock No. 83, Dale Street Wharves and Warehouses and Ducie Street, junction with Ashton Canal between Locks 83 and 84	31	6

Distance Table.	*Miles.*	*Furlongs.*
Manchester, Charlton Street, and Dickinson Street Arms ..	32	2
Manchester, Tib Lock, No. 89	32	4
Manchester, Deansgate Coal Wharves	32	6
Manchester, Castlefield, junction with Bridgewater Canal	33	—
Rochdale Branch		
Length from junction with Main Line to Rochdale Wharves and Warehouses	—	4
Heywood Branch		
Length from junction with Main Line to Heywood	1	4

No. 87

RIVER RODING

Authority. Ilford and Barking Navigation Co. (1926), Ltd., Haddon House, 66a, Fenchurch Street, London, E.C.3.
'Phone: Royal 1234.

From and To. Ilford Bridge to Barking Creek.

Distance. 1¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	17 ft.
Draught	Spring tides 7 ft. 6 ins.
Headroom	9 ft.

Locks. None. Tidal doors only, and vessels can therefore only pass when the tide makes a level and doors can be opened.

Bridges. Low bridge at Barking, near tidal doors.

Towing Path. None.

General Remarks. Barking Creek to the River Thames is 1⅓ miles long and is under the jurisdiction of the Port of London Authority. An arterial road bridge crosses the creek, which contains many wharves.
A purely commercial waterway.

Tidal Information. High water at Barking 25 minutes before London Bridge. High water at Ilford the same time as London Bridge.

Distance Table.

Ilford Bridge to:	*Miles.*	*Furlongs.*
Barking Bridge	1	4
Tail of Barking Lock and junction with head of Barking Creek—River Thames	1	6

No. 88

ROYAL MILITARY CANAL (Kent)

Authority. Kent Rivers Catchment Board,
County Hall, Maidstone.
'Phone: Maidstone 4395; Ext. 234.

From and To. West Hythe Sluice to Iden Lock, nr. Rye. (Junction with River Rother.)

Distance. 19 miles.

Maximum Dimensions for Craft Using Waterway. Rowing Boats, Canoes and Light Craft, only.

Locks. Nil. (Iden Lock, 2½ miles northward of Rye, is not usable for navigation purposes.)

Towing Path. Throughout the canal but very overgrown in most places.

General Remarks. Originally constructed as a work of defence. The short length of canal from West Hythe Dam to Seabrooks Outfall at Hythe, is under the control of the Hythe Borough Council for pleasure and amenity. This section is not now connected to the main line of the canal.

Tolls. An annual fee of 5/- per boat is charged.

Distance Table.	*Miles.*	*Furlongs.*
Iden Lock, junction with River Rother (not navigable, and Iden Lock does not now operate, except for drainage), to:		
Appledore Bridge	3	2
Heigham Farm Bridge	5	4
Railway Bridge (British Railways, S.R.)	6	2
Ruckinge Bridge	9	—
Bilsington Bridge (Bilsington Village distant ½ mile)	10	—
Road Bridge	11	1
Road Bridge	11	7½
West Hythe Sluice	19	—

No. 89

ST. HELENS CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Western Division, Central Station, Liverpool, 1.

'Phone: Central 6731.

Telegrams: 'Inwex, Liverpool.'

From and To. Blackbrook, junction with Blackbrook Branch and Gerrard's Bridge Branch to Widnes Locks, junction with River Mersey. (The Mersey can also be reached via Fiddler's Ferry Lock.)

Distance. 13 miles.

Blackbrook Branch	¾ mile.
Gerrard's Bridge Branch	1½ miles.
Boardman's Bridge Branch	1¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length:	Through Widnes Lock	75 ft.
	,, Canal ,, ...	68 ft.
Beam:	,, Widnes ,, ...	18 ft. 6 ins.
	,, Canal ,, ...	16 ft. 6 ins.
Draught		6 ft.
Headroom		11 ft.

Locks. Main line, 10.

Boardman's Bridge Branch, 2.

Towing Path. Throughout navigation.

Tidal Information. High Water (full and change) at Widness, 35 minutes after Liverpool.

Spring tides rise 16 ft. 6 ins. above local low water.

Neap tides rise 11 ft. above local low water.

Distance Table.	*Miles.*	*Furlongs.*
Head of Old Double Lock, Blackbrook, and junction with Blackbrook Branch and Gerrards Bridge Branch, to:		
Engine Lock No. 3	—	5
Earlestown, Newton Common Lock	2	1½
Bradley Lock No. 5	—	—
Hey Lock No. 6	—	—
Winwick Lock No. 7	—	—
Winwick Wharf and Canal Workshops	—	—
Hulme Lock No. 8	—	—
Bewsey Lock No. 9	—	—
Cheshire Lines Railway Viaduct	6	7½
Sankey Bridges (Warrington distant 1 mile)	8	—
Fiddler's Ferry, junction through Fiddler's Ferry Lock with River Mersey	9	5
Widnes Locks, junction with River Mersey	13	1
Gerrards Bridge Branch		
Junction with Main Line at head of Old Double Lock yo:		
Junction with Boardmans Bridge Branch	1	1
Termination of Canal near Gerrards Bridge, St. Helens	1	3½
Boardmans Bridge Branch		
Length from junction with Gerrards Bridge Branch and New Double Locks, to:		
Termination of Canal in southern part of St. Helens	1	2

No. 90

RIVER SALCOMBE

Authority. Salcombe Urban District Council, Harbour Master, Council Hall, Salcombe, Devon.
'*Phone:* Salcombe 63.
(After office hours, Salcombe 139.)

From and To. The Bar (nr. Lambury Point) to Kingsbridge.

Distance. 6 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	,, ,,
Draught: To Kingsbridge, at high water	8 to 10 ft.
Headroom	Not limited.

Locks. Nil. Tidal throughout.

Towing Path. None.

Bridges. Nil.

Connections. Light craft can navigate the adjoining stretches of water, *viz.*: Batson, and Collapit Lakes, Southpool and Frogmore Creeks. All these dry at low water.

Port Charges. Yachts, 2/- per day or 10/- per week; or £1 per year.
Over 25 tons net register, 1d. per ton per day, or 15/- per week.
Pilots available if required.

General Remarks. River dries at Kingsbridge at low water. For further details see *The Pilot's Guide to the English Channel.*

Tidal Information. High water at Kingsbridge 35 minutes after Salcombe.
Springs rise 12ft.
Neaps rise 9 ft.

No. 91

RIVER SEVERN

Authority. The Divisional Officer, Docks and Inland Waterways Executive, South-Western Division, Dock Office, Gloucester.
'*Phone:* Gloucester 24421.
Telegrams: ' Dainwex, Gloucester.'

Lock Superintendent's Office, Diglis, Worcester.
'*Phone:* Worcester 2881.

From and To. Gloucester, junction with the Gloucester and Sharpness Ship Canal, to 1½ miles above the junction with the Staffordshire and Worcestershire Canal at Stourport.

General Remarks. The entrance to the river from the Bristol Channel to the disused Llanthony lock at Gloucester, is rarely used for navigation, being difficult and dangerous, especially for small craft, vessels therefore usually proceed via the Gloucester and Sharpness Ship Canal entered through the Sharpness Docks. (*see* **No. 45**).

A little way above Gloucester the river is canalised for a short way. These portions are known as The Parting and Upper Parting. The navigable channel suitable for the largest craft at low Summer level is approximately 50 feet. This applies chiefly to the " Rock Fords, Gloucester Parting and Lock Cuttings." The river itself is in most places of considerable greater width.

Maisemore Channel is closed, and lock is derelict. This used to link with the old Gloucester and Hereford Canal.

Above Stourport Bridge the river continues for 9 miles to Arley Quarry, but is not navigable except for dinghies.

Connections. Besides having junction with the Gloucester and Sharpness Ship, and the Staffordshire and Worcestershire Canals, the River Severn has junction with :—

The River Avon at Tewkesbury.

The Worcestershire and Birmingham Canal at Worcester.

Distances. Gloucester to Stourport .. .. .. 42 miles.

Maximum Dimensions for Craft Using Waterway.

	Gloucester to Worcester.	*Worcester to Stourport.*
Length	135 ft.	87 ft.
Beam	22 ft.	15 ft. 6 ins.
Draught	8 ft.	5 ft. 9 ins.

Low Summer Level

Headroom. The lowest bridge is G.W.R. Bridge, Gloucester, with 17 ft. 0 ins. headroom.

Important Note : The above dimensions relate to the maximum of cargo vessels, and it would be unwise for pleasure yachts of that size to be used, owing to risk of injury.

Locks. 6. Including Gloucester and Sharpness Ship Canal Lock. Lock gates worked by Lock Keepers.
(Llanthony Lock is closed.)

Towing Path. Throughout navigation, but in a poor state, as it is seldom used.

Bridges. There are 9 bridges as follows :—

Westgate Road, Gloucester	**Headroom** ..	23 ft. 6 ins.
G.W.R. Bridge, Gloucester	,,	18 ft. 6 ins.
Haw Bridge .. .. .. Take left hand arch.	,,	24 ft. 6 ins.
Mythe Bridge, Tewkesbury	,,	25 ft. 3 ins.
Saxon's Lode Railway Bridge Three Arches.	,,	28 ft. 3 ins.
Upton	,,	25 ft. 0 ins.
Worcester .. .. .. The best channel is through the centre arch, marked by a red light at night.	,,	20 ft. 0 ins.
G.W. Railway Bridge .. Channel on the Port side.	**Headroom**	33 ft. 3 ins.
Holt Fleet Bridge ..	,,	28 ft. 7 ins.

Speed Limit and Bye-Laws. 10 miles an hour.
Bye-laws for the river are published by the Executive and Yachtsmen are recommended to obtain this Authority.

Approx. Time taken to Navigate.

A vessel travelling at 8 miles an hour at low Summer level should go from Gloucester to Stourport in approximately 7 to 8 hours if necessary, including passage through the various locks, assuming that there is a clear run.

In times of fresh water, the time would be longer against the stream.

Statutory Charges.

River Dues. Nil for pleasure craft.

Lock Tolls. (*a*) For Power craft.

	£	s.	d.
Not exceeding 20 ft. in length	0	1	0
Exceeding 20 ft. but not exceeding 30 ft.	0	1	6
,, 30 ft. ,, ,, 40 ft.	0	2	0
,, 40 ft. ,, ,, 50 ft.	0	2	6
,, 50 ft. ,, ,, 60 ft.	0	3	0
Exceeding 60 ft.	0	3	6

(*b*) Pleasure Boats (other than A. and C.)—

Class I. For every Sculling Boat, Pair Oared Boat, Skiff, Randan, Canoe, Punt and Dinghy and for every Centre Board Gig, Mersey and Nautilus Canoe, not exceeding 25 ft. in length or 5 ft. in beam, Gondola and Sandola £0 0 3

Class II. For every Four Oared Row Boat (other than boats enumerated in Class I), Cutter, Sloop, Una Boat fitted for sailing, and for every Centre Board Boat and Canoe of greater dimensions than these mentioned in Class I £0 0 6

Class III. For every Row Boat or Shallop, over four oars (other than boats enumerated in Class I and II) £0 1 0

(*c*) Houseboats, not exceeding 40 ft. in length	0	2	6
Exceeding 40 ft.	0	3	6

(1) The above lock tolls are for passing once through, by, or over a lock and returning the same day.

(2) Every vessel carried upon another vessel through, by, or over any lock will be charged as if separately navigated, to the extent not exceeding one third of the above charges.

(3) Craft proceeding on a voyage commencing on a Friday, Saturday or Sunday, and returning not later than the following Monday, pay tolls on the outward voyage only.

Payment : To Toll Collectors at each lock on the river.

Warning. Below Worcester there is a good deal of commercial traffic. Most of this is large power-driven barges, tugs, etc., and makes a big wash, and cannot give way to small craft.

Tidal Information. High Spring tides flow to Upton-on-Severn and the level of the river is effected up to the tail of Diglis Locks.

Neap tides flow to between Framilode and Gloucester.

On Spring tides the first of the flood tide runs up the lower part of the river to Gloucester with a "bore" which attains its greatest height about Stone Bench. A tide giving from 15 ft. to 16 ft. of water on the sill of Bathurst Basin Lock, which is about midway between the lowest and highest tides, will set up a bore in the river.

Only Sharpness Tides of 24 ft. and over affect the navigable part of the river at Gloucester. The Tide Tables can be obtained from G. H. Evans, Stationers, Sharpness.

High water at Framilode 1 hour 45 minutes after Avonmouth. Spring tides rise about 10 ft.

High water at Gloucester on Spring tides about 2 hours 45 minutes after Avonmouth. Spring tides rise 4 ft. to 7 ft.

A tide giving 17 ft. of water on the sill of Bathurst Basin Lock at Bristol will flow above the weir of Llanthony Lock, Gloucester.

High water at Tewkesbury on Spring tides about 3 hours 45 minutes after Avonmouth.

High water at Upton-on-Severn on Spring tides about 4 hours, 30 minutes after Avonmouth.

High water at the tail of Diglis Locks on Spring tides about 5 hours 10 minutes after Avonmouth.

Spring tides rise up to 1 ft.

Distance Table.	*Miles.*	*Furlongs.*
Arley Quarry Landing to:		
Upper Arley Ferry	1	4
Bewdley Bridge	5	2
Gladder or Whitehouse Brook enters River	8	3
Stourport Bridge	9	—
Stourport, junction with Staffordshire and Worcestershire Canal	9	1
Lincomb Lock No. 1	10	3
Hampstall Ferry	11	4
Lenchford Ferry	13	6
Holt Lock No. 2	14	5
Holt Village	15	4
Grimley	17	—
Hawford, junction with Droitwich Canal (abandoned)	17	5
Bevere Lock No. 3 (sometimes called Camp Lock)	18	1
Hallow	19	—
Pope Iron	20	3
Worcester Quay	21	4
Diglis, junction with Worcester and Birmingham Canal	22	—
Diglis Locks No. 4 (two locks side by side)	22	3
Teme Junction	23	1
Kempsey	25	1
Pixham	25	5
Clevelode	27	2
Rhydd	28	3
Severn Stoke	29	2
Hanley	31	—
Upton-on-Severn	32	—
Sextons Lode	33	4
Barley House	34	4
Dowdeswell's Elms	36	4
Tewkesbury Bridge (Bushley distant 1½ miles)	37	5
Tewkesbury, junction with River Avon	38	—
Tewkesbury Lock No. 5	38	4
Tewkesbury, Lower Lode and Ferry	39	3
Chaceley (right bank), Deerhurst (left bank)	40	7
Apperley	42	—
Haw Bridge	42	6
Coombe Hill	43	7
Wainlode	44	1
Ashleworth	46	1
Upper Parting, junction with Maisemore Channel from Upper Parting to Lower Parting	48	4
Gloucester, Westgate Bridge	50	5
Gloucester, junction with Gloucester and Berkley Ship Canal	51	—
Gloucester, Llanthony Lock No. 6 (closed)	51	3
Gloucester, Lower Parting, junction with Maisemore Channel from Upper Parting to Lower Parting	52	—

(*Distance Table continued on next page.*)

Left Bank		Distance Table.	Right Bank	
Miles.	*Furlongs.*		*Miles.*	*Furlongs.*
55	3	Stone Bench.		
55	6	Elmore.		
		Minsterworth	57	—
63	6	Framilode, junction with Stroudwater Canal.		
		Newnham	68	4
		Bullo Pill	69	4
72	2	Fretherne.		
78	4	Severn Bridge	78	4
79	1	Sharpness Point, junction with old entrance to the Gloucester and Berkeley Ship Canal.		
79	6	Sharpness Junction, with entrance to Sharpness Docks and Gloucester and Berkeley Ship Canal.		
		Junction with Lydney Canal and Harbour	81	—
91	—	Aust Cliff.		
		Beachley Point, and junction with River Wye	92	—
94	4	Severn Tunnel	94	4
100	4	Avonmouth, junction with River Avon.		

No. 92

SHEFFIELD & SOUTH YORKSHIRE NAVIGATION

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Eastern Area, 1, Dock Street, Leeds, 1.
'Phone: Leeds 20957/8.
Telegrams: ' Dainwex, Leeds.'

From and To. From junction with the River Trent at Keadby (near Scunthorpe, Lincs.) passing through Thorne, Stainforth, Doncaster, Mexborough, Swinton and Rotherham to the centre of Sheffield. Branches:—Dearne and Dove Canal, Elsecar Branch, Worsborough Branch, and Short Branch at Stainforth connects with the River Don.

Connections. The New Junction Canal (*see* Canal **No. 3**) from Bramwith, near Doncaster, to Sykehouse, near Goole, connects the Sheffield and South Yorkshire Navigation with the Aire and Calder Navigation and Goole Docks.

The Dearne and Dove Canal at Swinton (Yorks.) connects the Manvers Main Collieries and other industrial undertakings with the main navigation, and leads to the Barnsley Canal. Due to lack of maintenance no through traffic can use this route at the moment, but traffic can proceed to Manvers Main Collieries.

Tidal Information. The navigation is unaffected by tides throughout its entire length.

Distances. From junction with River Trent at Keadby to:—

Doncaster	21½ miles.
Rotherham	36½ „
Sheffield	42¾ „

Maximum Dimensions for Craft Using Waterway.

Keadby to Sheffield—Goole to Sheffield:

Length	61 ft. 6 ins.
Beam	15 ft. 6 ins.
Draught	6 ft. 0 ins.
Headroom	10 ft. 0 ins.

Dearne and Dove Canal at Swinton

Length	58 ft. 0 ins.
Beam	14 ft. 10 ins.
Draught	5 ft. 6 ins.
Headroom	9 ft. 3 ins.

The above maximum dimensions are recommended without guarantee.

Locks.

Keadby to Doncaster	4
„ „ Rotherham	15
„ „ Sheffield	31
Dearne and Dove Canal (six locks in use only)	19
Elsecar Branch	6
Branch to River Don (Stainforth Lock closed)	1

Lock gates worked by Boat Crews.

Bridges. Numerous.

Towing Path. Throughout Main Line, and Dearne and Dove Canal, also Elsecar Branch.

Carrying Capacity of Vessels Using Waterway.

From Keadby or Goole to:—

Doncaster	100 tons.
Rotherham	100 „
Sheffield	90 „

Payment. Payment to be made to the District Traffic Officer, D. & I.W.E., Exchange Street, Sheffield, 2.

Sunday Navigation Closed to all traffic on Sundays.

Speed Limits. 3 miles per hour.

Tidal Information. High water at Stainforth Lock, 1 hour 20 minutes after Goole. Spring tides rise 7 ft. 6 ins.

Distance Table.	*Miles.*	*Furlongs.*
Sheffield, Basin and Warehouses, to:		
Corporation Wharf	—	6½
Blagden Bridge	1	—
Stainforth Road Bridge	1	2½
Shirland Lane Bridge	1	4
Coleridge Road Bridge	2	0½
Broughton Lane Bridge	2	2
Top Lock of Tinsley Top Locks, No. 1	2	5½
Tinsley Top Wharf	2	7
Bottom Lock of Tinsley Top Locks, No. 8	3	1½
Turnpike Bridge Lock, No. 9, and Road Bridge	3	3½
Tinsley Low Wharf	3	4
Top Lock of Tinsley Low Locks, No. 10	3	5½
Bottom Lock of Tinsley Low Locks, No. 12, and commencement of River Dun Navigation (or Dutch River)	3	7
Jordan Lock No. 1	4	4
Holmes Wharf	4	7
Holmes Lock No. 2 and Bridge	5	—
Ickles Wharf	5	4
Rotherham, junction with River Rother, navigable for 1 furlong	5	7½
Rotherham, Flood Lock No. 4, and Top Wharf	6	2
Rotherham Wharf	6	3
Parkgate Railway Station and junction with Parkgate Branch Canal (derelict)	7	1
Eastwood Top Lock No. 5	7	5
Aldwarke Wharf	8	2
Aldwarke Lock No. 7	8	3
Dalton Main Colliery	9	5
Kilnhurst Flood Lock No. 8	10	3
Thrybergh Colliery	10	4
Kilnhurst Pottery and Colliery	10	5
Kilnhurst Road Bridge	10	7
Kilnhurst Lock No. 9	11	3
Burton Ings Bridge	11	5
Swinton Wharf and junction with Dearne and Dove Canal between Locks No. 9 and 10	11	7
Swinton Road Bridge	12	1
Mexborough Railway Station and Road Bridge	12	5½
Mexborough Top Lock No. 11	13	2
Mexborough Local Board Wharf	13	6½
Mexborough Low Lock No. 12	14	5
Denaby Main Colliery	14	6½
River Dearne Bridge and Road to Cadeby	15	1
Conisborough Wharf	15	6
Warmsworth Lime Kilns	17	4
Warmsworth Wharf	17	7½
Sprotbrough Lock No. 14	18	1½
Hexthorpe Sand Wharf	19	7
Doncaster (Railway Executive Workshops)	20	7½
Doncaster Lock No. 15	21	2½
Doncaster Corporation Wharf	21	5

Distance Table.	*Miles.*	*Furlongs.*
Arksey Landing	24	3
Sandall Wharf	24	7
Kirk Sandall Wharf	25	7½
Barnby Dun Wharf	26	6½
Bramwith, junction with Aire and Calder and Sheffield and South Yorkshire Junction Canal	28	0½
Bramwith Lock No. 17	28	1
Stainforth Wharf	30	—
Head of Stainforth Lock, No. 18, and commencement of Stainforth and Keadby Canal	30	1
Dunston Hill Swing Bridge	30	3½
Thorne Lock No. 19	32	5
Thorne Wharf	33	—
Thorne Low Wharf	33	1
Wike Well Wharf	33	6½
Medge Hall Wharf	37	1
Godnow Bridge Wharf	38	1½
Crowle Wharf	39	5
Keadby Railway Station	42	2
Keadby Lock, No. 20, and junction with River Trent—Main Line	42	7

Dearne and Dove Canal

(Unnavigable from Lock No. 7 to Barnsley)

Swinton, junction with River Dun Navigation, to:		
Swinton Top Lock No. 6	—	4
Ardwick Siding	1	—
Manvers Main Colliery Wharf	1	2
Ardwick Wharf	1	4½
Wath Flour Mill	1	6
Wath Gas Works	2	2
Wath Wharf	2	3
Wetmoor Bridge, West Melton	2	7½
Elsecar Junction, Bottom Lock No. 7 (closed at present)	4	0½
The following section to Barnsley is unnavigable due to lack of maintenance:		
Brampton Wharf	4	1½
Head of Elsecar Junction Top Lock, No. 10, and junction with Elsecar Branch	4	3½
Wombwell Junction, Road Bridge	4	4
Wombwell Gas Works	5	1½
Mitchell Main Colliery	6	1
Aldham Bridge, Lock No. 11, Wharf	6	4
Worsborough Junction Bottom Lock No. 12	6	6½
Head of Worsborough Junction Top Lock No. 18, and junction with Worsborough Branch	7	1
Stairfoot Wharf	7	6
Stairfoot Bridge	8	—
Spink Hill Wharf	8	3½
Old Oaks Basin	8	6

Distance Table.	*Miles.*	*Furlongs.*
Micklethwaite's Basin	9	—
Beever Mill Wharf	9	2
Barnsley Junction, Lock No. 19, and junction with Barnsley Canal of the Aire and Calder Navigation	9	5

Continuation of River Dun Navigation from Stainforth Lock (closed)

Head of Stainforth Lock (closed) and junction with Stainforth and Keadby Canal, to:		
Fishlake Wharf	—	6½
Thorne Waterside Wharf	2	3
Fishlake Old Ferry, junction with River Don	2	6

Elsecar Branch of the Dearne and Dove Canal

Junction with Dearne and Dove Canal to:		
Lundhill Bridge and Basin	—	4½
Hemingfield Bottom Lock No. 1	—	7½
Birks Bridge and Wharf	1	—
Hemingfield Top Lock No. 3	1	3
Elsecar Low Colliery Basin	1	4
Hoyland and Elsecar Colliery Basin	1	6
Elsecar Bridge	1	7½
Elsecar Top Lock No. 6	2	—
Elsecar Basin	2	1½

Worsborough Branch of the Dearne and Dove Canal

Junction with Dearne and Dove Canal to:		
Swaithe Colliery	—	4½
Lewden Bridge Wharf	1	1½
Worsborough Dale Gas Works	1	4½
Darley Main Wharf	1	5
Worsborough Dale Foundry	2	—
Worsborough Basin	2	1½

No. 93

SHROPSHIRE UNION CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Western Division, Central Station, Liverpool, 1.

'Phone: Royal 6731.

Telegrams: 'Inwex, Liverpool.'

From and To. **Main Line.**

Autherley (near Wolverhampton) Junction with Staffordshire and Worcestershire Canal to Ellesmere Port, junction with the Manchester Ship Canal.

There are several branches as follows :—

(1) Middlewich branch connecting with the Trent and Mersey Canal.

*(2) Norbury near Newport, Salop, to Withington, near Shrewsbury.

Welsh Canal.

*(1) Hurleston, near Nantwich, to Frankton junction.

*(2) Prees branch.

*(3) Frankton to Llantisilio.

* **Note.**—The above branches marked with an asterisk are no longer open for general canal traffic, but subject to physical conditions permitting, pleasure craft may be allowed to pass on application being made for the necessary permission.

Connections. Besides the above connections the Canal has junction with the River Dee at Chester.

Distance. **Main Line**—66½ miles. River Dee Branch ⅛ mile.

Maximum Dimensions for Craft Using Waterway.

	From Autherley Junc. to Nantwich exclusive.	*From Nantwich inclusive to Ellesmere Port.*
Length	72 ft. 0 ins.	71 ft. 9 ins.
Beam	6 ft. 11 ins.	13 ft. 2 ins.
Draught	about 3 ft. 4 ins.	about 3 ft. 4 ins.
Headroom	8 ft. 9 ins.	8 ft. 3 ins.

Towing Path. Throughout navigation, except Berwick Tunnel (now closed).

Locks. 49. Lock gates worked by Boat Crews.
(Locks 1, 2 and 3 at Ellesmere Port are in pairs. Locks 1 and 2 have one lock for Boats, and one lock for "Flats." Lock No. 3 has one ship lock and one lock for "Flats," both giving access to Ellesmere Port Docks.)

Bridges. Numerous.

Tunnels. **Cowley.** 81 yards.

BRANCH LINES

MIDDLEWICH BRANCH

From and To. From Barbridge junction to junction with the Trent and Mersey Canal at Middlewich.

Distance. 10 miles.

Maximum Dimensions for Craft Using Waterway.

Length	75 ft. 0 ins.
Beam	6 ft. 10 ins.
Draught	3 ft. 4 ins.
Headroom	8 ft. 6 ins.

Locks. 3. Lock gates worked by Boat Crews.

Bridges. Numerous.

Tunnels. Nil.

Note

The following branches of the Shropshire Union Canal were constructed to accommodate craft of the dimensions mentioned below. They are no longer open for general traffic, and all applications to use the waterways by pleasure craft should be accompanied by full particulars of the dimensions and draught of the craft proposed to be used.

NORBURY, NEAR NEWPORT, SALOP TO WITHINGTON NEAR SHREWSBURY

Distance. 17 miles.

Maximum Dimensions for Craft Using Waterway.

Length	74 ft. 0 ins.
Beam	6 ft. 4 ins.
Draught	2 ft. 9 ins.
Headroom	6 ft. 11 ins.

Locks. 25. Lock gates worked by Boat Crews.

Bridges. Numerous.

Tunnels. Berwick 970 yds. (closed).

General Remarks. From Withington the canal continues to within 3 miles of Shrewsbury but is not navigable.

WELSH CANAL

From and To. Hurleston Junction near Nantwich to Frankton Junction.

Distance. 29 miles.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft. 6 ins.
Beam	6 ft. 10 ins.
Draught	3 ft. 0 ins.
Headroom	7 ft. 6 ins.

Locks. 19. Lock gates worked by Boat Crews.

Bridges. Numerous.

Tunnels. **Ellesmere.** 87 yards.

WHITCHURCH BRANCH (Closed)

PREES BRANCH

From and To. Whixall to Quina Brook.

Distance. 3¾ miles.

ELLESMERE BRANCH

Distance ¼ mile.

FRANKTON TO LLANTISILIO

Distance. 17 miles.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft. 6 ins.
Beam	6 ft. 10 ins.
Draught	2 ft. 9 ins
Headroom	7 ft. 6 ins.

Locks. 2. Lock gates worked by Boat Crews.

Bridges. Numerous.

Tunnels. **Whitehouse,** 191 yards. Towpath.

Chirk, 459 yards. Towpath.

APPLICABLE TO WHOLE SYSTEM

Charges. Same as those shown for Grand Union Canal.

Payment. To Traffic Officer, Windsor Buildings, George Street, Liverpool.

Speed Limit and Bye-Laws. 3½ miles an hour.
Regulations governing the use of waterway include, *inter alia* :—Not to impede or obstruct free navigation. Moorings not permitted alongside Executive's warehouses. Journey made at owners' risk.

Special Note. The Shropshire Union Canal passes through attractive country, but the Branch to Llantisilio is very beautiful, and passes over the famous aqueducts of Pontcysyllte and Chirk. This Branch culminates at the famous Horseshoe Falls, a semi-circular weir, forming a beautiful cascade, and forms a canal feeder to the Main Line and therefore cannot be closed, although there has been a threat for some time from uninformed quarters to lower the bridges. The danger to the Branch has receded a little but yachtsmen should make every attempt to navigate this Branch to ensure that it is kept open, and to enjoy something unique in our waterway system. Boats cannot, however, pass each other on the aqueducts.

The lovely Newtown Arm (Old Montgomeryshire Canal) is totally derelict. The circumstances under which it was abandoned are of no little interest. There was regular trade on this section until 1936 when, owing to general neglect a burst occurred in the banks near Frankton, and as a result trade on the waterway ceased, and one trader, who was discharging coal at Welshpool Wharf at the time found himself trapped there, and forced out of business because the company failed to fulfil their obligations to make good the breach and keep the waterway maintained to statutory standards. Powers of abandonment were obtained upon the ironical grounds that "there had been no traffic on the canal for some years past."

Main Line

Distance Table.	*Miles.*	*Furlongs.*
Autherley Junction, junction with Staffordshire and Worcestershire Canal, Autherley Lock No. 1, to:		
Chillington	3	5
Dean's Hall	4	4
Brewood	5	—
Watling Street Road	6	2
Wheaton Aston Lock No. 2	7	6
Church Eaton	10	6
Gnosall	13	—
Norbury Junction, junction with Newport Branch	15	4
Shebdon	19	—
Park Heath	21	—
Goldstone	23	—
Tyrley Top Lock No. 3	25	2
Tyrley Bottom Lock No. 7	25	5
Market Drayton Wharf (Market Drayton distant ½ mile)	26	5
Victoria Wharf	27	1
Adderley Wharf and Adderley Top Lock No. 8	29	7
Adderley Bottom Lock No. 12	30	1
Audlem Top Lock No. 13	31	4
Audlem Wharf and Warehouse	32	6
Audlem Bottom Lock No. 27	33	1
Hack Green Lock Nos. 28 and 29	36	5
Nantwich Basin (Nantwich distant ½ mile)	38	7
Hurleston Junction, junction with Ellesmere Canal	40	6
Barbridge Junction, junction with Middlewich Branch	42	1
Wardle	43	3
Calveley	43	7
Bunbury Lock Nos. 30 and 31	44	7
Tilston Mill, Bridge and Lock No. 32	45	5
Beeston, Lock Nos. 33 and 34	46	5
Wharton's Lock No. 35	47	4
Bate's Mill	47	7
Crow Nest	50	2

Distance Table.	*Miles.*	*Furlongs.*
Egg Bridge	53	6
Christleton, Locks Nos. 36 and 37	55	3
Tarvin Lock No. 38	56	2
Cow Lane, Locks Nos. 39, 40, 41 and 42	57	3
Chester, Tower Wharf	57	7
Chester, junction with Branch to River Dee (1 furlong)	58	—
Mollington	59	7
Backford	61	7
Caughall	62	7
Stoke	63	3
Stanney	64	3
Ellesmere Port Docks, and junction with Manchester Ship Canal, Locks Nos. 43, 44 and 45	66	4

Norbury to Withington Branch

Norbury Junction, junction with Main Line, to:		
Newport Top Lock No. 1	—	0½
Newport Bottom Lock No. 17	1	4
Edgmond Lock No. 23	5	5
Junction with Humber Arm to Lubstree Wharf (¾ mile)	8	4
Wappenshall Junction, junction with Branch to Old Trench Inclined Plane	10	4
Eyton Lock No. 25	11	4
Long Lane or Eyton's Wharf	12	4
Roddington Wharf	16	2
Withington (Canal is totally derelict from this point to Shrewsbury)	17	—

Middlewich Branch

Barbridge Junction, junction with Main Line, to:		
Cholmondeston Lock No. 1	1	3
Egerton's Bridge	2	7
Minshull Lock No. 2	3	—
Minshull Bridge	4	7
Stanthorne Lock No. 3	9	6
Middlewich, junction with Wardle Lock Branch—Trent and Mersey Canal	10	—

Welsh Canal

Hurleston Junction, junction with Main Line, to:		
Hurleston Locks Nos. 1, 2, 3 and 4	—	2
Ravensmoor	1	5
Swanley, Locks Nos. 5 and 6	2	2
Baddiley, Locks Nos. 7, 8 and 9	4	3
Wrenbury	6	2
Marbury Bridge and Lock No. 10	8	2
Steer Brook	8	7

Distance Table.	*Miles.*	*Furlongs.*
Quoisley	9	7
Grindley Brook, Bottom Lock No. 14	12	1
Grindley Brook, Top Lock No. 19	12	4
Junction with Whitchurch Branch (Derelict)	13	3
New Mill	13	5
Tilstock	16	7
Platt Lane	17	3
Whixall Moss Roving Bridge, junction with Prees Branch	19	—
Bettisfield	20	7
Hampton Bank	21	7
Little Mill	23	5
Junction with Ellesmere Branch (¼ mile)	25	5
Tetchill	27	1
Frankton, top of Frankton Locks and junction with Branch to Llantisilio	29	—

Prees Branch

Whixall Moss Roving Bridge, junction with Ellesmere Canal, to:		
Minshull or Rodenhurst's Bridge	—	5
Boodle's Bridge or Waterloo	1	5
Sydney Bridge or Edstaston	3	—
Quina Brook	3	6

Llantisilio (or Pontcysyllte) **Branch**

Frankton, junction with Welsh Canal, to:		
Maesterfyn	1	2
Hindford	2	4
New Martin Bottom Lock No. 1	3	3½
New Martin Top Lock No. 2 (Level to Llantisilio)	3	5
St. Martin's	4	6
Lovett's Wharf	5	3
Rhoswell	6	—
Gledryd	6	2
Chirk Bank	7	—
Chirk Aqueduct	7	1
Chirk, north end of Chirk Tunnel	7	4
Black Park	8	4
Irish Bridge	9	5
Vron	10	5
Pontcysyllte Aqueduct	11	1
Plas Isaf	12	5
Trevor	13	5
Llangollen	15	3
Pentrevelin	16	3
Llantisilio	17	—

No. 94

STAFFORDSHIRE & WORCESTER CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, South-Western Division, Dock Office, Gloucester.

'Phone: Gloucester 24421.

Telegrams: ' Dainwex, Gloucester.'

(North of Autherley this canal is in the area controlled by the North-Western Division.)

From and To. The junction with the River Severn at Stourport to junction with the Trent and Mersey Canal at Great Haywood.

Connections. The canal has junction with the following Waterways :

(**1**) At Stourton Bridge (12 miles from Stourport) with the Stourbridge Canal, *see* **No. 98.**

(**2**) At Aldersley Junction (25 miles from Stourport with the Main Line canal Birmingham Canal Navigations, *see* **No. 14.**

(**3**) At Autherley Junction (25½ miles from Stourport) with the Shropshire Union Canal, *see* **No. 93.**

(**4**) At Hatherton Junction (31 miles from Stourport) with the Northern section of the Birmingham Canal Navigations.

Distance. 46⅛ miles.

River Stour Branch	1¼ miles.
Hatherton Branch	3½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	6 ft. 9 ins.
Through barge locks to Stourport Basin via locks 1 and 2	15 ft.
Draught	3 ft. 6 ins.
Headroom	8 ft. 8 ins.

Locks. 43. Lock gates worked by Boat Crews except the river locks at Stourport. Hatherton Branch 8. River Stour 1. Stourport, river locks are double locks.

Towing Path. Throughout navigation.

Bridges. 119.

Tunnels. 1. Cookley, length 65 yards. Towing path.

Speed Limit. 3 miles per hour.

Charges. Same as those shown for Grand Union Canal.

Payment. Either to the Divisional Office or at Toll Offices.

General Remarks. Stafford Branch formed by River Sow Navigation is now converted into a drain and no navigation is now possible.

Distance Table.	*Miles.*	*Furlongs.*
Stourport, junction with River Severn—Main Line—and entrance locks to Stourport Basin, to:		
Lower Mitton Bridge	—	3
Gilgal Bridge and Wharf	—	5
Mitton Chapel Bridge	—	6
Upper Mitton Bridge and Wharf	1	—
Bullock's Lane Wharf	1	4
Oldington Bridge	2	—
Junction with River Stour, through Pratt's Wharf Lock, between Locks Nos. 3 and 4	2	3
Falling Sands Lock No. 4	2	6
Falling Sands Bridge and Iron Works	3	1
Caldwell Bridge and Lock No. 5	3	4
Round Hill Bridge	3	6
Caldwell Mill Bridge	3	6
Caldwell Hall Bridge and Public Wharf	4	—
Kidderminster Lock, No. 6, Wharf and Warehouse	4	3
Lime Kiln Bridge and Wharf	4	5
Stour Vale Iron Works	5	4
Wolverley Court Bridge and Lock No. 7	5	5
Wolverley Mill Wharf	5	7
Wolverley Bridge, Lock No. 8, and Wharf	6	1
Wolverley Forge Bridge	6	3
Debdale Bridge and Lock No. 9	7	2
Cookley Tunnel and Iron Works	7	4
Austcliffe Bridge and Wharf	8	—
Clay House Bridge	8	2
Whittington Bridge, Lock No. 10, and Iron Works	9	4
Whittington Horse Bridge	9	6

Distance Table.	*Miles.*	*Furlongs.*
Kinver Bridge, Lock No. 11, and Wharf	10	3
Hyde Bridge, Lock No. 12, and Iron Works	11	—
Dunsley Tunnel	11	5
Stewponey Wharf, Lock No. 13, and Warehouse	12	—
Stourton Bridge and Junction, junction with Stourbridge Canal—Main Line—between Locks Nos. 13 and 14	12	2
Round House Wharf and Iron Works	13	5
Gothersley Bridge and Lock No. 14	14	—
Gothersley or Hockley Lock No. 15	14	3
Green's Forge Bridge, Lock No. 16, and Wharf	15	1
Hincksford Bridge and Lock No. 17	16	2
Swindon Forge Bridge, Wharf, Iron Works and Lock No. 18	16	5
Marsh Lock No. 19	16	7
Botterham Bridge and Two Locks, Nos. 20 and 21 (Staircase)	17	2
Wombourne Common Bridge and Wharf	17	5
Heath Forge Wharf	17	7
Bumble Hole Bridge and Lock No. 22	18	4
Bratch Bridge and Three Locks, Nos. 23, 24 and 25 (Staircase)	18	7
Aw Bridge and Lock No. 26	19	6
Ebstree Lock No. 27	20	2
Dimmingsdale Lock No. 28 and Reservoir	20	4
Dimmingsdale Bridge, Wharf and Warehouse	20	6
Mops Farm Bridge	21	3
Castle Croft Bridge	21	6
Whightwick Bridge and Lock No. 29	22	4
Whightwick Mill Bridge and Lock No. 30	22	5
Compton Wharf Lock No. 31 and Bridge	23	2
Tettenhall Bridge and Wharf	24	—
Dunstall Water Bridge	24	5
Aldersley Junction, junction with Birmingham Canal Navigations—Main Line	25	1
Autherley Junction, junction with Shropshire Union Canal —Main Line	25	5
Marsh Lane Bridge	26	3
Coven Heath Bridge First Wharf	27	4
Coven Heath Bridge Second Wharf	27	7
Cross Green Bridge and Wharf	28	3
Slade Heath Bridge and Railway Bridge	29	—
Laches Bridge	29	6
Moat House Bridge	30	2
Deepmore Bridge and Wharf	30	6
The Cross Bridge, Hatherton, junction with Hatherton Branch	31	1
Calf Heath Bridge and Wharf	31	—
Gravelley Way Bridge	32	1
Gailey Wharf, Bridge, Lock No. 32 and Warehouse	33	3
Brick-kiln Lock No. 33	33	4
Boggs Lock No. 34	33	6
Rodbaston Bridge and Lock No. 35	34	4
Otherton Lane Bridge	34	6
Otherton Lock No. 36	35	—

Distance Table.	*Miles.*	*Furlongs.*
Line Hill Bridge	35	1
Filance Lock No. 37	35	2
Penkridge Bridge, Wharf, Lock No. 38, and Warehouse	36	1
Longford Bridge and Lock No. 39	36	5
Longford Bridge	36	7
Teddesley Bridge	37	1
Park Gate Bridge, Wharf and Lock No. 40	37	4
Shutt Hill Bridge and Lock No. 41	38	2
Acton Bridge and Wharf	38	6
Roseford Bridge	39	5
Deptmore Lock No. 42	40	—
Hazelestrine Bridge	40	3
Radford Bridge, Wharf and Warehouse (Inn)	41	2
Baswich Bridge and Salt Works	41	6
Lodgfield Bridge	42	4
Stoneford Bridge	43	—
Millford Bridge	43	6
Tixall Bridge	44	4
Old Hill Bridge, Wharf and Lock No. 43	44	6
Haywood Wharf and Junction, junction with Trent and Mersey Canal	46	1

Hatherton Branch

Hatherton Junction, junction with Main Line, to:		
Saredon Mill Bridge	—	6
Four Crosses Bridge	1	2
Wedges Mills	2	—
Walk Mill, Old Coppice and Great Wyrley Collieries	2	6
Churchbridge Junction, junction with Birmingham Canal Navigations—Churchbridge Branch Canal	3	4

No. 95

RIVER STOUR (Dorset)

Authority. None.

Note. The bed of the river is owned by the West Hampshire Water Co., 21, Stour Road, Christchurch, Hants.
'*Phone:* Christchurch 61.

From and To. Christchurch Bar to Iford Bridge.

Distance. 4 miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. 50 ft.

Beam .. .. 12 ft.

Draught .. .. 2 ft. to 3 ft.

Headroom. Approximately 6 ft. at Tuckton Bridge, at H.W.S.T., otherwise unlimited.

Craft of considerably greater dimensions and drawing up to 5 ft. 6 ins. of water can navigate up to Tuckton Bridge. Navigation in the harbour is restricted to vessels drawing only 6 ft. of water.

Locks. Nil. Tidal throughout.

Towing Path. None.

General Remarks. The channel and entrance over the Bar is buoyed by the Christchurch Sailing Club. For boats entering the river and harbour without local knowledge, a pilot is advised. Adjoining River Avon is navigable from Christchurch Quay to Waterloo Bridge about $\frac{1}{4}$ mile. For further details see *The Pilot's Guide to the English Channel.*

No. 96

RIVER STOUR (Kent)

Authority. From the sea to Poulders Sluice about three-quarters of a mile above Sandwich, the river is under the jurisdiction of :—

The Sandwich Port & Haven Commissioners,
1 Potter Street, Sandwich.
'*Phone:* Sandwich 71.

Harbour Master's Office, Richborough.
'*Phone :* Sandwich 146.

Distance.

The Entrance to Sandwich	about 4 miles
Sandwich to Fordwich	15 miles

General Remarks and Navigation. From the entrance of the river at Pegwell Bay to Richborough, springs rise 12 ft. and neaps 9 ft. At Sandwich deduct about 2 ft. 6 ins. At low tide there is very little water in the lower reaches of the river.

River Stour above Sandwich. The river is tidal to Fordwich where further progress is stopped by a milldam. Small craft up to about 4 feet draught can navigate the Stour up to Fordwich, near Canterbury. Care should, however, be taken of weeds above Sandwich, and also a look-out kept for weed booms.

Vessels for Richborough should not exceed 190 ft. in length.

Vessels for Sandwich should not exceed 115 ft. in length.

Bridges. At Sandwich there is the Barbican bridge, which can be opened on application to the Toll Collector at the Bridge house.

There are 4 bridges above this point, the clearance of which is not more than 20 feet above high water springs.

Towing Path. None.

Moorings. At the Wharf, Sandwich.

Port Charges. **Sandwich.** For yachts, inwards and outwards 3d. per net reg. ton.

Tidal Information. High water at Sandwich 30 minutes after Ramsgate. Spring tides rise 8 ft. and Neap tides rise 7 ft. at Sandwich.

Distance Table.	*Miles.*	*Furlongs.*
Fordwich Mill to:		
Stodmarsh	2	5
Grove Ferry, Railway Station (Southern Region)	5	1
Channel to Sarre (Old outlet to the sea, not navigable)	8	2
Road Bridge, Plucks Gutter	8	3
Junction with Little Stour River	8	5
Railway Bridge	11	7
Richborough Castle and Roman Amphitheatre	13	—
Sandwich Bridge	15	2
Richborough, Stonar Cut (not navigable)	18	3
Pegwell Bay, Pepper Ness	19	2

No. 97

RIVER STOUR (Suffolk)

Authority. The concern owning this navigation has ceased to exist since 1938. As a result the navigation works have decayed, and the sea is destroying much of the character of Constable's country.

From and To. Junction with the Tidal River at Brantham Lock (near Manningtree) to Sudbury.

Distance. 23½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	95 ft.
Beam	10 ft.
Draught	2 ft. 6 ins.
Headroom	6 ft.

Locks. 15. (Only Dedham, Flatford and Brantham Locks are usable.)

Bridges. Numerous.

Charges. None.

Remarks. Navigation on this waterway has ceased to exist apart from local rowing boats. Lighters could navigate from Brantham Mill to Stratford St. Mary.

Drainage Authority. River Stour (Essex and Suffolk) Catchment Board, 16, Friar's Street, Sudbury, Suffolk.
'*Phone:* Sudbury 2058.

Towing Path. From Sudbury to Brantham Lock.

Tidal Information. Spring tides flow to the tail of Flatford Lock.
Neap tides flow to the tail of Brantham Lock.
High tide at Wrabness 23 minutes after Harwich.
Spring tides rise 12 ft.

High tide at Mistley 42 minutes after Harwich.

Spring tides rise 11 ft 6 ins.

High tide at Cattawade Bridge, 1 hour 2 minutes after Harwich.

Spring tides rise 4 ft. 3 ins.

River is tidal from Brantham Lock to Orwell Haven and is used by sea-going vessels. The River Orwell joins the Stour near Orwell Haven and is navigable (tidal throughout) to Ipswich, a distance of 9½ miles. This channel to Ipswich is dredged to 17 ft. Due to the tidal currents the tidal portions of the Orwell and Stour should not be attempted without local knowledge. For further information see *The Pilot's Guide to the Thames Estuary*.

Distance Table.	*Miles.*	*Furlongs.*
Sudbury to:		
Cornard Lock No. 1	1	—
Henny Lock No. 2	2	6
Pitmore Lock No. 3	3	6
Bures Bridge and Wharf	6	6
Bures Lock No. 4	7	3
Wormingford Lock No. 5	9	1
Swan Lock No. 6	9	3
Wiston Lock No. 7	11	3
Nayland Lock and Village, No. 8	12	5
Horkesley Lock No. 9	13	1
Boxted Lock No. 10	16	1
Langham Lock No. 11	17	1
Stratford Lock No. 12	18	7
Stratford Bridge	19	5
Dedham Lock and Village, No. 13	20	4
Flatford Lock, No. 14, and Mill ("Constable's Mill")	22	1
Brantham Lock No. 15	23	5
Cattawade Bridge	24	3
Manningtree	about 25	—
Mistley	about 26	—
Wrabness	about 30	—
Parkeston	about 34	—
Harwich	about 35	4

No. 98

STOURBRIDGE CANAL

Authority. The Divisional Officer, Docks and Waterways Executive, South-Western Division, Dock Office, Gloucester.
'*Phone:* Gloucester 24421.
Telegrams: ' Dainwex, Gloucester.'

From and To. Stourton Junction, junction with Staffordshire and Worcestershire Canal to Black Delph, junction with Birmingham Canal Navigations. Branches to Stourbridge (1¼ miles), and The Fens on Pensnett Chase (¾ mile).

Distance. 5¼ miles. Stourbridge Branch 1¼ miles. Fens Branch ¾ mile.

Maximum Dimensions for Craft Using Waterway.

Length	70 ft.
Beam	7 ft.
Draught	4 ft.
Headroom	9 ft.

Locks. 20. Lock gates worked by Boat Crews. Flights of 16 and 4.

Towing Path. Throughout navigation.

Bridges. Several—*see* Headroom.

Speed Limit. 3 miles per hour.
Usual Canal Regulations.

Charges. 15/-.

Payment of Tolls on passage to Toll Clerks.

General Remarks. The Branch to The Fens on Pensnett Chase connects at Blackmoor Junction with the Stourbridge Extension Canal.

Distance Table.	*Miles.*	*Furlongs.*
Stourton Junction, junction with Staffordshire and Worcestershire—Main Line—and tail of Stourton Lock, to:		
Head of Stourton Top Lock No. 4	—	2
Wordsley Junction, junction with Stourbridge Branch and bottom of the sixteen locks (No. 5)	2	—
Buckpool	2	7
Lays Junction, junction with Branch to the Fens on Pensnett Chase, and top of sixteen locks (No. 20)	3	2
Brettell Lane	4	3
Black Delph, junction with Birmingham Canal Navigations —Dudley Canal—Line No. 1	5	1
Stourbridge Branch		
Wordsley Junction, junction with Main Line, to:		
Holloway End	—	7
Stourbridge	1	2
Branch to The Fens on Pensnett Chase		
Lays Junction, junction with Main Line, to:		
Brockmoor Junction, junction with Stourbridge Extension Canal	—	2
The Fens, Pensnett Chase	—	6½

No. 99

STOURBRIDGE EXTENSION CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, South-Western Division, Dock Office, Gloucester.
'*Phone:* Gloucester 24421.
Telegrams: ' Dainwex, Gloucester.'

From and To. Brockmoor to Oak Farm.

Distance. 2 miles. Bromley Branch ¼ mile, Sandhills Branch ¾ mile.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft.
Beam	7 ft.
Draught	4 ft.
Headroom	6 ft. 6 ins.

Locks. 1. (Stop lock.)

Towing Path. Throughout Navigation.

Bridges. Numerous.

General Remarks. This canal is in a very weedy state and can only be navigated for approximately ½ mile, from junction with Stourbridge Canal.

Distance Table.

Brockmoor Junction, junction with Stourbridge Canal, to:	*Miles.*	*Furlongs.*
Stop Lock, and junction with Bromley Branch	—	1½
Junction with Sandhills Branch	—	5
Oak Farm	2	—

No. 100

STOVER CANAL

Authority. Railway Executive, Western Region,
Paddington, London, W.2.
'*Phone:* Paddington 7000; Ext. 2618.
Telegrams: ' Engineer, Paddington Station, London.'

From and To. Jetty March Junction with River Teign to Canal Head (¼ mile above Teigngrace Station).

Distance. Nearly 2 miles.

Maximum Dimensions for Craft Using Waterway.

Length	54 ft.
Beam	14 ft.
Draught	3 ft. 6 ins.

Locks. 4.

Towing Path. None.

General Remarks. Below Jetty Marsh Lock to River Teign navigation is Tidal. Railway Executive's jurisdiction ceases 110 yds. below Jetty Marsh Lock. Navigation continues for ½ mile through a backwater of the River Teign.
This canal is unnavigable at present.

No. 101

STRATFORD-ON-AVON CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, South-Western Division, Dock Office, Gloucester.
'Phone: Gloucester 24421.
Telegrams: ' Dainwex, Gloucester.'

From and To. King's Norton to Stratford-on-Avon.

Distance. 25½ miles. Branch to Grand Union Canal is ⅛ mile long.

Maximum Dimensions for Craft Using Waterway.

Length	71 ft. 8 ins.
Beam	7 ft. 0 ins.
Draught	3 ft. 3 ins.
Headroom	6 ft. 0 ins.

Locks. 56. Lock gates worked by Lock Boat Crews, under supervision Lock Keeper or Canal Staff. Lock handles may be hired. Kingswood to Grand Union Canal Branch, 1 lock.

Bridges. 70. Mostly fixed.

Tunnels. **King's Norton.** 352 yards. No towing path.

Speed Limit. 4 miles an hour.

Charges. Same as Grand Union Canal. Payment to The Divisional Traffic Officer, South-Western Division, Docks and Inland Waterways Executive, 16, Bridge Street, Broad Street, Birmingham, 1.
'Phone: Midland 4961.

Connections. To Grand Union Canal at Kingswood via Short Branch ⅛ mile long.

Towing Path. Throughout navigation, except King's Norton Tunnel.

Remarks. This canal is very weedy and in need of dredging. An ex-G.W.R. canal, it has been partially cleaned out by the Executive already, but some difficulty may be experienced due to mud banks. Special care should be taken at the bridges as there are many scours.

Navigation beyond Wilmcote is practically impossible at the moment due to the pounds being empty, but these would no doubt be filled if application was made in the appropriate manner, as the canal is not closed by Act of Parliament. On locking through into the Avon, it is possible to navigate about 5 miles upstream. There are no locks.

Distance Table.	*Miles.*	*Furlongs.*
King's Norton, junction with Worcester and Birmingham Canal, to:		
King's Norton Stop Lock No. 1	—	1
King's Norton Tunnel	1	—
Yardley Wood	3	—
Warings Green	7	6
Hockley Heath	9	6
Lapworth Top Lock No. 2	10	6
Kingswood, head of Lock No. 20, and junction with Branch to Warwick and Birmingham Canal	12	4
Lowsonford	14	2
Preston Bagot Locks Nos. 36, 37 and 38	16	2
Wootten Wawen	18	4
Bearley Aqueduct	19	7
Wilmcote Railway Station	21	7
Bishopton	23	6
Stratford-on-Avon, Lock No. 56, and junction with Upper Avon Navigation (now derelict)	25	4

No. 102

STROUDWATER CANAL

Authority. Stroudwater Navigation Co., 13, Wallbridge, Stroud, Gloucester.
'Phone: Stroud 175.

From and To. Stroud (junction with Thames Severn Canal) to River Severn.

Distance. 8 miles.

Maximum Dimensions for Craft Using Waterway.

Length	70 ft.
Beam	15 ft. 6 ins.
Draught	4 ft. 6 ins.
Headroom	11 ft. 6 ins.

Locks. 13.

Towing Path. Throughout Navigation.

General Remarks. The canal crosses the Gloucester and Berkeley Ship Canal on the level. This Navigation is in a very bad state, and most of its length is unnavigable, due to the failure of the owners to maintain it to statutory standards.

Tidal Information. High tide at Framilode about 1 hour 45 minutes after Avonmouth. Spring tides rise about 10 ft.

Distance Table.

	Miles.	*Furlongs.*
Wallbridge, Stroud, junction with Thames and Severn Canal —Main Line—to:		
Dudbridge Top Lock No. 1	—	4
Double Locks Nos. 3 and 4	1	6
Stonehouse Bridge	2	5
Newtown Bridge	3	5
Newtown Lock No. 5	3	6
Pike Lock No. 7 and Bridge	4	1
Westfield Lock No. 9 and Bridge	4	4
Bristol Road Lock No. 10	5	3
Whitminster Lock No. 11	6	5
Saul, junction with Gloucester and Berkeley Ship Canal (right and left)	7	—
Junction Lock No. 12	7	1
Tail of Framilode Lock No. 13, and junction with River Severn Estuary	8	—

No. 103

SURREY CANAL

Authority. Port of London Authority,
Trinity Square, London, E.C.3.
'Phone: Royal 2000.
Telegrams: ' Polafen, London.'

From and To. South End Greenland Dock to Camberwell Wharf.

Distance. 3 miles. Peckham Branch, ½ mile.

Maximum Dimensions for Craft Using Waterway.

Length	105 ft.
Beam	17 ft. 9 ins.
Draught	4 ft. 9 ins.
Headroom	8 ft.

Locks. 1.

Towing Path. Throughout Navigation.

Bridges. Numerous.

General Remarks. Purely a commercial waterway.

Distance Table.

South end of Greenland Dock, Canal Lock and Toll Office, to:	*Miles.*	*Furlongs.*
Blackhorse Bridge, Deptford	—	5
South Thames Gas Board, Gas Works	1	5
Old Kent Road Bridge	2	—
Junction with Peckham Branch (½ mile long)	2	2½
Camberwell Wharf	3	1

No. 104

RIVER TAMAR

Authority. King's Harbour Master, Devonport, Devon.

From and To. Saltash Railway Bridge to Weir Head.

Distance. 10 miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. Not limited

Beam .. .. „ „

Draught. At high water vessels drawing 5 ft. can reach Weir Head.

Headroom .. .. 100 ft.

Locks. Nil. Tidal throughout.

Towing Path. None.

Connections. St. Germans River joins the Hamoaze, as the Tamar is called below Saltash Bridge. Navigable for light craft at high tide to Tideford, a distance of 6¾ miles. Maximum draught is 6 ft. at high water.

River Tavy joins the Tamar 1½ miles above Saltash Bridge. This is navigable to about 1½ miles above Maristow Quay at high tides, a distance of about 5 miles. Maximum draught to Maristow Quay 8 to 10 ft. and 5 ft. to head of navigation.

Both of these rivers are under the same authority as the Tamar.

Bridges. Railway bridges at Saltash and Calstock. Electric cables restrict headroom to 40 ft. on the Tavy.

River Dues. Nil.

General Remarks. Lock at Weir Head is not now workable and navigation to Gunnislake is no longer possible.

Tidal Information. High tide at Weir Head 40 minutes after Plymouth. Spring tides rise 5 ft. 3 ins. Neap tides rise 1 ft. 3 ins.

Distance Table.	*Miles.*	*Furlongs.*
Weir Head Lock (not now in use) to:		
Morwellham Quay (Morwell Rocks, Tamar Beauty Spot)	1	6
New Quay	2	4
Okeltor	3	2
Calstock	4	5
Halton Quay	7	7
Pentillie	8	4
Weirquay	10	4
Cargreen	12	—
Tavy Junction, junction with River Tavy (Tidal to Lapwell)	13	1
Saltash Railway Bridge	14	5
Junction with St. Germans River	15	3
Devonport (Steam Ferry)	17	4
Plymouth	19	—

No. 105

RIVER TEES

Authority. Tees Conservancy Commissioners, Middlesbrough.
'Phone: Middlesbrough 3078.
Telegrams: ' Teescom, Middlesbrough.'

From and To. Fardean Side Ford to River Mouth.

Distance. 24 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	" "
Draught:	
Average available depth of water from Mouth of River to Middlesbrough:	
High Water Spring Tides	34 ft.
High Water Neap Tides	29 ft.
Depth Middlesborough to Stockton:	
High Water Spring Tides	25 ft.
High Water Neap Tides	20 ft.
Depth Stockton to Yarm (not dredged or sounded) is:	
High Water Spring Tides	9 ft.
High Water Neap Tides	6 ft.
Depth available to Fardean Side Ford is approximately 4 ft. 6 ins., but even on some high tides there is sometimes a draught of only 6 in. to 1 ft.	
Headroom	16 ft.

Towing Path. None.

Locks. Nil. River tidal throughout.

Charges. None for pleasure craft.

General Remarks. The navigation is mainly used by sea-going vessels and is not generally used for pleasure boating. Commercial barges use the navigation.

Tidal Information. High water at Yarm 55 minutes after Middlesbrough. Spring tides rise 8 ft. Neap tides rise 3 ft.

High water at Stockton 15 minutes after Middlesbrough. Spring tides rise 17 ft. Neap tides rise 12 ft.

Distance Table.	*Miles.*	*Furlongs.*
Fardean Side Ford to:		
Yarm Bridge	3	2
Thornaby	10	5
Newport	13	2
Ferry (Middlesbrough to Port Clarence)	15	7
Mouth of River at Low Water	24	—

No. 106

RIVER TEIGN

Authority. Teignmouth Harbour Commission, 2, Orchard Gardens, Teignmouth, Devon.
'*Phone:* Teignmouth 376/7.

From and To. Newton Abbott to Teignmouth.

Distance. 5 miles. Backwater Branch to Stover Canal, ½ mile.

Maximum Dimensions for Craft Using Waterway.

Length.	Up to Teignmouth Harbour ..	220 ft.
Beam	.. ..	Not limited
Draught.	Up to Teignmouth Harbour ..	13 ft. 6 ins.
	Up to Newton Abbot	3 ft. 6 ins.
Headroom	.. ..	Not limited

Locks. None. Tidal throughout.

Towing Path. None.

General Remarks. There is no traffic on the Teign proceeding to the Hackney and Stover Canals as they are out of use at the present.

Charges. Permanent Yacht Moorings:
£6 per annum up to 50 ft.
£12 ,, ,, over 50 ft.

Temporary Yacht Moorings:
5/- per week 10 registered tons.
7/6 ,, ,, 20 ,, ,,
10/- ,, ,, 30 ,, ,,
2/6 ,, ,, over 30 tons.

For every vessel, every time it comes into the harbour of Teignmouth, 2d. per ton net registered.

Tidal High tide at Newton Abbot 7 minutes after Teignmouth. Spring tides rise 9 to 10 ft. Neap tides rise 6 ft.

Distance Table.	*Miles.*	*Furlongs.*
Head of Navigation, near Newton Abbot, to:		
Newton Abbot, junction with backwater leading to Stover Canal (length of backwater ½ mile)	—	3
Newton Abbot Wharves and Railway Bridge (W.R.)	—	4
Western extremity of estuary and junction with Hackney Canal (now derelict)	1	2
Teignmouth, mouth of River	5	—

No. 107

RIVER THAMES

Authorities.

Below Teddington:

The Port of London Authority,
Trinity Square, Tower Hill, E.C.3.
'Phone: Royal 2000.
Telegrams: ' Polafen, London.'

Above Teddington:

The Thames Conservancy Board,
2 and 3, Norfolk Street, Strand, London, W.C.2.
'Phone : Temple Bar 5855.

From and To.

London Bridge to Lechlade.

For Lower Section, London Bridge to the sea, *see The Pilot's Guide to the Thames Estuary*, published by Messrs. Imray, Laurie, Norie & Wilson, Ltd., 143, Cannon Street, London, E.C.4.

General Remarks.

The River continues to Cricklade about 10 miles above Lechlade, but is not navigable above the latter place.
As far as the tail of Richmond half tidal lock the river is tidal. That part of the river to just short of Teddington Lock, is under the jurisdiction of the Port of London Authority, and above Teddington Lock the Thames Conservancy Board.

Distances.

London Bridge to Teddington Lock	..	18¾ miles.
,, ,, ,, Lechlade Bridge	..	143¼ ,,

PORT OF LONDON AUTHORITY SECTION

Tidal Information.

It is **high water** full and change at :—

Richmond Lock at **3 hours 9 minutes.** Springs rise 15¾ ft., Neaps 12 ft.

Kew Bridge at **2 hours 53 minutes.** Springs rise 17 ft., Neaps 13½ ft.

Battersea Bridge at **2 hours 21 minutes.** Springs rise 19 ft., Neaps 15 ft.

London Bridge at **1 hour 58 minutes.** Springs rise 22¼ ft., Neaps 18¼ ft.

High Water 2 hours 41 minutes *after* **Dover.**

The approximate time of high water at the undermentioned places above London Bridge is later as follows :—

Teddington	1 hour	27	minutes	*later.*
Richmond Lock	1 „	11	„	„
Kew Bridge	0 „	55	„	„
Hammersmith Bridge ..	0 „	39	„	„
Putney Bridge	0 „	33	„	„
Cadogan Pier, Chelsea ..	0 „	22	„	„

The following is the approximate duration of the tidal stream under normal conditions :

	Ebb.		**Flood.**	
	Hours	*Mins.*	*Hours*	*Mins.*
Teddington Lock to Kew ..	8	0	4	0
Kew to Chelsea	7	30	4	30
Chelsea to London Bridge ..	7	15	4	45

The normal rate of the flood is 2 knots, and the ebb 2½ to 3 knots.

Effect of Flood Water.

Following on prolonged rainfall, particularly during the winter months, a large volume of flood water passes down the river from the upper reaches.

Its effect is evident on the surface of the stream as far as Wandsworth and Chelsea. It upsets all tidal predictions and causes the stream to run downward continuously for days at a time.

Coincident with an ebb tide (Springs) the velocity of the flow attains a speed of as much as 4 to 5 knots. Under these conditions it is dangerous to attempt navigation with small power craft against the stream. At Richmond Bridge during flood time, the water runs through the arches like a mill race, standing up on the upstream side of the buttresses to 3 to 4 feet higher than the lower side.

The eddy effect on the downstream side of the bridge is very dangerous, and navigation against the stream through the arches should not be attempted without due regard to this danger.

Maximum Dimensions for Craft.

Draught, *see* Depths.

Headroom, *see* Bridges.

Depths. The following are the approximate depths of water in each section :—

	High Water.	*Low Water.*
London Bridge to Vauxhall	19 ft. to 20 ft.	6 ft. 0 ins.

There are few patches of 3 ft. to 4 ft. at low tide near Waterloo Bridge and each side of Westminster Bridge and just below Vauxhall Bridge.

Vauxhall Bridge to Battersea Bridge	18 ft. 0 ins.	6 ft. 6 ins.
Battersea Bridge to Hammersmith Bridge ..	16 ft. to 17 ft.	4 ft. 6 ins.
Hammersmith Bridge to Kew Bridge ..	15 ft. 6 ins.	4 ft. to 5 ft.

Patches of 3 ft. below Kew Bridge at low tide.

Kew Bridge to Richmond Bridge	12 ft. 6 ins.	3 ft. to 4 ft.

There are patches of only 2 ft. to 3 ft. and even less abreast of Syon Park, and about 2 ft. just past Isleworth Ferry at low tide.

Richmond Lock to Teddington Lock—5½ ft. of water at a maintained level, 12 ft. at high water ordinary tides.

Locks. **Richmond Lock.** The first lock on the river is half tidal.

Dimensions : Length .. .. .. 250 ft. 0 ins.

Maximum Breadth .. 26 ft. 8 ins.

Signals : The following are displayed from the lock and weir footbridge.

	By Day.	*By Night.*
(1) When the weir is down, i.e., No through navigation.	A *red* disc suspended from the centre of each arch.	A *red* light over the top centre of each arch.
(2) When weir is up, i.e., All clear for through navigation.	Disc removed.	2 *orange red* lights in each navigation arch.

Vessels wishing to pass through the lock should proceed slowly to within hailing distance of the lock entrance, and await the lock keeper's instructions.

Rates. The following charges are for passing through the lock and returning the same day :—

Every power driven pleasure or passenger craft 1/6

Every sculling boat, skiff, canoe or dinghy .. 3d.

No vessel is allowed to enter the lock, unless there is sufficient water for her to proceed when clear of the gates.

Bridges. **Richmond to Tower Bridge.**

Table showing number of spans across the river, those generally used for navigation, the approx. maximum headway available above H.W.S.T. ; and depth of water under centre arch at dead low water.

Name of Bridge.	*Construction.*	*Spans across Tideway.*	*Navigation Arches numbered from left bank going down.*	*Max. Headway above H.W.S.T. centre.*	*Depth L.W.S.T.*
				ft. ins.	ft. ins.
Richmond	Stone ..	5	2, 3, 4	17 7	5 3
Richmond Rly. ..	Iron ..	3	2, 3	17 9	4 3
Twickenham (New)	Concrete ..	3	2, 3	20 0	4 0
Richmond Lock and Weir (P.L.A.) ..	Iron ..	5	2, 3, 4	18 2	3 0
Kew	Stone ..	3	2, 3	17 9	3 3
Kew Rly. ..	Iron ..	5	3, 4	17 7	3 5
Chiswick (New) ..	Concrete ..	3	1, 2, 3	23 0	6 0
Barnes Rly. ..	Iron ..	3	1, 2	17 9	4 6
Hammersmith ..	Suspension	3	Centre	13 1	3 6
Putney	Stone ..	5	2, 3, 4	17 11	4 4
Fulham Rly. ..	Iron ..	5	2, 3, 4	20 2	4 3
Wandsworth ..	Steel ..	3	Centre	20 0	4 3
Battersea Rly. ..	Iron ..	5	2, 3, 4	20 5	5 11
Battersea	Iron ..	5	2, 3, 4	18 6	5 1
Albert	Suspension	3	Centre	18 0	5 5
Chelsea	Suspension	3	Centre	20 5	5 3
Victoria Rly. ..	Iron ..	4	2, 3	20 2	5 0
Vauxhall	Stone ..	5	2, 3, 4	18 10	5 1
Lambeth	Stone ..	5	2, 3, 4	20 0	4 10
Westminster ..	Stone ..	7	2, 3, 4, 5	18 3	3 7
Charing Cross ..	Iron ..	6	2, 3, 5	23 9	6 5
Waterloo	Stone ..	5	2, 3	27 4	7 6
Blackfriars ..	Iron ..	5	2, 3	23 7	7 4
Blackfriars Rly. ..	Iron ..	5	2, 3	24 11	9 10
Southwark	Steel ..	5	2, 3	25 1	8 7
Cannon Street Rly.	Iron ..	5	2, 3	23 9	9 7
London	Stone ..	5	2, 3	26 6	6 3
Tower Bridge ..	Stone and Iron	3	Centre	29 1 Bascules up 141 ft.	15 10

Lights. At night two *orange red* lights horizontally, are exhibited in each navigation arch of the above bridges, with the exception of the Tower Bridge.

Towing Path. There is a towing path from Teddington to ½ mile above Putney Bridge, but there are several short breaks, and in addition trees on the waterside make the towing path useless in several places, for towing.

Bye-Laws. The following are extracts from the Port of London Authority Bye-laws.

No. 11. Steam launches under way at night exhibit a white light 4 ft. above hull visible from right ahead to 2 points abaft each beam. A red light on port side and a green on starboard side visible from right ahead to 2 points abaft respective beam. These lights to be visible for at least one mile.

No. 21. Vessels aground in fairway off any draw lock above Richmond Lock shall at night exhibit a white light visible all round horizon for 1 mile.

No. 35. Speed to be moderate during fog, mist, snow.

No. 38. Steam vessel navigating river should keep to that side of mid-channel which lies on her starboard hand.

No. 39. Steam vessel crossing river to take care to avoid up or down river traffic.

No. 42. Steam vessel navigating against tide when approaching points in river and Bridges wait before vessel navigating with tide is round.

No. 43. Steam vessel to keep clear of sailing vessel.

No. 44. When one vessel is directed by Bye-laws to keep out of the way of another, the other should keep her course.

No. 46. When a vessel is directed by Bye-laws, to keep out of way of another, she must go slow, stop or astern if necessary.

No. 47. Overtaking vessel always keeps clear of overtaken vessel.

No. 49. Proper look-out always to be kept. The Master is responsible.

No. 50. Harbour Master and his officers to be obeyed and not obstructed.

No. 52. Master of every vessel sunk must inform Harbour Master.

No. 54. Houseboats and launches to remain in positions defined by the Port Authority.

No. 55. Vessels at regattas and other public occasions to observe the directions of the officer of the Port Authority.

No. 60. Vessels to obtain permission before mooring to piers.

No. 61. Engines of steam vessel, moored to buoy, post, dolphin, jetty or other place must not be worked so as to damage that which she is moored to.

No. 62. No vessel moored to, or placed in front of towing path, so as to cause obstruction to navigation or use of towing path.

No. 65. No anchor of use at tiers to be outside line of tiers.

No. 66. Master of every vessel which has lost her anchor must give notice to Harbour Master.

No. 76. Navigable part of channel above Richmond Lock shall always be kept clear for traffic. No vessel may stop so as to impede the traffic.

No. 77. Vessels stopped or aground above Richmond Lock must be removed on request of responsible officer of Port Authority.

No. 78. No vessel to enter Richmond Lock unless there is sufficient water to float her and carry her through.

No. 79. No vessel to enter Richmond Lock with sail up.

No. 80. Every vessel entering Richmond Lock shall immediately pass ropes or chains ashore for making her fast.

No. 81. No person to touch the gear at Richmond Lock and Weir.

No. 84. Persons to refrain from damaging banks, etc., with poles and boat-hooks.

No. 85. No trespassing on towing path allowed.

No. 86. No material to be removed from river banks, weirs or towing paths.

No. 87. No person to use obscene language or be intoxicated.

No. 89. Penalty for breach of Bye-laws not exceeding £10.

Note.—Steam vessels include every vessel propelled by Machinery.

Special Signals.

The common signal for obstructions denoting " Keep Clear " is as follows :—

By Day : A *green* flag and two discs.

By Night : Two *green* lights.

Special Caution.

Isleworth to Putney. Numerous rowing clubs have their headquarters along this part of the river, and a large number of racing eights, fours and single scullers are out daily. The greatest possible care is required in navigating power craft through this area, and on no account must wash be made.

It may be added that there are no special bye-laws favouring rowing craft, but it will hardly be necessary to mention that in common courtesy, power craft should give all rowing boats the widest possible berth, consistent with their own safety.

Special arrangements are made for regattas, etc., particulars of which will be found in printed notices issued by the P.L.A. On such occasions all craft must keep clear of the course.

Anchorages and Moorings.

All anchorages and public moorings within the limits of the Port of London, between Teddington and London Bridge are the property of the Authority. Numerous private firms, however, have berthing space along this part of the river, which are held by licence from the P.L.A. Particulars as to situation and rates are given in a subsequent Table.

Private Moorings. No mooring may be laid down without the permission of the Authority. Subject to suitable sites, such permission may be granted on application to The Chief Harbour Master, Port of London Authority, London, E.C.3.

The completed application must be returned to the P.L.A. with plans in triplicate, showing the location of the proposed mooring. The key plan must be on a scale of 6 inches to the mile, and show both banks of the river half a mile below and above the site.

The general plan must be on a scale of 5 ft. to the mile, and show the immediate locality with the moorings located in red. The P.L.A. draughtsman will, however, provide facilities for making the tracings from special river charts.

When the application has been approved the moorings are assessed according to their value to the applicant, who has to pay a fee varying from £2 to £5 per annum in addition to the Assessor's fee.

Houseboats, etc. Bye-laws, permitting moored Houseboats, provided they are alongside of a frontage, are about to come into operation. Permission required beforehand, and full particulars must be obtained from the P.L.A.

Anchorages. There are certain parts along the river where the Authority allow craft to anchor free of charge for a reasonable time. These areas between Teddington and London are as follows :—

Teddington to Petersham Ait..	Middlesex shore close into the bank.
Petersham Ait to Richmond Bridge	Not advisable.
Richmond Bridge to Railshead Ferry (St. Margarets) ..	Middlesex shore only.
Railshead ferry (St. Margarets) to Isleworth Church	Inside backwater only (dries out).
Isleworth Church to just above Brentford barge roads ..	Middlesex shore only.
Brentford barge roads to Kew Bridge	Not advisable.
Kew Bridge to Hammersmith Bridge	Middlesex shore.
Hammersmith Bridge to Putney	Surrey shore.
Putney to Chelsea	Either shore, close into banks.

Note. *Riding lights are essential at all anchorages.*

P.L.A. Harbour Offices. That part of the River, Teddington to the Nore, under the control of the Port of London Authority is divided into 3 sections, Upper, Middle and Lower: each Section being under the jurisdiction of an Assistant Harbour Master who is responsible to the Chief Harbour Master through the Deputy Harbour Master.

Chief Harbour Master's Office is at the Head Office of the Port of London Authority, Trinity Square, Tower Hill, London, E.C.3.

'*Phone:* Royal 2000. *Ext.* 92/378.

The Assistant Harbour Masters are stationed as follows :—

Kew. Kew Toll House. Just below Kew Bridge.

'*Phone :* Richmond 0574.

(For emergency only) : Richmond 0634.

Woolwich. Woolwich Harbour Service Pier.

'*Phone :* Woolwich 0623.

Tilbury Landing Stage :

'*Phone:* Gravesend 123.

If in doubt or difficulty, yacht owners should apply to the Chief Harbour Master, Assistant Harbour Masters or the River Inspectors, who will be pleased at all times to give them advice and attention.

Branches (P.L.A. Section)

The following Creeks are under the jurisdiction of the Port of London Authority:—

Wandsworth Creek	¼ mile.
Deptford Creek	¾ ,,
Bow Creek	1 ,,
Barking Creek	2 miles.
Rainham Creek	1¼ ,,

The Wandsworth Cut, Ham Dock, Kensington Canal and Grosvenor Canal and River Roding are listed elsewhere in this book.

THAMES CONSERVANCY SECTION

Branches.

Branch to Oxford Canal	⅛ mile.
Branch to Kennet and Avon Navigation .. (1 Lock, Blake's Lock, Reading.)	1 ,,
Branch to River Wey	200 ft. long.

The above are under the jurisdiction of the Thames Conservancy.

Maximum Dimensions for Craft Using Waterway.

Teddington to Windsor.

Length	132 ft. 0 ins.
Beam	17 ft. 6 ins.
Draught	6 ft. 0 ins.
Headroom	13 ft. 2 ins.

(Lowest bridge in this section, Windsor.)

Windsor to Reading.

Length	130 ft. 0 ins.
Beam	17 ft. 6 ins.
Draught	4 ft. 0 ins.
Headroom	12 ft. 6 ins.

(Lowest bridge in this section, Cookham Cut.)

Reading to Oxford.

Length	120 ft. 0 ins.
Beam	17 ft. 3 ins.
Draught	3 ft. 9 ins.
Headroom	11 ft. 8 ins.

(Lowest bridges in this section Clifton and Culham.)

Oxford to Lechlade.

Length	109 ft. 0 ins.
Beam	14 ft. 9 ins.
Draught	3 ft. 6 ins.
Headroom	7 ft. 7 ins.

(Lowest bridge in this section, Osney.)

Note.—The headroom under bridges is for standard summer level.

Locks.

44. Lock gates worked by Lock Keepers.

The services of the lock and ferry staff are only available to the public from 7 a.m. to 11 p.m. during "summer time," and from 7 a.m. to 6 p.m. for the remainder of the year.

This does not apply to Teddington and Molesey Locks, where special conditions prevail, and where the services of the lock staff are always available.

Towing Path.

Throughout navigation from Lechlade to Teddington, except for a few short breaks.

Bridges. 69, all fixed. For maximum headroom *see* Dimensions.

Approx. Time taken to Navigate. This, of course, depends upon the type of vessel used, but a steamer averages approximately 5 miles an hour which includes time taken up by lockage. This may be taken as a rough guide.

Speed Limit and Bye-laws. Every vessel must be navigated with care and caution and at a speed and in such a manner as not to endanger the lives of or cause injury to persons, or endanger the safety of or cause danger to other vessels, moorings, river banks or property. The Conservators do not register vessels capable of being driven at high speed. The Bye-laws of the Thames Conservancy should be applied for, and carefully read before navigating the river. Two separate sets of Bye-laws are issued as follows :—

"Thames Conservancy (Navigation and General) Bye-Laws 1934." Price 1/-.

"Thames Motor Launch Bye-Laws, 1926." Price 6d.

"Hints for the Guidance of Motor Boat Users"—issued free to registered boat owners.

Certain preliminaries, etc., are necessary, such as registration, etc., before power craft can be permitted to use the river, brief particulars of which will be found in the following sections.

Information respecting the Registration and Licensing, etc., of Launches for use upon the River Thames.

Registration and Lock Tolls. All motor launches with inboard or outboard engines are required to be registered and licensed at the offices of the Conservancy annually before being used on the River at or above Teddington. The charges for registration and for lock tolls and season lock passes for steam, electric and motor launches are set out in the following section under "Charges."

Lights. All launches navigating between **Sunset** and **Sunrise** must exhibit the following lights and no others :—

(1) On the mast or staff at the bow, at a height of not less than 4 feet, a bright white light.

(2) On the starboard side a green light.

(3) On the port side a red light.

(Tricolour or bicolour lights will not satisfy the requirements.)

Sound Signals. All launches are required to be provided with an efficient sound signal of a type to be approved by the Conservators.

Navigation. Launches should be navigated as near mid-stream as possible, and when two launches are meeting they should, where circumstances permit, pass port side to port side.

Sanitary Appliances. No vessel is permitted to have on board any sanitary appliances connecting with the River by pipe or otherwise, and it is an offence to discharge from any vessel into the River any offensive or injurious matter.

Identification. No two launches are registered in the same name, and each launch is required to have its name painted conspicuously upon each side of the bow and upon the stern.

Moorings. Arrangements for mooring launches must be made with the owner of the land off which launches are to lie or with a boat-letter who has vacant moorings.
If piles, buoys mooring chains, or any accommodations in the River are required, it is necessary to obtain the Conservators' permission before the accommodations are placed and to submit plans showing the position of the accommodations.

PETROL MOTOR LAUNCHES.

Definition. The expression " petrol motor launch " means any vessel propelled by an internal-combustion engine using motor spirit.

Constructional Requirements and Licence. The Thames Motor Launch Byelaws, which can be obtained on payment of 6d. per copy, prescribe that every petrol motor launch navigated upon the Thames shall be constructed in accordance with the requirements specified therein, and application for inspection with a view to the issue of the necessary licence certifying compliance with these requirements should be made on the appropriate form when registering. No additional fee is charged for the inspection and licence, but the launch must be registered before any inspection can be made, and, to prevent delay, the registration should be effected some time before the vessel is required for use, in order to give the necessary time for the inspection and the issue of the licence.

Fire Extinguishers. The quantity of sand specified on the licence is required to be carried on every motor launch and although there is no objection to a chemical extinguisher being carried in addition to the sand no such extinguisher has been approved by the Conservators under the Bye-laws to be carried instead of sand.

Note.—It is possible under certain circumstances the Conservancy may modify or waive some of the above requirements, for vessels using the river only as a means to reach the Midlands or West Country via the Canals. Short period registration is generally required for through journeys, but is waived in special circumstances. In case of doubt application should be made to the Thames Conservancy.

Charges, List of Registration Charges, and Lock Tolls for pleasure Vessels.

LAUNCHES.

Launches.

Registration Fee. Yearly, Expiring 31st December --	*For every Steam or Electric Launch.* £ s. d.	*For every Petrol Motor Launch.* £ s. d.
Not exceeding 20 ft. in length ..	2 0 0	4 0 0
Exceeding 20 ft. in length, but not exceeding 30 ft.	3 0 0	5 0 0
,, 30 ft. in length, but not exceeding 40 ft.	4 0 0	6 0 0
,, 40 ft. in length, but not exceeding 50 ft.	5 0 0	7 0 0
,, 50 ft. in length ..	6 0 0	8 0 0

Registration for short periods on payment of a Reduced Fee. The following are the minimum fees for a petrol launch not exceeding 20 ft. in length:—

£1 6 8 .. .. for 14 days
£2 0 0 .. .. ,, 28 ,,

Over 20 ft. in length, charges on application.

Note.—There is no registration fee or lock tolls on a towed dinghy, provided such dinghy is a *bona fide* tender.

A " Steam Launch " means any vessel propelled by steam, electricity, or other mechanical power not being used solely as a tug or for the carriage of goods and not

being a petrol motor launch or a vessel certified by the Board of Trade as a passenger steamer to carry two hundred or more passengers; and a "Petrol Motor Launch" means any vessel propelled by an internal combustion engine using motor spirit consisting of any inflammable hydrocarbon either alone or in admixture with any other liquid which is capable of providing the necessary motive power, not being used solely as a tug or for the carriage of goods and not being certified by the Board of Trade as a passenger steamer to carry 200 or more passengers.

Lock Tolls. Once through and returning on the same day—

	For each Lock. s. d.
Not exceeding 20 ft. in length	2 0
Exceeding 20 ft. in length, but not exceeding 30 ft.	3 0
„ 30 „ „ „ 40 ft.	4 0
„ 40 „ „ „ 50 ft.	5 0
„ 50 „ „ „ 60 ft.	6 0
„ 60 „	7 6

Season Pass—Yearly, expiring 31st December.

For every launch and passenger steamer—	*For all Locks.* £ s. d.	*For Eleven Consecutive Locks.* £ s. d.	*For Five Consecutive Locks.* £ s. d.
Not exceeding 20 ft. in length ..	7 10 0	5 0 0	2 10 0
Exceeding 20 ft. in length but not exceeding 30 ft.	10 0 0	6 13 4	3 6 8
„ 30 ft. in length, but not exceeding 40 ft.	12 10 0	8 6 8	4 3 4
„ 40 ft. in length, but not exceeding 50 ft.	15 0 0	10 0 0	5 0 0
„ 50 ft. in length, but not exceeding 60 ft.	20 0 0	13 6 8	6 13 4
„ 60 ft. in length, if not let or plying for hire	25 0 0	16 13 4	8 6 8
„ 60 ft. in length, if let and/or plying for hire	50 0 0	—	—

Passenger Steamers—

Season pass for every passenger steamer certified by the Board of Trade to carry 200 or more passengers	£75 0 0	—	—

Houseboats.

Registration Fee—Yearly—Expiring 31st December.

	£ s. d.
For every houseboat (other than a "stationary" or " dismantled " houseboat)—	
Not exceeding 30 ft. in length	10 0 0
Exceeding 30 ft. in length but not exceeding 35 ft.	11 0 0
Exceeding 35 ft. in length .. .. .. and in addition thereto £1 for every 5 ft. or fraction of 5 ft. by which the same shall exceed the length of 35 ft.	11 0 0
For every " stationary " houseboat (*for definition see below*)	5 5 0
For every " dismantled " houseboat (*for definition see below*)	3 3 0

Lock Tolls—Once through and returning on the same day

	For each Lock.
For every houseboat not exceeding 40 ft. in length ..	5/-
,, ,, exceeding 40 ft. in length ..	7/-

Row Boats, Canoes, etc.

Registration Fee—	*For every Private Pleasure Boat.*	*For every Pleasure Boat for Hire.*
Expiring on the 31st December after date of registration	£0 10 6	£0 7 6
Expiring on the third 31st December after date of registration ..	1 10 0	1 0 0

	Per Day.	*Season Pass (Yearly, expiring 31st Dec. (see note at foot).*
Lock Tolls—		
For every skiff, punt, canoe, sculling boat, pair-oared row-boat, randan, dinghy, or small sailing boat	Once through, by, or over, and returning on the same day.	For the whole of the Locks £3 0 0
		For 11 consecutive Locks £2 0 0
	Each Lock. 6d.	For 5 consecutive Locks £1 0 0
For every four-oared row-boat or sailing-boat (*for definition see below*)	1/-	For the whole of the Locks £6 0 0
		For 11 consecutive Locks £4 0 0
For every row-boat with over four oars		For 5 consecutive Locks £2 0 0

If an outboard motor is used on a vessel, it will be classified as a motor launch, and as such will be subject to registration and inspection under the Thames Motor Launch Bye-laws, 1926.

A " stationary houseboat " is one that is kept stationary throughout the year, and used only for a dressing place or store room for boats' gear, or otherwise in connection with boating.

The expression " dismantled houseboat " means a houseboat not fitted or furnished with furniture or other articles or things usual, necessary or proper for the user thereof as a houseboat, and not being so used.

A " sailing boat " in respect of which a 1/- toll is payable is one that exceeds 22 ft. in length or 5 ft. in beam.

On receipt of the appropriate form and remittance, Registration Certificates and Lock Toll Season Passes will be forwarded by post.

Applications for Lock Toll Season Passes must state the Registered Numbers and descriptions of the Vessels for which the Passes are required.

Lock Toll Season Passes and Registration Number Plates **are not transferable,** and must be fastened to the boats for which they are issued.

Lock Toll Season Passes are not available at Richmond Lock, which is within the jurisdiction of the Port of London Authority.

All persons using the River Thames and the locks, works and towing paths thereof, do so at their own risk, and must take them as they find them.

Sunday Navigation.	Similar to week days.

Distance Table.

Distances above London Bridge

Thames Conservancy Section

	Miles.	*Furlongs.*
Inglesham, junction with Thames Severn Canal (now derelict and abandoned)	144	—
Lechlade Bridge	143	2½
River Cole	142	6½
St. John's Lock and Bridge	142	5½
River Leach	142	4½
Buscot Lock	141	4
Eaton or Hart's Weir	140	1½
Kelmscott	140	6
Grafton Lock	138	1½
Radcot Bridge	137	—
Radcot Lock	136	2½
Old Man's Footbridge	136	1
Rushey Lock	133	5½
Tadpole Bridge	133	—
Tenfoot Footbridge	131	1½
Shifford Lock	129	3
Old Shifford	128	7½
River Windrush	126	7
New Bridge	126	6½
Hart's Footbridge	125	5½
Northmoor Lock	124	5½
Bablockhithe Ferry	123	1
Skinner's Footbridge	121	4
Pinkhill Lock	120	6½
Eynsham Lock	119	1½
Swinford Bridge, Eynsham	119	3½
River Evenlode	118	1
Wytham Mill Stream	117	1
Junction with Dukes Cut Branch—Oxford Canal	116	5
Kings Lock	116	4½
Godstow Bridge	115	4½
Godstow Lock	115	3
Medley Weir	114	—
Oxford, Four Streams, junction with Branch to Oxford Canal	113	3
Oxford, Osney Bridge	113	1½
Oxford, Osney Lock	112	7½
Oxford, Folly Bridge	112	0½
Old Mouth of River Cherwell	111	6½
New Mouth of River Cherwell	111	5
Iffley Lock	110	5
Kennington Railway Bridge	110	0½
Sandford Lock	108	7½
Radley Ferry	107	2½
Nuneham Railway Bridge	105	6
Site of old Towing Path Ferry, now discontinued	104	6½
Abingdon Lock	104	3
Abingdon Bridge	103	7
Abingdon, River Ock	103	5

Distance Table.	*Miles.*	*Furlongs.*
Abingdon, junction with Wilts. and Berks. Canal (now derelict and abandoned)	103	5
Culham Road Bridge	103	—
Culham Lock	101	6½
Sutton Bridge	101	5½
Appleford Railway Bridge	100	4
Clifton Lock	99	—
Clifton Hampden Bridge	98	4
Burcot	97	5
Day's Lock	96	—
River Thame	95	1½
Keen Edge Ferry	94	1½
Shillingford Bridge	93	2½
Benson Lock	92	0½
Wallingford Bridge	90	6½
Chalmore Ferry	90	2½
Little Stoke Ferry	88	1
Moulsford Railway Bridge	87	4
South Stoke Ferry	86	6½
Cleeve Lock	85	4½
Goring Lock	84	7½
Streatley Bridge	84	7
Gatehampton Railway Bridge	83	5
Gatehampton Ferry	83	3
Whitchurch Lock	80	7
Whitchurch or Pangbourne Bridge	80	6
Mapledurham Lock	78	4½
Upper Roebuck Ferry	78	0½
Roebuck Ferry	77	5½
Tilehurst Station	77	2½
Reading, Caversham Bridge	74	7
Reading, Caversham Lock	74	1½
Reading, junction with River Kennet	73	3½
Sonning Lock	71	4½
Sonning Bridge	71	2
Shiplake Lock	68	5
River Loddon	68	4
Shiplake Railway Bridge	68	3½
Wargrave Ferry	68	1
Lashbrook Ferry	67	4
Harpsden Ferry	66	5
Marsh Lock	66	0½
Henley Bridge	65	0½
Regatta Island Temple	63	5½
Hambledon Lock	62	6½
Aston Ferry	62	2½
Medmenham Abbey and Ferry	60	5½
Hurley Lock	59	1
Temple Lock	58	4
Marlow Suspension Bridge	57	—
Marlow Lock	56	6½
Spade Oak Ferry	54	6
Bourne End Railway Station	54	0½

Distance Table.	*Miles.*	*Furlongs.*
Wycombe Stream	53	6
Cookham Bridge and Upper Ferry	53	0½
Cookham Lock and Lower Ferry	52	4½
My Lady's Ferry	52	0½
Boulter's Lock	50	3½
Maidenhead Bridge	49	6½
Maidenhead Railway Bridge	49	5
Bray Lock	48	2½
Monkey Island Hotel	47	7
Oakley Court	46	6
Surly Hall	45	1½
Boveney Lock	45	1½
Railway Bridge (W.R.)	43	5½
Windsor Bridge	43	2
Romney Lock	42	6½
Railway Bridge (S.R.)	42	4
Victoria Bridge	42	0½
Datchet	41	4
Albert Bridge	40	5
Old Windsor Lock	39	6½
The Bells of Ouseley	39	—
Bell Weir, or Egham Lock	36	7½
Colne Brook	36	6½
London Stone	36	2
Staines Bridge	35	7½
River Colne	35	6½
Railway Bridge (S.R.)	35	5
Penton Hook Lock	34	0½
Laleham Ferry	33	2
Chertsey Lock	32	1
Chertsey Bridge	31	7½
Tail of Shepperton Lock and junction with River Wey	30	1
Shepperton	29	4
Halliford, Ship Inn	28	7
Walton Bridge	28	—
Sunbury Lock	26	3½
Hampton Ferry	24	2½
Molesey Lock	23	4
Hampton Court Bridge	23	2½
River Mole	23	2
River Ember	23	—
Thames Ditton Ferry	22	2½
Long Ditton Ferry	22	1
Raven's Ait	21	2½
Kingston Bridge	20	3½
Railway Bridge (S.R.)	20	2½
Teddington Lock	18	5½
Limit of jurisdiction of Thames Conservancy and Port of London Authority	18	3½

Port of London Authority Section

These distances are measured along the navigable channel in statue miles.

Left Bank.	Above London Bridge	Right Bank.
Miles.		*Miles.*
18·61	P.L.A. Landward Limit	18·59
	Ham Dock	18·29
17·84	Eel Pie Island (Upper End)	17·84
17·68	Twickenham Draw Dock.	
17·50	Eel Pie Island (Lower End)	17·50
17·49	Twickenham Ferry	17·49
	Ham Landing Stage	17·39
	Petersham Draw Dock	16·83
	Richmond Landing Stage	16·25
16·16	Richmond Bridge	16·16
	Water Lane Draw Dock	16·05
	St. Helena Wharf	16·03
15·81	Richmond Railway Bridge	15·81
15·60	Richmond Lock and Footbridge (P.L.A.)	15·60
15·38	Railshead Ferry	15·38
15·33	Old River Crane.	
15·05	New River Crane.	
14·98	Isleworth Draw Dock.	
14·93	Church Ferry, Isleworth	14·93
13·83	Brentford Dock (British Railways, W.R.).	
13·75	River Brent and junction with Grand Junction Canal.	
13·74	Old Brentford Ferry (not used)	13·74
13·14	Kew Bridge and Draw Dock	13·14
	Kew Toll House	12·99
12·83	Oliver's Island.	
12·73	Kew Railway Bridge	12·73
	Kingston Creek	12·34
	Surrey County Council Jetty	12·05
12·01	Cubitt's Dock.	
	University Stone, Mortlake	11·77
	"Ship Inn," Mortlake	11·71
	Ship Lane Draw Dock	11·70
	Bull Alley Draw Dock	11·55
11·08	Barnes Railway Bridge	11·08
	Small Profits Dock	10·80
10·55	Chiswick Ferry	10·55
10·08	Chiswick Draw Dock.	
9·45	Hammersmith Creek.	
9·26	Hammersmith Bridge	9·26
9·23	Hammersmith Draw Dock.	
8·76	Crab Tree Draw Dock.	
	Beverley Brook	7·96
	University Stone	7·51
	Putney Draw Dock	7·46
7·43	Putney Bridge	7·43
7·35	Swan Draw Dock	7·26
7·26	Fulham Railway Bridge	7·26
6·71	Broomhouse Dock.	
	River Wandle, junction with Wandsworth Cut	6·61

Left Bank. Miles.		Right Bank. Miles.
6·29	Wandsworth Bridge	6·29
	Silk Factory Draw Dock	5·94
	Battersea Creek	5·88
5·59	Battersea Railway Bridge	5·59
5·49	Chelsea Dock.	
	Church Draw Dock, Battersea	5·35
5·31	Chelsea Creek and Kensington Canal.	
4·96	Beaufort Stairs.	
4·94	Battersea Bridge	4·94
4·79	Cricketer's Stairs.	
	Ransome's Dock	4·74
4·68	Albert Bridge	4·68
4·65	Cadogan Pier (P.L.A.).	
4·59	Yorkshire Grey Stairs.	
4·18	Grosvenor College Stairs.	
3·93	Chelsea Bridge	3·93
3·89	Junction with Grosvenor Canal.	
3·81	Victoria Railway Bridge.	
3·59	William IV Stairs.	
3·50	Belgrave Dock.	
	Heathwall Dock	3·34
	Effra Creek	2·91
2·85	Vauxhall Bridge	2·85
	Lack's Dock	2·78
	White Hart Dock	2·51
2·34	Lambeth Bridge	2·34
	Lambeth Pier	2·30
1·90	Westminster Bridge	1·90
1·86	Westminster Pier (P.L.A.).	
1·70	Whitehall Stairs.	
1·53	Charing Cross Bridge	1·53
1·49	Charing Cross Pier.	
1·30	Waterloo Bridge	1·30
1·05	Temple Stairs.	
0·74	Blackfriars Bridge	0·74
0·69	Blackfriars Railway Bridge (S.R.)	0·69
0·64	Puddle Dock.	
	Falcon Draw Dock	0·63
0·38	Queenhithe Dock.	
0·29	Southwark Bridge	0·29
0·21	Dowgate Dock.	
0·18	Cannon Street Bridge (S.R.)	0·18
	St. Mary Overy Dock	0·09
0·05	Old Swan Pier (P.L.A.).	
0·00	London Bridge	0·00
	Below London Bridge	
	Tower Stairs	0·35
0·56	Tower Bridge	0·56
0·66	St. Katherine Dock Entrance.	
	St. Saviour's Dock Entrance	0·84
1·14	London Docks—Wapping Entrance.	

Left Bank. Miles.		Right Bank. Miles.
	Cherry Garden Pier	1·21
	Princess Stairs	1·43
1·46	Tunnel Pier (P.L.A).	
1·55	Thames Tunnel	1·55
	Surrey Commercial Docks—Surrey Entrance	1·81
1·89	Rotherhithe Tunnel	1·89
1·94	London Docks—Shadwell Entrance.	
	Globe Pier (P.L.A.)	2·20
2·40	Regents Canal Dock Entrance.	
2·45	Limehouse Cut Entrance, River Lee.	
	Surrey Commercial Docks—Lavender Entrance	2·46
2·64	Limekiln Dock.	
2·70	Limehouse Pier (P.L.A.).	
	Cuckholds Point (Horn Stairs)	2·70
2·80	West India Docks—Limehouse Entrance.	
2·95	South West India Docks—Limehouse Entrance.	
3·01	West India Dock Pier (P.L.A.).	
	Commercial Dock Pier (P.L.A.)	3·30
	Surrey Commercial Docks—Greenland Entrance	3·46
	Surrey Commercial Docks—South Dock Entrance	3·56
3·61	Millwall Dock Entrance.	
	Deadman's Dock	3·66
	Royal Victoria Victualling Yard Stairs	3·85
	Watergate Stairs	4·18
	Deptford Creek	4·46
4·69	Port of London Wharf.	
4·80	Greenwich Pier (L.C.C.) and Tunnel	4·80
4·81	Johnson's Draw Dock.	
	Greenwich Royal Naval College	4·91
5·15	Newcastle Draw•Dock.	
5·90	Poplar Draw Dock.	
6·16	South-west India Docks, Blackwall Entrance.	
	Point Draw Docks	6·25
6·31	West India Docks—Blackwall Entrance.	
6·35	Blackwall Tunnel	6·35
6·43	Poplar Dock Entrance.	
6·64	Brunswick Pier (P.L.A.).	
	Blackwall Point	6·69
6·68	East India Docks Entrance.	
6·71	East India Docks—New Entrance.	
6·91	Bow Creek.	
7·10	Royal Victoria Dock Entrance.	
	Bugby's Causeway	7·48
7·64	Hookness.	
8·39	Prince Regent Dock.	
	Woolwich Dockyard Pier	9·11
9·55	Woolwich Ferry and Tunnel	9·55
9·63	North Woolwich Railway Pier (E.R.).	
9·93	Bargehouse Causeway and Draw Dock.	
10·16	Bulls Point.	
10·33	King George V Dock Entrance.	
10·50	Royal Albert Dock—Upper Entrance.	

Left Bank. *Miles.*		Right Bank. *Miles.*
10·59	Royal Albert Dock—Lower Entrance.	
	Ware Point	10·84
	Margaret Ness Lighthouse	11·24
11·44	Northern Outfall Main Drainage.	
11·66	Barking Creek.	
12·25	Barking Power Station.	
	Crossness Point Lighthouse	13·00
	Southern Outfall Main Drainage (Chimney)	13·63
	Jenningtree Point Lighthouse	14·88
15·13	Rainham Creek.	
	Erith Causeway	16·69
16·69	Coldharbour Point Lighthouse.	
	Crayfordness	17·74
	Dartford Creek, and junction with Dartford and Crayford Navigation	18·19
	Long Reach Tavern	18·44
18·49	Purfleet Ferry Causeway.	
	West Kent Drainage Outfall	19·44
	Greenhithe Causeway and Draw Dock	21·56
21·63	Stoneness Lighthouse.	
	Broadness Lighthouse	23·25
23·50	Grays, Thurrock Causeway.	
	Northfleet Lighthouse	25·00
25·13	Tilbury Ness Lighthouse.	
25·19	Tilbury Cargo Jetty.	
25·91	Tilbury Dock.	
26·25	Tilbury Pier (Passenger and Car Ferry).	
	Gravesend Town Pier	26·44
	Junction with the Gravesend and Rochester Canal	27·00
26·96	Bill Meroy Creek.	
27·08	Thurrock Outfall.	
	"Ship and Lobster" Inn	27·54
	Shornmead Fort	29·25
	Shornmead Lighthouse	29·39
29·35	Coalhouse Point.	
29·48	Ovens Buoy.	
	Cliffe Fort	30·26
	Cliffe Creek	30·49
31·14	Mucking No. 2 Buoy.	
	Lower Hope Point	31·83
32·80	Mucking No. 1 Buoy.	
33·06	Mucking Lighthouse (disused).	
	West Blyth Buoy	33·38
35·71	Hole Haven.	
	Middle Blyth Buoy	35·85
	East Blyth Buoy	38·56
38·71	Chapman Lighthouse.	
	Yantlet Creek Buoy	41·14
41·44	No. 3 Sea Reach Buoy—London Stone to Crow Stone	41·44
43·25	Southend Pier.	
46·21	Shoeburyness.	
	Nore Towers	49·55

No. 108

THAMES & SEVERN CANAL

Authority. Gloucestershire County Council, Shire Hall, Gloucester.
'Phone: Gloucester 21444.

From and To. Stroud (junction with Stroudwater Canal) to Bell Lock Chalford. (*Note.*—The section Chalford to Inglesham has been officially abandoned, 1927.)

Distance. 6½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	70 ft.
Beam	11 ft.
Draught	3 ft. 6 ins.
Headroom	8 ft. 6 ins.

Towing Path. Throughout navigation.

Locks. 21.

General Remarks. This section is unnavigable, although it is canoeable in places. The locks are not workable and some have been filled in with concrete. The G.C.C. say it is only used for a floodwater channel, although this section does not appear to have been officially abandoned.

This navigation contained the famous Sapperton Tunnel, over 2 miles long, and is still in fair condition. Connections were made from this navigation to the long derelict Wilts. and Berks. Canal.

Distance Table.

Wallbridge, Stroud junction with Stroudwater Canal, to:	*Miles.*	*Furlongs.*
Wallbridge Upper Lock No. 2	—	1½
Griffin's Lock No. 4	1	3
Gough's Orchard Lock No. 7	2	2
Brimscombe Basin	2	4
Bourne Lock No. 8	2	6

Distance Table.	*Miles.*	*Furlongs.*
St. Mary's Lock No. 10	3	5
Chalford Wharf	4	—
Chalford Chapel Lock No. 13	4	0½
Golden Valley Lock No. 16	4	6½
Baker's Mill Wharf	5	5
Puck Mill Upper Lock No. 20	5	7
Whitehall Bridge	6	3½

(Canal from here to Inglesham has been abandoned by Warrant of the Ministry of Transport, dated 31st January, 1927, and by an Order of the Ministry dated 10th May, 1927.)

No. 109

RIVER TRENT

Authority.

(a) Trent Falls to Gainsborough:

Humber Conservancy Board, Whitefriargate, Hull.

'Phone: Hull Central 35410.

Telegrams: ' Conservancy, Hull.'

(b) Gainsborough to Wilden Ferry:

The Divisional Officer, Docks and Inland Waterways Executive, North-Eastern Division, 1, Dock Street. Leeds, 1.

'Phone: Leeds 20957/8.

Telegrams: ' Dainwex, Leeds.'

From and To.

(a) Trent Falls to Gainsborough.

(b) Gainsborough to Wilden Ferry (6 miles from Derby).

General Remarks.

From its entrance at Trent Falls the river is tidal to as far as Cromwell Lock about 52 miles above Trent Falls. Care is necessary during high Spring Tides in meeting the Eagre or bore on the river below Gainsborough. This sometimes reaches three or four feet in height and reaches Gainsborough at about the time of High Water at Hull. The Eagre can be felt above Torksey.

Through the towns of Newark and Nottingham the navigation leaves the river and follows parallel cuts. The river section from Beeston to Trent Lock, and from Averham Weir to Crankley Point, is unnavigable.

Connections.

The River Trent has junction with the following Waterways :—

(1) The Grand Union Canal at Trent junction.

(2) Trent and Mersey Canal at Shadlow.

(3) Beeston Cut and Nottingham Canal.

(4) Fossdyke Canal at Torksey.

(5) Chesterfield Canal and River Idle at West Stockwith.

(6) Stainforth and Keadby Canal at Keadby.

Tidal Information.

It is **High Water** at **Trent Falls at about 45 minutes to one hour** *after* **Hull**—Springs rise about 14 to 15 ft.
Neaps „ „ 9 to 10 ft.

It is **High Water** at **Gainsborough** at **about 2 hours 15 minutes** to **2 hours 45 minutes** *after* **Hull.**

Distances.

Trent Falls to Gainsborough .. .. 26¼ miles.
Gainsborough to Wilden Ferry .. .. 68½ „

From Trent Falls to Gainsborough :—

Maximum Dimensions for Craft Using Waterway.

Length .. .. Not limited.
Beam .. .. „
Draught .. .. Spring Tides about 9 to 10 ft.
Neap Tides about 5 to 6 ft.
Headroom .. .. Not limited.

One Railway Swing Bridge at Keadby.

From Gainsborough to :—

	Newark.	*Colwick.*	*Nottingham.*	*Wilden Ferry.*
	ft. in.	ft. in.	ft. in.	ft. in.
Length ..	125 0	82 6	82 6	82 6
Beam	17 6	16 0	14 8	14 8
Draught—				
High Water	8 6	6 6	6 6	3 6
Low Water	5 0	5 0	5 0	3 0
Headroom—				
15 ft. width	16 3	10 3	10 3	4 5
7 ft. „	16 3	12 0	12 0	7 6

Locks. 12. Lock gates worked by Lock Keepers.

Towing Path. There is a towing path, Wilden Ferry to Gainsborough.

Bridges. Numerous bridges, fixed and opening, including One Swing Railway Bridge at Keadby between Trent Falls and Gainsborough. For headroom *see* Maximum Dimensions.

Speed Limit and Bye-Laws.

Excessive speed is contrary to the Bye-Laws.

There are very few regulations affecting the use of pleasure craft on the river. Yachtsmen, however, requiring this information should apply to the D. & I.W. Executive (N.E. Division).

Approx. Time taken to Navigate.

Up River, from Gainsborough, about 24 hours.
Down River to Gainsborough, about 15 hours.

Statutory Charges.

River Dues. For passage through Waterway :—

For boats under 20 ft. in length	£1 3 5
,, ,, above 20 ft. ,, ...	1 9 5

Lock Tolls (except Trentlock):—

	Per Lock.
For boats under 20 ft. in length	2/-
,, above 20 ft. ,, ...	2/3
Trent Lock—All pleasure boats	2/5

Seasonal Lock Permits. (For a period of 6 months.)

Boats under 20 ft. in length	£2 5 0
,, over 20 ,, ,, ...	3 0 0

The above Tolls are excluding the Nottingham Canal. With this Canal included, Permits are as follows:—

Boats under 20 ft. in length	£3 0 0
,, over 20 ,, ,, ...	3 15 0

Tolls.

Payable to:—D. & I.W.E., Leeds, or Wilford Street, Nottingham.

Pilotage.

Trent Pilotage rates in the lower reaches are a matter of arrangement between the master or owner of a vessel and the Trent Pilots. Pilotage is advisable below Cromwell Lock due to shoals, many of which are in the centre of the river and are often shifting.

Warning.

Below Nottingham there is a good deal of commercial traffic making a big wash and unable to give way to small craft. Great care is necessary.

Distance Table.	*Miles.*	*Furlongs.*
Wilden Ferry to:		
Cavendish Bridge Old Brewery	—	1½
Derwent Mouth, junction with Trent and Mersey Canal	1	3
Sawley Wharf	2	0½
Sawley Lock No. 2	2	4
Head of Cranfleet Cut, junction with Grand Union Canal —left, and junction with Soar Mouth or Red Hill Branch—right	3	3
Cranfleet, or Old Sal's, Lock No. 3	4	1
Thrumpton Ferry	4	5½
Barton Plaster Wharf	6	1½
Barton Ferry	6	3½
Beeston Lock and commencement of Beeston Cut	8	3½
Lenton Chain, termination of Beeston Cut, and junction with Nottingham Canal	11	—
Tail of Trent Lock, Nottingham, termination of Nottingham Canal, and junction with Main River—Beeston to Trent Lock, Nottingham	13	3½
Nottingham, junction with Grantham Canal (now abandoned)	13	5
Holme Flood Lock No. 5	15	3½
Holme Locks No. 6	15	6
Colwick Top Roving	16	6
Radcliffe Ferry	18	1
Stoke Bardolph Lock No. 7	18	6½
Stoke Bardolph Ferry	19	6
Burton Lane End	21	—
East Bridgford Wharf	23	4
Gunthorpe Lock No. 8	23	4½
Hoveringham Ferry	25	4
Hazelford Ferry	27	5½
Hazelford Lock No. 9	28	2½
Fiskerton Ferry	29	4½
Fiskerton Wharf	30	0½
East Stoke Wharf	31	3
Farndon Ferry	33	1½
Averham Weir, commencement of Newark Dike	34	3½
Farndon Field Maltkiln	35	4
Newark, Plaster Wharf	36	1
Newark, Mill Bridge	36	3½
Newark, Town Lock No. 10	36	5
Newark, Town Wharf	36	6½
Newark, Cow Lane Wharf	37	0½
Newark, tail of Nether Lock No. 11	37	5
Crankley Point, and termination of Newark Dike	38	2½
Muskham Ferry	40	4
Cromwell Lock No. 12	42	1½
Collingham Wharf	43	5
Carlton Ferry	45	1½
Carlton Wharf	45	2½
Besthorpe Staith	46	3½
Meering Ferry	46	7½

Distance Table.	*Miles.*	*Furlongs.*
Sutton Wharf	47	1½
Girton Lane End	48	5
South Clifton Wharf	50	6
Marnham Ferry	51	2
North Clifton Lane End	52	3½
Dunham Bridge	54	1½
Laneham Ferry	56	—
Torksey, junction with Fossdyke Canal	58	2
Torksey Railway Bridge (E.R.)	58	7
Trent Port, Marton	60	4
Littleborough Ferry	61	6
Knaith	63	4
Gainsborough Road Bridge	68	4
Morton	70	3
Walkerith—Walkeringham Ferry	71	7
West Stockwith, junction with Chesterfield Canal	73	—
West Stockwith, junction with River Idle	73	1
Gunthorpe (Lincolnshire)	75	1
Wildsworth	75	6
Owston Ferry	76	3
Kelfield	78	5
Susworth	79	4
Butterwick Ferry	81	6
Burringham Ferry	84	2
Althorpe Ferry	84	4
Keadby, Railway Bridge (E.R.)	85	1
Keadby, junction with Sheffield and South Yorkshire Navigation—Stainforth and Keadby Canal	85	6
Arncott's Ferry	88	5
Burton Stather Ferry	91	6
Trent Falls, junction with River Humber and River Ouse	94	6

Note.—Distances at and below the tail of Trent Lock, Nottingham, include the distance of 2 miles 3½ furlongs on the Nottingham Canal between Lenton Chain and Trent Lock.

Nottingham Canal

Nottingham, Trent Lock, junction with River Trent, to:		
Nottingham, Boot's Warehouses and Junction with Poplar Cut (¼ mile) to Manuers Street	—	6
Nottingham, D. and I.W.E., Wharves and Warehouses	1	0½
Nottingham, D. and I.W.E., Wharves and Warehouses	1	1
Castle Lock	1	1½
Lenton Chain, junction with Beeston Cut of the River Trent	2	3½

No. 110

TRENT & MERSEY CANAL

Authority. (Preston Brook to Burton-on-Trent.)

Docks and Inland Waterways Executive, North-Western Division, Central Station, Liverpool, 1.

'*Phone:* Royal 6731.

Telegrams: 'Inwex, Liverpool.'

(Burton-on-Trent to Derwent Mouth is in the N.E. Division of the D. & I.W.E.).

From and To. Derwent Mouth, River Trent, to Preston Brook, Bridgewater Canal.

General Remarks and Connections. One of the three Main across country canals. Besides having junctions with the River Trent and the Bridgewater Canal, has connection with the following waterways.

Derby Canal at Swarkstone.

Coventry Canal at Fradley.

Staffordshire and Worcestershire at Great Haywood.

*Newcastle-under-Lyme Canal at Stoke.

*There is now only a short length open for traffic, practically the whole of the Branch Canal has been abandoned.

Macclesfield Canal at Hardingswood.

Shropshire Union at Middlewich.

River Weaver at Anderton.

Distance. **Main Line** 93½ miles.

Caldon Branch 17½ miles.

Leek Branch 3¼ miles.

Hall Green Branch 1½ miles.

Burslem Branch ⅜ mile.

Maximum Dimensions for Craft Using Waterway.

Length	72 ft. 0 ins.
Beam	7 ft. 0 ins.
Derwent Mouth to Horninglow Wharf	13 ft. 6 ins.
Croxton Aqueduct to Anderton Junction	14 ft.
Croxton Aqueduct to Middlewich Junction	14 ft.
(Croxton Aqueduct will only pass craft of 7 ft. beam.)	
Draught	3 ft. 0 ins.
Headroom	*6 ft. 6½ ins.

*Due to subsidence in Harecastle Tunnel, this is only 6 ft.

Locks.

76. Lock Gates worked by Boat Crews.

Hall Green Branch, 1 lock.

Caldon Branch, 18 locks.

Wardle Lock Branch, 1 lock.

Locks Nos. 41 to 54, and 57 to 66, are in duplicate side by side.

Tunnels.

* **Preston Brook**	No towing path	1,239 yds.
* **Saltersford**	„ „ „	424 yds.
* **Barnton**	„ „ „	572 yds.
* **Harecastle**	Electric Tug	2,919 yds.
Armitage	Towing Path	130 yds.
Froghall (Caldon Branch) ..	No towing path	76 yds.
Leek (Leek Branch) ..	„ „ „	130 yds.

Notes:

Harecastle Tunnel. Motor Boats must not be worked under their own power when the electric tug is not in commission. Towing path through tunnel is now useless due to lack of maintenance.

* Navigation through these tunnels is under the control of the Tunnel Keepers.

Bridges. Numerous.

Towing Path. There is a towing path throughout navigation except certain tunnels.

Speed Limit and Bye-Laws. 3½ miles an hour.

Particulars of regulations should be obtained from The Divisional Traffic Officer, Windsor Buildings, George Street, Liverpool.

Charges. Same as those shown for Grand Union Canal.

Special permission is necessary if moorings are required.

Payment: Divisional' Traffic Officer, D. & I.W.E., Windsor Buildings, George Street, Liverpool; or Dock Street, Leeds, 1, according to Division in which journey originates.

Special Note. This canal was formerly known as the Grand Trunk Canal, and was one of Brindley's, but was not completed until after his death. His ancient and historic tunnel, the old Harecastle Tunnel, can still be seen, though it has not been used for many years. The towing path of the new tunnel is no longer usable having crumbled away in the centre. Subsidence has lowered the headroom and many craft cannot use the waterway as they were constructed to pass under the statutory headroom and until repairs are effected some difficulties may arise in navigating through the tunnel. Yachtsmen will notice on navigating the tunnel, branch waterways leading into the Main Line, far inside the tunnel. These were waterways constructed to lead right up to the coal face underground. Draught of canal is given as 3 ft. only as many sections of the canal are in need of dredging.

Distance Table.	*Miles.*	*Furlongs.*
Derwent Mouth, Derwent Mouth Lock, and junction with River Trent, to:		
Shardlow Lock No. 2	1	—
Dickenson's Wharf	1	6
Ashton Wharf	2	2
Weston Cliffe	5	—
Cuttle Wharf	6	4
Swarkestone Junction, junction with Derby Canal, and head of Swarkestone Lock No. 5	7	—

Distance Table.	*Miles.*	*Furlongs.*
Swarkestone Brick Wharf	7	2
Stenson Lock No. 6	10	—
Findarn Common	11	—
Willington Wharf	12	2
Clay Mills Wharf	14	6
Horninglow Wharf (Burton-on-Trent distance ½ mile)	16	4
Shobnall Wharf	17	4
Barton Turn Coal Wharf	21	2
Barton Turn Brick Wharf	21	4
Wichnor Lock No. 11, Wharf	23	—
(Canal enters and leaves River Trent between Alrewas and Winchnor.)		
Alreswas Public Wharf	24	4
Fradley Junction, junction with Coventry Canal and head of Fradley Junction Lock No. 17	26	2
Wood End Lock No. 19	27	2
King's Bromley	28	4
Hansacre Wharf	30	4
Armitage	30	6
Armitage Sanitary Works	31	—
Armitage Stone Wharf	32	—
Brereton Wharf and Basin	32	6
Brereton Foundry	33	6
Rugeley Wharf	34	—
Rugeley Plaster Wharf	34	2
Brindley's Bank	35	—
Little Haywood Wharf	37	6
Haywood Lock No. 22	38	7
Haywood Junction, junction with Staffordshire and Worcestershire Canal—Main Line	39	—
Hoo Mill (Lock No. 23)	39	6
Ingestre and Shirleywich	41	2
Shirleywich Salt Works	42	—
Weston	42	4
Sandon Wharf	43	6
Sandon Lock Coal Wharf (Lock No. 25)	44	4
Stone	48	6
Barlaston Boat Yard	52	—
Trentham and Kirby's Wharf	53	2
Hem Heath	53	6
Sideway Flint Mills	55	6
Stoke Basin	56	2
Stoke Wharf	56	4
Stoke, junction with Newcastle Branch (derelict)	56	6
Stoke, Shelton Wharf	57	—
Cockshute Wharf	57	4
Cliffe Vale	57	6
Etruria Summit Lock No. 40 and Toll Office	57	7
Etruria, junction with Caldon Branch	58	—
Etruria, Wedgwood's Works	58	2
Etruria Ironworks	58	4
Burslem Junction, junction with Burslem Branch	59	2

Distance Table.	*Miles.*	*Furlongs.*
Newport	59	4
Middleport (Anderton Co.'s Boat Dock)	59	6
Middleport Wharf	60	—
Longport Wharf	60	2
Longport, Fox's Boat Yard	60	4
Tunstall	60	6
Chatterley Basin	61	2
Chatterley, south end of Harecastle Tunnel	61	6
Harecastle, north end of Harecastle Tunnel	63	3
Harding's Wood Junction, junction with Hall Green Branch	63	5
Red Bull Top Lock No. 41	63	6
Harding's Wood	63	7
Red Bull Wharf	64	1
Lawton Basin and Wharf	64	5
Lawton, Sand Pits	65	7
Lawton, Bibbey's Wharf	66	3
Rode Heath Wharf	66	5
Chells Hill Wharf	67	3
Hassall Green Wharf	68	1
Hassall Green	69	1
Malkin's Bank (Locks Nos. 59 to 64)	69	4
Wheelock Wharf (Locks Nos. 65 and 66)	70	3
Rookery Bridge Wharf	71	7
Rookery Bridge, Bone and Manure Works	72	1
Moss Wharf	72	5
Crow Nest Wharf	73	3
Stud Green	73	5
King's Lock No. 71	76	2
Middlewich, junction with Wardle Lock Branch leading to Shropshire Union Canal	76	3
Middlewich Top Lock No. 72	76	4
Middlewich Public Wharf	76	5
Middlewich Barge Lock No. 75	77	1
Croxton Mill	77	5
Billinge Green	81	3
Broken Cross	82	3
Lostock	83	1
Lostock Gralam and Wincham Wharf	83	3
Wincham	84	3
Marbury Wharf	85	7
Anderton Public Wharf	86	3
Anderton, junction with Anderton Lift Branch of River Weaver Navigation	86	5
Soot Hill Wharf	86	7
Barnton Coal Wharf, and south end of Barnton Tunnel	87	3
North end of Barnton Tunnel	87	7
South end of Saltersford Tunnel	88	1
North end of Saltersford Tunnel	88	3
Saltersford Wharf	88	5
Little Leigh	89	5
Acton Bridge Wharf	90	1
Dutton Wharf	91	3

Distance Table.	*Miles.*	*Furlongs.*
Dutton Stop Lock No. 76 and Toll Office and south end end of Preston Brook Tunnel	92	5
North end of Preston Brook Tunnel, and junction with Preston Branch of the Bridgewater Canal	93	3

Caldon Branch

Etruria, junction with Main Line, to:		
Etruria Wharf	—	2
Shetton	—	4
Caldon Place	—	6
Joiner's Square, Hanley Corporation Wharf	1	4
Joiner's Square	1	6
Hanley	2	—
Ivy House Wharf	2	2
Ivy House, Hanley and Bucknall Colliery	2	4
Prime's Pit	3	—
The Abbey, Gas Lime Wharf	3	6
Milton, junction with Foxley Branch Canal, between Locks Nos. 2 and 3 (mile long, and leads to Foxley Green Ironworks)	4	4
Heakley Wharf	5	6
Stockton Brook Waterworks Basin	6	4
Stockton Brook Wharf	6	6
Summit Lock No. 9	6	7
Stanley	7	4
Park Lane Wharf	8	4
Hazelhurst Junction, junction with Leek Branch and head of Hazelhurst Top Lock No. 10	9	4
Wall Grange Public Wharf	10	2
Cheddleton Wharf	11	2
Canal enters River Churnet	13	4
Consall Quarry	14	2
Canal leaves River Churnet	14	6
Consall, Goodwin's Wharf No. 1 and Consall Lock No. 17	15	—
Froghall Brick Works	16	6
Froghall Tunnel	16	7
Froghall Basin	17	4

Leek Branch

Hazelhurst Junction, junction with Caldon Branch, to:		
Leek Tunnel	2	—
Leek Wharves	3	2

Burslem Branch

Length from Burslem Junction, junction with Main Line, to:		
Burslem	—	3

Hall Green Branch

Distance Table.	*Miles.*	*Furlongs.*
Length from Harding's Wood Junction, junction with Main Line, to:		
Hall Green, junction with Macclesfield Canal half-way between the two stop locks	1	4

Wardle Lock Branch

Extends from a junction with the Main Line at the tail of Wardle Lock, Middlewich, to the head of Wardle Lock only, where it joins the Middlewich Branch of the Shropshire Union Canal Section (1 lock, Wardle).

No. 111

RIVER TYNE

Authority. Tyne Improvement Commission, Berwick Street, Newcastle-on-Tyne, 1.
'Phone: Newcastle 25541 (5 lines).
Telegrams: ' Tynecom, Newcastle-on-Tyne.'

From and To. Hedwin Streams to Harbour Mouth.

Distance. 19 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	„ „
Draught (at Newburn) H.W.S.T. ..	12 ft.
Headroom (at Newburn Bridge) H.W.S.T.	21 ft.

Locks. Nil. Tidal throughout.

Towing Path. None on river or branches.

Connections. Lemington Gut ½ mile.
River Derwent (navigable ¾ mile).
River Team (navigable ¾ mile).
River Ouseburn (navigable ½ mile).
River Don (navigable 1 mile).

General Remarks. This navigation is used mainly by sea-going craft. Care should be taken in navigation and in passing the high level bridge, where the depth varies considerably.

Tidal Information. High tide at Newcastle 12 minutes after Tynemouth. Spring tides rise 15 ft.

Left Bank.		*Distance Table.*	Right Bank.	
Miles.	*Furlongs.*		*Miles.*	*Furlongs.*
		Boundary Stone at Hedwin Streams to:		
		Ryton	—	5
1	4	Newburn Bridge.		
		Stella	2	5
		Blaydon	3	1
3	6	Junction with Lemington Gut.		
4	3	Scotswood Suspension Bridge	4	3
		Junction with River Derwent	4	7
5	5	Opposite Elswick Station.		
		Junction with River Team	6	5
7	3	Redheugh Bridge	7	3
7	4	King Edward Bridge	7	4
7	7	Newcastle High Level Bridge, Newcastle —left; Gateshead—right	7	7
8	6	Junction with Ouseburn.		
		Felling Staiths	10	—
		Pelaw Main Staiths	11	3
11	6	Walker, River Police Station.		
		Hebburn Ferry Landing	12	5
12	7	Wallsend Shipyard.		
13	5	Willington Gut.		
		Jarrow, Palmer's Dock	14	2
14	3	Howden, Commissioner's Yard.		
		West end of Jarrow Timber Ponds	15	—
15	4	Entrance to Northumberland Dock.		
		East end of Jarrow Slake; the River Don enters Jarrow Slake at the south-west corner	15	4
		Entrance to Tyne Dock	15	7
16	4	Entrance to Albert Edward Dock.		
		South Shields Ferry Landing	16	8
17	1	North Shields Ferry Landing.		
18	1	Tynemouth, opposite Black Middens.		
18	7	Mouth of Harbour	18	7

No. 112

RIVER URE

Authority. The Divisional Officer, Docks and Inland Waterways Executive, 1, Dock Street, Leeds, 1.
'Phone: Leeds 20957/8.
Telegrams: ' Dainwex, Leeds.'

From and To. Junction with the River Ouse to junction with the Ripon Canal at Ox Close Lock.

Distance 7½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	57 ft. 0 ins.
Beam	14 ft. 6 ins.
Draught	5 ft. 0 ins.
Headroom	8 ft. 6 ins.

Locks. 3. Lock gates worked by Boat Crews.

Bridges. 2.

Towing Path Throughout navigation.

Approx. Time taken to Navigate. 2½ to 3 hours.

Sunday Navigation. No regulations.

Charges. Particulars of charges for the use of this waterway may be obtained from above address. Minimum, 2/6 per Lock.

Distance Table.	*Miles.*	*Furlongs.*
Swale Nab, junction with River Ouse and junction with River Swale (not navigable) to:		
Entrance to Boroughbridge Cut	2	3
Milby Lock No. 1	2	4

Distance Table.	*Miles.*	*Furlongs.*
Boroughbridge Wharf	2	7
Warwick's Brewery	3	—
Langthorpe Landing	3	3
Green's Landing	4	—
Brampton Landing	5	1
Westwick Lock No. 2	5	1
Newby Hall Landing	6	4
Sugar Hill Landing	7	4
Oxclose Lock No. 3 and junction with Ripon Canal ..	8	—

No. 113

WANDSWORTH CUT

This short canal with one entrance lock has now been filled in.

No. 114

THE WASH

Note. This is not an inland waterway and there is therefore no navigating authority, but it is included here as it forms the connecting link between the Rivers Welland, Witham, Nene and Great Ouse.

Pilotage. **River Nene—Wisbech.**

Pilot Master, Capt. J. W. K. Hall, G.M., A.I.N.A., Harbour Master's Office, Dock Cottage, Crabmarsh, Wisbech.

'Phone: Wisbech 980.

Also "Wisbech Pilots," The Osborne, Nene Quay, Wisbech.

River Witham—Boston.

The Boston and Spalding Pilotage Authority, Messrs. Lucas and Sharp, 30, Market Place, Boston, Lincs.

River Ouse—Kings Lynn.

Apply Ouse Catchment Board (see River Great Ouse).

River Welland—Fosdyke.

At least 12 hours notice should be given to the River Welland Catchment Board, Welland Office, Fosdyke ('Phone Fosdyke 209), near Boston, for pilotage. Their pilot will meet vessels in Clay Hole, above High Horn Buoy. Also pilotage can be arranged by the address given above for River Witham, for this river.

Warning. The Wash is a very dangerous stretch of water. High winds are frequent as there is no shelter from the flat fen country surrounding the Wash. These conditions, with fast and strong flowing tides combined with the existence of many changing sandbanks, make a pilot essential. Under no circumstances should canoeists attempt the crossing.

The entrance to the River Ouse being particularly dangerous under certain tidal conditions, great care should be exercised coming upstream through Downham Market Bridge.

No. 115

RIVER WEAVER

Authority. The Divisional Officer, Docks and Inland Waterways Executive, North-Western Division, Central Station, Liverpool, 1.
'Phone: Royal 6731.
Telegrams: 'Inwex, Liverpool.'

From and To. Winsford Bridge to Weston Point Docks (junction with Manchester Ship Canal).

Distance. 20 miles. Anderton Lift Branch $\frac{1}{8}$ mile. Weston Marsh Branch $2\frac{1}{4}$ miles.

Maximum Dimensions for Craft Using Waterway.

Length	220 ft.
Beam	40 ft.
Draught	15 ft.
Headroom	11 ft.

Anderton Lift Branch.

Maximum Dimensions for Craft Using this Branch Waterway.

Length	72 ft.
Beam	14 ft. 6 ins.
Draught	5 ft.
Headroom	9 ft.

Connections. Manchester Ship Canal.
Trent and Mersey Canal via Anderton Lift Branch.
Runcorn and Weston Canal.

Locks. 7. Weston Marsh Branch, 1 lock.

Towing Path. Throughout navigation, except Anderton Lift Branch.

Tidal Information. The tide flows up to the tail of Frodsham Lock via the old line of navigation. High Spring tides flow past Frodsham Lock into the main line of the navigation between Lock No. 4 (Dutton) and Lock No. 5 (Sutton).

Distance Table.	*Miles.*	*Furlongs.*
Winsford Bridge to:		
Salt Union, Ltd. — Birkenhead, Liverpool and Runcorn Alkali Works	—	2
Salt Union, Ltd. — Uploont and Wharton Meadow Works	—	4
Salt Union, Ltd. — Deakins, Over and Cheshire Amalgamated Works	—	6
Salt Union, Ltd. — Hickson's, Stubb's and Little Meadow Works	1	—
Salt Union, Ltd. — Meadow, Bostock and National Works	1	2
Salt Union, Ltd. — Meadowbank Works	1	4
Salt Union, Ltd. — Falks Works	1	6
Newbridge Works and Bridge	2	—
Vale Royal Locks No. 1	3	2
Hartford Bridge, 16 ft. headway	3	7
Hunt's Locks, No. 2	5	1
Yarwood's Yard	5	2
Northwich, mouth of River Dane, Bridges (opening)	5	4
Northwich, Barons Quay	5	6
Witton Works and Witton Brook Works	6	—
Brunner Mond & Co. — Cheshire Amalgamated Works	6	2
Brunner Mond & Co. — Byeflat Works	6	4
Brunner Mond & Co. — Higgin's Works	6	6
Junction with Anderton Lift Branch	7	—
Chemical Works—Brunner, Mond & Co.	7	—
Winnington Bridge (opening)	7	2
Saltersford Locks No. 3	9	2
Wilbraham's Quay, adjoining main road	10	2
Acton Bridge (opening)	11	1
Dutton Locks No. 4	12	3
Pickering's Wharf and Bridge (opening)	13	2
Junction with Old Line of navigation—head of Frodsham. **Cut to Weston Marsh**	16	—
Sutton Locks No. 5	16	4
Sutton Bridge (opening)	16	7
Russel's Tube Works	17	1
Rock Savage Bridge (opening)	17	3
Weston Works (Imperial Chemical Industries)	18	3
Weston Marsh Side Lock, giving access to Manchester Ship Canal and Old Line of Navigation	19	—
Sand Quarry	19	2
Stone Quarry	19	6
Junction with Runcorn and Weston Canal	19	6
Weston Point Docks, and junction with Manchester Ship Canal	20	—

Old Line of Navigation—Head of Frodsham Cut to Weston Marsh

Junction with Main Line of Navigation and head of Frodsham Cut to:		
Frodsham Lock	—	4
Frodsham Bridge (headway varies with tide)	1	—
Weston Marsh, junction with Manchester Ship Canal, and Main Line of Navigation through Weston Marsh Side Lock	2	2

No. 116

RIVER WELLAND (Lincolnshire)

Authority. River Welland Catchment Board, Deeping House, Welland Terrace, Spalding, Lincs.

From and To. Fosdyke Bridge to Spalding.

General Remarks. The river is tidal and continues above Spalding to Market Deeping, its navigation above Spalding is very uncertain. The river to Spalding is only navigable on Spring tides. Navigation works to Stamford are derelict.

Distances.

Fosdyke Bridge to Spalding	7½ miles
,, ,, ,, Market Deeping.. ..	23¾ ,,

Tidal Information. High water at Spalding about one hour after Fosdyke Bridge. Spring tide, flow to Spalding, the rise being about 8 ft. The river dries at Spalding at low tide, except in freshets.

There is only two hours flood tide at Fosdyke, after which the tide runs very strong. Vessels about to navigate the Welland should wait in Clayhole till after half-flood there.

Maximum Dimensions for Craft Using Waterway.

Length.	To Spalding	90 ft.
	Above Spalding	35 ft.
Beam	.. ..	Not limited.
Draught	..	3 ft., draught up to 6 ft. may reach Spalding at highest tides.
Headroom	.. ..	Not limited to Spalding Bridge, above very low.

Towing Path. Fosdyke Bridge to Spalding only.

Locks. Nil.

Bridges. Fosdyke, opening bridge. Signal Flag at masthead and three blasts.

Charges. 9d. per registered ton. Pilotage compulsory.

To be paid to:—R.W.C. Board, Accountant, 11, Market Place, Spalding, Lincs.

Distance Table.	*Miles.*	*Furlongs.*
Market Deeping Mill to:		
Deeping St. James	1	4
Crowland	7	—
St. Guthlac's Cross	10	—
Sluice, entrance to Cowbit Drain	15	—
Spalding Bridge	16	—
Junction with River Glen (also called "The Reservoir") ..	20	6
Fosdyke Bridge	23	6

No. 117

RIVER WEY

Authorities.

From the Thames to Guildford—
River Wey Navigation, Guildford Wharf, Guildford.
'*Phone:* Guildford 61389.

From Guildford to Godalming—
Commissioners of the River Wey, Godalming Navigation, Guildford Wharf, Guildford.
'*Phone:* Guildford 61389.

From and To.

From junction with the River Thames just below Shepperton Lock to Godalming.

General Remarks.

The river is in fair order for pleasure boats from the Thames to Godalming. Basingstoke Canal wide boats trade to Guildford.

Distance.

Junction with the River Thames to Godalming 19½ miles.

Maximum Dimensions for Craft Using Waterway.

From the Thames to Coxes Lock :	
Length	73 ft. 6 ins.
Beam	13 ft. 10½ ins.
Draught	4 ft. 4 ins.
Headroom	7 ft. 6 ins.
From Coxes Lock to Guildford :	
Length	73 ft. 6 ins.
Beam	13 ft. 10½ ins.
Draught	3 ft. 6 ins.
Headroom	7 ft. 6 ins.
Guildford to Godalming :	
Length	73 ft. 6 ins.
Beam	13 ft. 10½ ins.
Draught	3 ft. 0 ins.
Headroom	6 ft. 6 ins.

Locks. 12, from the Thames to Guildford.
16 from the Thames to Godalming.
Some of the Lock gates worked by Boat Crews.
Some of the locks have sloping turf sides, but chains are fitted and should be used in the locks.

Bridges. Numerous.

Towing Path. Throughout navigation, except under Guildford High Street Bridge.

Speed Limit and Bye-Laws. 4 miles an hour.
All locks must be left empty. Craft must not be left moored alongside the towing path.

Approx. Time taken to Navigate. One to two days in a skiff from the Thames to Godalming.

Charges.

	Under 25 ft.		*Over 25 ft.*
	Outboard	*Inboard*	
One lock, through and back *same day*	1/6	3/-	5/-
Two Locks: ditto	3/-	6/-	10/-
Annual Lock Pass: One Lock	£1 5 0	£2 10 0	£3 10 0
Two Locks ..	£2	£4	£5
Annual Lock Pass: Five Locks ..	£4	£6	£7 10 0
Annual Lock Pass: All Locks	£8	£10	£15
Annual Licence ..	£1	£1	£2

Annual licence fee for a dinghy is 7/6 (extra if fitted with outboard motor).

At the rate of 6d. per lock for skiffs, punts and canoes without mechanical power.

Members of the Inland Waterways Association on application to Guildford, are granted 25 per cent. reduction on tolls.

Distance Table.	*Miles.*	*Furlongs.*
Junction with River Thames to:		
Thames Lock No. 16	—	1
Weybridge Bridge and Lock No. 15	—	6½
Black Boy Bridge	1	0½
Coxes Railway Bridge	1	3½
Coxes Lock No. 14	1	4
Newham Bridge and Lock No. 13	2	2½
Junction with Basingstoke Canal	2	8
Byfleet Railway Bridge	3	—
Parvishes Bridge	3	4
Murray's Bridge	4	—
Dodd's Bridge	4	2½
Pyrford Bridge and Lock No. 12	4	7½
Pigeon House Bridge	5	3
Walsham Bridge and Gates (Walsham Lock No. 11, normally open)	5	7½
Newark Lock No. 10	6	4
Newark Bridge	6	5½
Paper Court Bridge	7	2
Paper Court Lock No. 9	7	2½
Tanyard Bridge	7	5½
High Bridge	8	1
Cart Bridge	8	5
Ashburton Bridge	8	5½
Worsfold Gates and Bridge (Lock No. 8)	8	7
Chamberland's Bridge	9	2
Triggs Lock No. 7	9	5
Wareham's Bridge	9	6½
Send Church Bridge	10	2
Broad Oak Bridge	11	0½
Bowers Lock No. 6	11	6
Bowers Bridge	11	7
Stoke Lock No. 5	12	7½
Stoke Bridge	13	3
Wood Bridge	14	1½
Dapdune Railway Bridge	14	3½
Dapdune Wharf	14	4½
Onslow Bridge	15	1
Guildford Wharf	15	1½
Guildford Bridge	15	2
Mill Mead Lock No. 4	15	3
Quarry Hill Footbridge	15	4½
St. Catherine's Ferry (not in use)	16	0½
St. Catherine's Lock No. 3 and Bridge	16	4
Railway Bridge (S.R.)	16	6½
Broadford Bridge	17	1
Mouth of Wey and Arun Junction Canal (now derelict but in use for ½ mile for moorings)	17	2½

Distance Table.	*Miles.*	*Furlongs.*
Railway Bridge (S.R.)	17	3½
Unstead Lock No. 2	17	6
Unstead Bridge	18	0½
Trowers Bridge	18	6
Catteshall Bridge	19	—
Catteshall Lock No. 1	19	0½
Godalming Wharf (this wharf is chiefly used as a car park and goods cannot be landed on the wharf except with difficulty)	19	4

No. 118

RIVER WHARFE

Authority. An open navigation.

From and To. Tadcaster to Junction with River Ouse.

Distance. 9¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. Not limited

Beam .. .. „ „

Draught:

Up to 5 ft. 6 ins. on Spring tides to Ulleskelf.

Up to 3 ft. 6 ins. on Spring tides to Tadcaster, providing there is a good flow of land water.

Headroom .. .. .. Not limited to Ulleskelf

Locks. Nil.

Towing Path. Throughout the navigation.

General Remarks. Considerable difficulty may be experienced in reaching Tadcaster in the dry season. Local enquiries are advised.

Tidal Information. Spring tides flow to Ulleskelf and back up the water in the river to a height of about 10 inches at Tadcaster. A tide giving a depth of 28 ft. on the Albert Dock Sill at Hull will raise the water at the mouth of the river 3 ft.

Distance Table.	*Miles.*	*Furlongs.*
Tadcaster Bridge to:		
Kirkby Wharf	2	4
Ulleskelf	3	7
Ryther	6	5
Nun Appleton Park	7	—
Junction with River Ouse (Yorkshire)	9	2

No. 119

WITHAM NAVIGABLE DRAINS

Authority. Witham Fourth District Internal Drainge Board, 47, Norfolk Street, Boston, Lincs.

'Phone: Boston 2151.

From and To. Junction with River Witham at Anton's Gowt to Revesby Bridge, Thorpe Culvert and Stickford. (There are numerous navigable branches.)

Distances. Anton's Gowt to Revesby Bridge 10½ miles.

Anton's Gowt to Thorpe Culvert 17¼ miles.

Anton's Gowt to Revesby Bridge via Stickney 12¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	60 ft.
Beam	11 ft.
Draught	3 ft. 6 ins.
Headroom	8 ft.

Locks. 3. Entrance Lock. Anton's Gowt Lock is controlled by:—

The Divisional Officer, North-East Division, Docks and Inland Waterways Executive, Dock Street, Leeds, 1.

The other two locks link waterways as follows:—

Cowbridge Lock. Links Maud Foster Drain to West Fen Drain.

East Fen Lock. Links Maud Foster Drain to Cowbridge (or Kelsey) Drain.

(Locks have been dismantled at Lade Bank and Hagnaby.)

Towing Path. Only in a few parts of the Area.

Tolls. Anton's Gowt Lock, 2/5 for each passage through for pleasure craft.

General Remarks. Witham Navigable Drains is the name given to the Drains, which lie in the area north of the Witham and south of a line from Spilsby to Dogdyke. All are artificial cuts, or old streams improved, for drainage of the west and east fens. In the past these drains were used for agricultural produce and coal but now are only used by pleasure and fishing craft. They are used mainly for drainage although navigation rights have not been exercised in recent years to any great extent. Some drains are obstructed by low wooden bridges which are an obstruction to navigation as they do not allow statutory headroom.

Names of the waterways:—

Frith Bank Drain.
Maud Foster Drain.
Hobhole Drain.
Cowbridge Drain.
Newham Drain.
East Fen Catchment Drain.
West Fen Drain.
Castle Dike.
Medlam Drain.
Lush's Drain.
West Fen Catchment Drain.
Stonebridge Drain.
Bell Water Drain.

In addition, there are several branches that are not named.

Craft that exceed 60 ft. in length but do not exceed 72 ft. can pass through Anton's Gowt Lock and into West Fen Drain and Medlam Drain, but there is no winding hole at Revesby Bridge for craft as long as Narrow Boats. Special note should be made of the fact that there is no connection at Revesby Bridge between Medlam and West Fen Catchwater Drains. It is not possible to navigate from West Fen Drain via Lush's Drain to Stonebridge Drain as the top end of this drain has silted up.

Alternative Entrances. Craft, by arrangement with sluice keepers, can enter at certain states of the tide through the sea doors at the entrances to Hobhole and Maud Foster Drains. Headroom is restricted to approximately 6 ft.

Winter Navigation. From approximately the end of September to the beginning of April the level in all Drains is lowered and craft may be trapped as this lowering of levels is carried out without warning to boatmen.

Frith Bank Drain

Distance Tables.	*Miles.*	*Furlongs.*
Anton's Gowt Lock to:		
Junction with West Fen Drain	2	0½

West Fen Drain

Junction with Frith Bank Drain to:		
Lush's Bridge and junction with Lush's Drain	—	7
Frithville, junction with Medlam Drain	2	—
Junction with Newham Drain	5	7
Inn, Bunkers Hill	7	—
Hough Bridge	8	2

Newham Drain

Junction with West Drain to:		
Canister Hall	1	7
Anton's Gowt, junction with Frith Bank Drain	3	4

Stone Bridge Drain

Junction with Maud Foster Drain (called "The Pond") to:		
Junction with Eastern Catchwater Drain	4	2½

West Fen Catchwater Drain

Junction with Stone Bridge Drain to:		
Road Bridge, Stickney	2	2½
Hagnaby Old Lock (no gates, as there is now no change of level)	4	—
Revesby Bridge (no connection here with Medlam Drain)	6	3

East Fen Catchwater Drain

Junction with West Fen Catchwater Drain and Stonebridge Drain to:		
Road Bridge (Main Road, A.16)	—	4
Railway Bridge (British Railways, E.R.)	2	7
Junction with Short Drain (not navigable)	3	3
Road Bridge, Stickford	4	4
(Drain continues for another 3 miles but only a small portion of this is navigable)		

Cowbridge Drain (or Kelsey Drain)

Junction with Maud Foster Drain at "The Pond" to:		
Kelsey Main Road Bridge	—	7
Junction with Hobhole Drain	1	5

Maud Foster Drain

Distance Table.	*Miles.*	*Furlongs.*
Junction with Cowbridge Drain at "The Pond" to:		
Rawson's Bridge	—	3½
Main Road Bridge	1	5
Sluice Doors, and junction with River Witham	2	5

Hobhole Drain

Sluice Doors, and junction with River Witham in "The Haven" to:		
Nunn's Road Bridge	1	—
Road Bridge	1	6
Road Bridge (Freiston Bridge)	2	4
Main Road Bridge	3	1
Junction with Cowbridge Drain	3	5
Bennington Road Bridge	6	4
Old Leake Station (British Railways, E.R.)	8	2
Lade Bank Old Lock (now a Sluice) and Pumping Station	9	4
Junction, Drain to Blue Bridge (navigable for 2 miles approx.)	11	—
Junction with Bell Water Drain, and Drain 2¼ miles long	11	6
Junction, Drain 1 mile long —	12	4
Junction, Drain 1½ mile long	13	1
Head of Drain	13	6

Bell Water Drain

Junction with Hobhole Drain to:		
Hembolme Road Bridge	1	2
Railway Bridge (British Railways, E.R.)	2	3
Thorpe Culvert, junction with Steeping River (Craft cannot pass sluice into Steeping River)	5	2

Lush's Drain

This is only navigable for approximately 1½ miles from the Junction with West Fen Catchwater Drain at Lush's Bridge

Castle Dike

This is navigable to Thornton-le-Fen from the junction, with Newham Drain, near Anton's Gowt Lock, a distance of 2½ miles.

No. 120

RIVER WITHAM NAVIGATION

Authority. The Divisional Officer, Docks and Inland Waterways Executive, Dock Street, Leeds, 1.
'Phone: Leeds 20957/8.
Telegrams: 'Dainwex, Leeds.'

From and To. Junction with Fossdyke Canal at High Bridge, Lincoln, to Outlet of Hobhole Drain.

General Remarks. The Fossdyke makes an open confluence on the west side of Brayford Mere. The Executive are statutory forced to keep a 5 ft. deep channel 35 ft. wide across the Brayford Mere, due west to east, entering the Witham at Brayford Mere, open confluence. The short distance of the River Witham from Brayford Mere to High Bridge is disputed water, and all the Executive tolls are listed from High Bridge to Boston Grand Sluice Lock. Brayford Mere belongs to the City of Lincoln, but is now controlled by the Witham and Steeping Rivers Catchment Board, 50, Wide Bargate, Boston, Lincs.

Distance. 36⅛ miles.

Maximum Dimensions for Craft Using Waterway

Length	78 ft. 0 ins.
Lock Chamber, including tidal doors (*See* Special Notes.)	59 ft.
Beam	15 ft. 2 ins.
Draught	5 ft. 0 ins.
Headroom	8 ft. 10 ins.

Locks. 3. Locks worked by Lock Keepers.

Bridges. 14. 9 between Lincoln and Bardney ; 5 between Bardney and Boston. Two swing bridges at Lincoln.

Speed Limit. 4½ miles an hour between Lincoln and Bardney.
5 „ „ „ Bardney and Tattershall.
5½ „ „ „ Tattershall and Boston.

Tidal Information. High water at Grand Sluice Boston, 30 minutes after Boston Deeps, Clay Hole.

Spring tides rise 13 ft. 3 ins.

Approx. Time taken to Navigate. Depends on type of craft, but 10 hours is usual.

Towing Path. Towing path from Brayford Mere, Lincoln to Grand Sluice, Boston.

Charges. **Witham Dues and Lock Tolls.** When not passing through a lock No Charge. When passing through a lock 2/6 to be charged each time.

Payment: Lock Keepers, Lincoln (Stamp End Lock) and Boston (Grand Sluice), arrange collection.

Special Notes. The two swing bridges at Lincoln are situated west and east of the Basin. The latter has a bridge-keeper. Below the Lock there is a large lifting bridge which gives only 5 ft. headroom when closed and is dangerous to craft after dark. Yachtsmen can arrange for this bridge to be raised for them, but some difficulty may be found in tracing the bridge-keeper after normal hours.
There is a Lock and Tide gate at Grand Sluice, Boston. Boats can only pass through this on two occasions each tide, when the tidal water makes a level with the river, but as the Lock will not take boats of more than 59 ft. in length, craft over this figure can only pass through *once* each tide, on the second level, *viz.*: about 2 to 2½ hours after high water.

Below Grand Sluice, the river through Boston dries to a trickle at low tides. Mooring is difficult, owing to the steepness of the mud bottom and the presence of many fishing boats. At high tide care should be taken as there are many large craft moving at high speed. No vessels are permitted to moor or anchor anywhere along the cut leading from the Dock entrance to the sea, a distance of 5 miles.

Distance Table.	*Miles.*	*Furlongs.*
Lincoln, High Bridge, junction with Fossdyke Canal to:		
Lincoln, Stamp End Lock	—	4½
Washingborough	2	5
Five Mile House Station and Ferry	5	3
Horsley Deeps Lock, Bardney	8	4
Bardney Station	9	4
Southrey Station and Ferry	12	2
Stixwould Station and Ferry	13	6
Kirkstead Station and Swing Bridge	15	7
Junction with Horncastle Canal (derelict)	19	3
Tattershall Bridge	20	—
Dogdyke Station and Ferry	20	7
Chapel Hill, junction with Kyme Eau	21	7
Langrick Station and Bridge	27	2
Anton's Gowt, junction with Witham Navigable Drains	29	3
Boston, Grand Sluice (Lock)	31	6
Boston Steel, Bridge	32	1
Boston, junction with Black Sluice Drainage and Navigation	32	7
Entrance to Boston Dock	33	2½
Outlet of Maud Foster Drain (navigable for small craft)	33	3
Mouth of River and Outlet of Hobhole Drain	36	1

No. 121

WORCESTER & BIRMINGHAM CANAL

Authority. The Divisional Officer, Docks and Inland Waterways Executive, South-Western, Division, Dock Office, Gloucester.
'Phone: Gloucester 24421.
Telegrams: 'Dainwex, Gloucester.'

From and To. Worcester to junction with the Birmingham Canal Navigations, Worcester Bar, Birmingham.

Connections. The canal has also junction with the Stratford-on-Avon Canal, 5½ miles below Birmingham.

Distance. 30 miles. (Bittall Arm, ½ mile long.)

Maximum Dimensions for Craft Using Waterway.

Length	71 ft. 6 ins.
Through Diglis Locks to Diglis Basin	76 ft. 0 ins.
Beam	7 ft. 0 ins.
Through Diglis Locks to Diglis Basin	18 ft. 6 ins.
Draught	4 ft. 0 ins.
Headroom	6 ft. 0 ins.

Locks. 58. Lock gates worked by Boat Crews.

Bridges. About 30, mostly fixed.

Tunnels. There are 5 tunnels as follows :—

Dunhampstead	230 yards.	No towing path.
Tardebigge	580 ,,	,, ,,
Shortwood	613 ,,	,, ,,
West Hill (King's Norton)	2,726 ,,	,, ,,
Edgbaston	105 ,,	,, ,,

There is no towing path through these tunnels, and boats are towed through by the Executive's tug.

Speed Limit. Usual for Inland Waterways.

Approx. Time taken to Navigate. About 36 hours.

Towing Path. Throughout navigation except certain tunnels.

Sunday Navigation. The Waterway is not open to pleasure craft on Sundays.

Charges. On application to:—

The Divisional Traffic Officer, South-Western Division, Docks and Inland Waterways Executive, 16, Bridge Street, Birmingham, 1.

'Phone: Midland 4961.

Distance Table.	*Miles.*	*Furlongs.*
Birmingham, Worcester Bar, junction with Birmingham Canal Navigations, Main Line, to:		
Birmingham, Granville Street Bridge	—	2
Birmingham, Sturge's and Bloxham's Wharves	—	4
Edgbaston Tunnel	1	1
Stop Gates, Worcester end of Edgbaston Valley	1	6
Prichett's Wharf	2	2
Metchley Park Tip	2	4
Selly Oak Wharves, and junction with Birmingham Canal Navigations, Dudley Canal Line No. 2	3	—
Stirchley Street Tip	4	—
Lifford Goods Station	4	6
Birmingham Corporation, Refuse Disposal Department	5	—
Kynoch's Works and Baldwin's Wharf	5	3
King's Norton Junction with Stratford-on-Avon Canal	5	4
King's Norton Wharves	5	6
King's Norton Tunnel Tug Coal Shed	6	2
King's Norton Tunnel	6	3
Hopwood Wharf	8	6
Junction with Bittall Arm (½ mile long)	9	4
Bittall Wharf	9	6
Lane House Wharf	10	—
Cooper's Hill Wharf	10	4
Wittybed Green	10	6
Wynn's Brick Works and Scarfield's Wharf	11	—
Grange Wharf	11	6
Shortwood Tunnel	12	2
Harris' Bridge	12	6
Tardebigge Old Wharf	13	2
Tardebigge Tunnel	13	4
Tardebigge New Wharf and Crane	14	—

Distance Table.	*Miles.*	*Furlongs.*
London Lane, Engine House and Tardebigge Top Lock No. 1	14	4
(Then follows the longest flight of locks in the country, Tardebigge, 30 locks.)		
Round Pond	15	—
Half-way House Bridge	15	2
Bate's Wharf (between Locks Nos. 30 and 31)	16	2
Stoke Prior Wharf (Lock No. 36)	17	2
Stoke Prior Salt Works Central	18	—
Lock No. 42	19	2
Grove's Brick Works	20	4
Hanbury Wharf, and junction with Droitwich Junction Canal (abandoned)	20	6
Hadzor Wharf	21	2
Dunhampstead Tunnel	22	2
Dunhampstead Wharf	22	4
Oddingley Brick Works	23	2
Tibberton Wharf	24	2
Lock Nos. 43, 44, 45, 46, 47 and 48	24	6
Hindlip Wharf and Locks Nos. 49 and 50	25	2
Tolladine Private Wharf	26	—
Blackpole Wharf	26	6
Bilford Bridge, Locks Nos. 51 and 52	27	6
Worcester, Gregory's Mill and Lock No. 53	28	—
Worcester, Barker's Brick Works and Wharves	28	2
Worcester, Lansdown and Horn Lane Bridge	28	4
Worcester, Lowesmoor Wharves	29	—
Worcester, Tallow Hill, Blockhouse, Locks Nos. 55 and 56	29	2
Worcester, Porcelain Works and Townshend's Mill	29	6
Worcester, Diglis Basin, Diglis Canal Locks and junction with River Severn, Locks Nos. 57 and 58	30	—

No. 122

RIVER WYE

Authority. The river is open Navigation.

From and To. From junction with the River Severn at Beachly Point to Chepstow and Tintern (navigable limit for safety), thence to Bigsweir Bridge.

General Remarks. The river is navigable to Tintern, but above this it is tortuous and dangerous owing to weirs and rapids, and should not be attempted except by those with good local knowledge, and then only in small craft.

From its entrance the river continues for more than 100 miles through Wales, and is perhaps one of the most beautiful in Great Britain. The river is tidal to Bigsweir Bridge.

Distance. From River Severn to Bigsweir Bridge .. 15 miles.

Tidal Information. At Chepstow. Spring Tides rise 38 ft.
,, ,, Neaps tides rise 28 ft.

Maximum Dimensions for Craft Using Waterway.

Length	.. ..	Not limited.
Beam	.. ..	,, ,,
Draught.	To Chepstow ..	12 ft. low water
	Bigsweir Bridge ..	6 ft. Spring tides

Locks. Nil.

Towing Path. Although there was a path throughout the River Wye, it is now overgrown and useless.

Tidal High tide at Brockweir Ferry, 30 minutes after Bristol.
High tide at Chepstow, 20 minutes after Bristol.
Spring tides rise 38 ft. Neap tides rise 28 ft. 6 ins.
In summer there is sometimes a "bore" above Chepstow.

Distance Table.	*Miles.*	*Furlongs.*
Bigsweir Bridge to:		
Llandogo	1	2
Brockweir Ferry	3	1
Tintern Railway Bridge	3	7
Tintern Bridge	4	6
Lancaut Stone Quarries	9	6
Chepstow Bridge	12	—
Beachley Point, mouth of River and junction with River Severn Estuary	15	—

No. 123

RIVER YEALM

Authority. Yealm Harbour Authority, Newton Ferrers, Devon.

From and To. Mouthstone Point to Steer Point.

Distance. 3½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	,, ,,
Draught (to Steer Point). High water	4 ft.
Headroom	12 ft.

Locks. Nil. Tidal throughout.

Towing Path. None.

Connections. Newton Ferrer's Creek, Coffleet Arm, Silverbridge Lake.

Speed Limit. 6 m.p.h.

General Remarks. A popular yachting centre, and the river and creeks are generally sheltered.

Port Charges. Nil.

Mooring Charges. The maximum charge for vessels using the harbour moorings are:—

	Per day.	*Per week.*
Every vessel under 10 tons register	1/6	5/-
From 10-20 tons register	2/6	7/6
,, 20-30 ,, ,,	3/-	9/-
,, 30-40 ,, ,,	3/6	10/-
,, 40-50 ,, ,,	4/-	12/-
Above 50 tons	6/-	17/6

Tidal Information. High water, 5 hours 26 minutes after Dover, at Misery Point.

Spring tides rise 16½ ft. Neap tides rise 11½ ft.

SCOTLAND

INTRODUCTION

The Canals and Rivers of Scotland are not linked with the waterways of England and Wales. They were constructed for a different set of economic conditions and they all have "wide" locks.

Several of the Scottish Rivers are navigable for a short distance in the Estuary, but have not been listed as they are used mainly by sea-going craft and fishing vessels. The Dee (Kirkcudbright) is navigable to Farland and small fishing vessels can at high water, enter the River Spey through the gravel shoals which almost totally obstruct the entrance. The Rivers Eden and Tweed are also used for short distances.

A considerable number of lochs are used in Scotland by pleasure craft. A list of the more important lochs is given here for general interest.

Name.	*Maximum length in Miles (approx.).*	*Maximum width in Miles (approx.).*
Lomond	20¾	5
Ness	22½	1
Awe	22¾	3¼
Maree	12¾	2¼
Tay	14½	1⅛
Shiel	17½	1
Leven	3⅜	2
Katrine	8	¾
Arkaig	12	¾
Earn	6½	4⅝
Loyal (Laoghal)	4⅜	1¾
Naver	6¼	½
Fannich	6⅜	¾
Ken	4	½
Lochy	9⅝	1¼
Lydock	5¼	½
Morar	12	2
Rannoch	9⅜	1⅛
Shin	3¾	1½

Name.	*Maximum length in Miles (approx.).*	*Maximum width in Miles (approx.).*
Menteith	$1\frac{1}{2}$	1
Vennacher	$3\frac{3}{4}$	$\frac{3}{4}$
Lubnaig	$3\frac{7}{8}$	$\frac{3}{8}$
Assynt	$6\frac{3}{4}$	$\frac{3}{8}$
Ericht	$14\frac{3}{4}$	$1\frac{1}{8}$
St. Mary's	3	$\frac{1}{2}$
Doon	$5\frac{5}{8}$	$\frac{3}{4}$
Garry (Perthshire)..	$2\frac{3}{4}$	$\frac{3}{8}$
Garry (Inverness-shire)	$4\frac{1}{2}$	$\frac{1}{2}$
Affric	$3\frac{1}{8}$	$\frac{1}{2}$
Glas..	$3\frac{3}{4}$	$\frac{1}{2}$
Luichart	$4\frac{3}{4}$	$\frac{3}{4}$
Treig	6	$\frac{3}{4}$
Quoich	$6\frac{1}{8}$	$\frac{3}{4}$
Cluanie	$4\frac{3}{8}$	$\frac{1}{2}$
Blackwater Reservoir	8	$\frac{1}{4}$
Laggan (includes upper and lower portions)	12	$\frac{1}{2}$

No. 124

CALEDONIAN CANAL

Authority. Docks and Inland Waterways Executive, Caledonian Canal Office, Clachnaharry, Inverness, Scotland.

'Phone: Inverness 140.

From and To. The Caledonian Canal cuts across Scotland, linking the North Sea with the Atlantic, thus saving many miles of exposed navigation around the North Coast of Scotland.

The Canal is entered at its eastern end from the Beauly Firth at Clachnaharry near Inverness, and runs to Corpach, Loch Linnhe, at its western end.

The waterway consists of about 21½ miles of canal, the remaining 38½ miles being through the Lochs Ness, Oich and Lochy.

Navigation through Lochs, etc. The navigation through Loch Ness and Loch Lochy presents no difficulties, but care must be exercised in navigating Loch Oich. This loch, however, is well buoyed and beaconed. Buoys also mark the channel from the canal at the east end of Loch Ness. Along the Canal and in the Lochs all buoys, Beacons and other markings are coloured as follows :—

On the North West Side	Red.
On the South East side	Black.

There are several recognised anchorages in the Lochs, the most important of which are :—

Loch Ness : At Invermoriston, in the inlet behind Castle Urquhart, and at Temple Pier on the N.W. side of the loch, and Foyers on the S.E. side.

Loch Oich : off Port MacDonnell pier.

Loch Lochy: In the inlet N.E. of the glen of Loch Arkaig on the N.W. side, and at Letterfinlay, half-way down the Loch on the S.E. side.

Anchors may not be put out in the Canal, but there are numerous places where craft can tie up.

Tidal Information.

At Clachnaharry Sea Lock.

Spring rise	13 ft. 6 ins.	Average Rise.
Neaps rise	6 ft. 3 ins.	

At Corpach Sea Lock.

Spring rise	11 ft. 0 ins.	Average Rise.
Neaps rise	5 ft. 9 ins.	

Vessels cannot enter or pass out of the Sea Locks at either end of the canal, for about two hours before or after low water of Spring tides as a general rule.

Distance. From Clachnaharry to Corpach, 60 miles.

Maximum Dimensions for Craft Using Waterway

Length	150 ft. 0 ins.
Beam	35 ft. 0 ins.
Depth of Water	13 ft. 6 ins.
Headroom	120 ft. 0 ins.

Note.—Vessels exceeding 150 ft. may be accepted up to a limit of 160 ft. overall, providing draft does not exceed 9 ft.

An overhead power cable at Torvean near Inverness crosses the canal at 125 ft. above the water level. Masts therefore must be such as to clear.

Locks. 29. 14 between Clachnaharry and the summit of the waterway at Laggan, Loch Oich, and 15 between Laggan and Corpach.

Lock gates worked by Lock Keepers.

Note.—Before each lock a heavy chain is suspended and it is dangerous for craft, to approach any lock until this has been lowered.

Bridges. 11 swing bridges.

Speed Limit and Bye-Laws. 6 miles an hour in Reaches only.

Notices giving instructions to vessels are posted along the Canal bank and these should be carefully read and observed. It is important to carry a copy of the Canal Regulations, these may be obtained from the Canal Official, on entry.

Approx. Time taken to Navigate. About one day in Summer ; two days in Winter.

Sunday Navigation, etc. The Canal is open for navigation between 6.30 p.m. and 8.30 p.m. each weekday in Summer, and in daylight hours in Winter, but as a general rule vessels are not passed through locks on Sundays, without consent of the Engineer and Manager.

Charges. **Canal Dues** for Yachts or Motor Boats :—

Up to 10 tons minimum charge	£2 10 0
Over 10 tons but not over 25 tons ..	3 15 0
„ 25 „ „ „ 40 „ ..	4 0 0

Exceeding 40 tons, 2/- per ton.

All on the Gross Register Tonnage.

On all vessels using any Lock, Harbour, Pier, Jetty or Basin (except Muirtown Basin which comes under the rates leviable at Inverness Harbour) a charge of 2d. per ton of the gross register tonnage, with a minimum charge of 5/-. Harbour dues will not be payable on any vessel proceeding along the Canal for a greater distance than 3 miles. All charges for through passages in either direction, are made at Inverness.

Pilotage. Canal Pilots not usually necessary, but are available if required. Before engaging a pilot it is advisable to consult the Canal Authorities, in order that a qualified and recognised man is employed.

Rates. The following are the recognized charges :—

From East to West or *vice versa* :—	£ s. d.
Vessels under 100 tons	5 0 0
„ from 100 to 150 tons	5 10 0
„ „ 150 „ 200 „	6 0 0
„ „ 200 „ 300 „	6 10 0
„ over 300 tons	7 0 0

Towage. A Canal Tug is always available for towing vessels through Canal on due notice being given to the Manager. The basis of charge is generally £12 per working day of tug, depending on the nature of the work.

Charts. Charts of the Canal, as well as the Canal regulations, may be obtained from the Canal Office. There is also an Admiralty Chart of the Canal, No. 1791. Admiralty Charts for "Inverness Firth" and "Loch Linnhe" are also available.

Distance Table.	*Miles.*	*Furlongs.*
From Sea Lock to:		
Clachnaharry Lock	1	—
Muirtown (Four Locks)	2	—
Bught Bridge	3	—
Dunean	4	—
Dochgarroch (Lock)	6	—
Borlum	7	—
Bona	8	—
Aldourie	9	—
Dores	10	—
Errichit Woods	12	—
Temple Pier	15	—
Inverfarigaig	18	—
Foyers, Ruiskie	20	—
Auttsaye	23	—
Invermoiriston	25	—
Port Clair	27	—
Fort Augustus, Lower	30	—
Fort Augustus (5 locks)	31	—
Kytra (Lock)	34	—
Cullochy (Aberchalder Lock)	36	—
Port Macdonell	38	—
Bridge of Oich	40	—
Laggan (2 locks)	42	—
Letterfinlay	46	—
Invergloy	49	—
Clunes	50	—
Achnacarry	51	—
Gairlochy (2 locks)	53	—
Moy	54	—
Strone	55	—
Muirshierlich	56	—
Banavie, Upper } (8 locks)	58	—
Banavie, Lower } (8 locks)	59	—
Corpach Basin (2 locks)	59	5
Corpach (Sea Lock)	60	—

No. 125

RIVER CLYDE

Authority. Clyde Navigation Trust, 16, Robertson Street, Glasgow, C.2.
'Phone: Central 2695.

From and To. Cambuslang to Greenock.

Distance. 29½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited.
Beam	„ „
Draught:	
To Port of Glasgow	21 ft. L.W. Springs.
To Cambuslang	H.W. Springs, 3 ft. only.
Headroom	Unlimited to New George V Bridge.

Locks. Nil.

Towing Path. None.

General Remarks. This river is of little interest to yachtsmen, as it is chiefly used by seagoing vessels which come up to the Docks at Glasgow.

Special Note. The sailing of small boats east of Bowling Bay is prohibited by Bye-Law.

Tidal Information. The range of the tide at Glasgow Docks is 12 ft.

No. 126

CRINAN CANAL

Authority. Docks and Inland Waterways Executive, Crinan Canal Office, Ardrishaig, Argyll.
'*Phone :* Ardrishaig 10.

From and To. Ardrishaig (Loch Gilp, Loch Fyne) to Crinan (Loch Crinan, Sound of Jura).

General Remarks. The distance from Ardrishaig to Crinan round the Mull of Kintyre is upwards of 132 miles.

From the Clyde, a sheltered passage nearly 85 miles shorter than the exposed voyage around the Mull, can be secured by boats passing through the Canal.

Entrance to canal at any state of the tide.

Caution should be taken in that portion of the Canal between Bellanoch Bay and Crinan, a distance of about 1½ miles, as in this length there are several points where the canal is very narrow for two boats to pass. These two are in telephonic communication and traffic is so regulated as to obviate passing in this reach.

Distance. 9 miles.

Maximum Dimensions for Craft Using Waterway.

Length		88 ft. 0 ins.
	Sea Locks	100 ft. 0 ins.
Beam		20 ft. 0 ins.
	Sea Locks	23 ft. 0 ins.
Draught		9 ft. 6 ins.
	Sea Locks	11 ft. 0 ins.

10 ft. draught is often passed through, but the Canal Authorities accept no responsibilitiy.

Headroom .. .. Unlimited.

Note.—Sea Locks are at Ardrishaig and Crinan.

Locks. 15. Lock gates are opened by Lock Keepers with assistance of crew. One gate is opened by the Lock-keeper and the other by a member of the crew. If vessel is small, only one gate is opened and no crew need be landed to assist.

Bridges. 6 opening Bridges.

Speed Limit. Speed must not be such as to cause wash on banks.

Sunday Navigation. No through passage allowed on Sundays, but craft can enter or leave the basin either end of the Canal, at any hour, day or night.

Charges. **Canal Dues.** On Yachts and Launches the charge for through passage is at the rate of 1/- per foot of length overall (excluding overhang of bowsprit beyond deck). Minimum Charge, £1 15s. 0d. Fishing Boats entirely open and used for line-fishing: Sailing Boats, 15/-, Motor Boats, 20/-. These charges are subject to a surcharge of 16⅔ per cent.

Lock Tolls. Nil.

Harbour Dues. Admission to the Canal Basin at either end of the canal—minimum charge, 6/-. Open boats or fishing boats passing into or out of the basin in company —2 or more boats, 5/- each.

Lying-up Dues. Per week or part of a week, minimum charge, 4/-.

Payment: At Canal Office, Ardrishaig. When the Canal Office is closed at Ardrishaig, payment is made at a small hut on the Canal bank near No. 3 Lock, Ardrishaig.

Hours of Navigation. 6.30 till dusk.

Caution. Care should be taken at sharp bends in Canal and hooter should be sounded, as there is considerable traffic on the Canal, particularly coastal "puffers," at certain times of the year when the fishing fleet goes through.

Distance Table.

Ardrishaig Pier to:	*Miles.*	*Furlongs.*
Lochgilphead	—	2
Lock No. 5	3	6
Lock No. 8 (Summit)	4	1
Lock No. 13	5	—
Crinan, Lock No. 14	8	6
Lock No. 15, Sea Lock	9	—

No. 127

FORTH & CLYDE CANAL

Authority. The Dock Manager, East Coast Scottish Ports, D. & I.W.E., Dock Office, Grangemouth.

'Phone: Grangemouth 591.

Telegrams: 'Dainwex, Grangemouth.'

If possible, it it best to advise the Collector of Dues either at Grangemouth or Bowling beforehand.

From and To. Firth of Forth (Carron River) at Grangemouth, to the River Clyde at Bowling Harbour.

General Remarks. This canal is very convenient for craft wishing to proceed from the East to the West Coast or *vice versa.* There are along the canal, numerous locks and some sharp bends. Owners are strongly advised to see that before undertaking the passage that provision is made for protecting the topsides of their Yachts by an ample supply of fendoffs, etc.

Bowsprits should be shortened or better still, taken in, and booms topped up. Nothing if possible, should project beyond the counter. Dinghies should be carried on deck.

Care should be taken in approaching the entrance at Grangemouth, as the Carron River requires careful navigation and at the correct time of tide.

Distances. Grangemouth to Bowling, 35 miles. Branch in Glasgow, 2¾ miles.

Maximum Dimensions for Craft Using Waterway.

Length	68 ft. 6 ins.
Beam	19 ft. 8 ins.
Draught	8 ft. 6 ins.
Headroom	65 ft. 0 ins.
Mean breadth of Canal, on surface	63 ft. 0 ins.
„ „ „ at bottom	30 ft. 0 ins.

Locks. 39. Lock gates worked by Boat Crews on towpath side ; by Lock Keepers on off-side.

Bridges. No fixed bridges, either Bascule or swing.

Double leaf bridges shall be operated on towing path side by Boat Crew. This does not apply to single-leaf bridges or power-operated bridges.

Tunnels. Nil.

Towing Path. This is on the north side from Grangemouth to Maryhill and on the south side from Maryhill to Bowling. Mooring hooks in locks are on the towpath side.

Speed Limit and Bye-laws. 4 miles an hour.

Before using the Canal, Owners are advised to consult a copy of the Bye-laws, at Grangemouth or Bowling, as a number of the regulations therein affect the passage of Yachts.

Under Navigation Regulations the following abridged extracts are of importance :—

Vessels are not to be navigated stern first.

Vessels must have competent crew aboard.

Vessels moored for the night must show a white light, and when navigating the usual navigation lights.

Power vessels must have suitable whistle, etc., to be sounded when approaching bends or in fog, mist, etc.

Approx. Time taken to Navigate. With power, about 2 days. Some experienced fishermen used to canal, can get through in one day.

Sunday Navigation. The Canal is closed at 12 midnight Saturday to 12 midnight Sunday.

Tidal Information. Carron River is not navigable at all at low tide, and the approach or departure is best made on the last of the flood and should not be attempted outside of two hours either side of high water.

Although Bowling Harbour is accessible at all states of tide, the sea lock functions only four hours on either side of high water.

Charges. **Canal Dues.** For passage through Canal for Yachts and Motor Boats, 2/1 per net registered ton. Minimum: 15 tons £1 17s. 9d. (2/6 for each net registered ton over 15 tons).

Lock Tolls. Included in Canal Dues.

The above does not include Forth Conservancy Dues.

Payment. To Collector of Dues at Bowling, from whom a Pass Bill is obtained. At Grangemouth a Pass is obtained, to be given up at Bowling when dues are paid.

Forth Conservancy Dues are 1d. per net registered ton inward or 1d. per net registered ton outward.

Connections. Branch 2¾ miles long from Maryhill, Glasgow, to Port Dundas, Branch continues for a further mile, linking with the Monkland Canal.

Distance Table.	*Miles.*	*Furlongs.*
Grangemouth (Entrance Lock) to:		
Timber Basin Lock No. 2	—	2
Lock No. 3	1	4
Lock No. 4	2	—
Lock No. 16, Camelon (near junction, with now useless Union Canal locks)	4	0
Bonnybridge	6	7
Greenhill	8	—
Lock No. 19	9	—
Windford (Summit), Lock No. 20	10	3
Kilsyth Bridge	13	6
Cadder Bridge	21	6
Junction with Branch to Glasgow Basin, which leads to Monkland Canal (Branch 3¾ miles)	25	4
Locks Nos. 21, 22, 23, 24 and 25	26	—
Kelvin Aqueduct	26	2
Flight of Eleven Locks (Nos. 26 to 36)	29	4
Junction with old canal (Forth and Cart Junction Canal), now derelict	31	4
Old Kilpatrick	34	5
Lock No. 38	34	7
Bowling Lock No. 39	35	—

No. 128

RIVER FORTH

Authority. Forth Conservancy Board,
Grangeburn Road, Grangemouth.
'*Phone:* Grangemouth 1.

From and To. Isle of May to Stirling.

Distance. 62 miles.

Maximum Dimensions for Craft Using Waterway.

Length .. .. Not limited.

Beam .. .. ,, ,,

Draught:
To Stirling at High Water Springs .. 11 ft.

Headroom: 23 ft. at H.W. Springs, when Alloa Bridge is closed. Unlimited when open.

Locks. Nil.

Towing Path. None.

Bridges. Forth Railway Bridge. (Headroom at high water, 147 ft.).

Alloa Railway Bridge. (Swing span, giving two clear openings.)

Kincardine Road Bridge (swing span).

Tidal Notes. High water at Stirling 2 hours after Leith.

General Remarks. Pilotage is a necessity for navigating this River. From Alloa to Stirling it is tortuous and narrow and is obstructed by shallow ridges which can be only passed at high water.

Connections. Carron River, which leads to the Forth and Clyde Canal, at Grangemouth.

Distance Table.	*Miles.*	*Furlongs.*
Stirling to:		
Abbey Ford	3	4
Snow Ford	4	6
River Bannock Junction	6	6
Cambus	9	—
Alloa	12	6
River Carron Junction	18	4
(Forth and Clyde Canal runs from one mile up the Carron River)		
River Avon Junction	20	4
South Queensferry	30	4
Granton	37	4
Newhaven	38	5
Portobello	42	5
Isle of May	62	—

No. 129

MONKLAND CANAL

Note. This canal has not yet been abandoned by Act of Parliament; public intimation of the intention to do so has been given by the Railway Executive, and measures to implement the intention are actively in hand. This waterway is not now navigable and has been out of use for several years. No dredging work has been performed for many years and parts are overgrown with weeds. Therefore no traffic has been able to use it.

Authority. The Railway Executive, Scottish Region, 302, Buchanan Street, Glasgow, C.2.
'Phone: Douglas 2900.

From and To. St. Rollox to Woodhall.

Distance. 13¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	66 ft.
Beam	13 ft. 6 ins.
Draught	4 ft. 6 ins.
Headroom	7 ft. 6 ins.

Locks. 6. These are out of action and most of them have been boarded up.

Bridges. Numerous.

Charges. None, as the canal is derelict.

General Remarks. Connects Glasgow with the Monkland mineral district and it served the Iron Foundries of Gartsherrie and Dundyvan. A branch of the Forth and Clyde Canal, 3½ miles long, joins this canal at Port Dundas. Although it has been used to a considerable extent in the past no traffic has used it since 1934, due to failure to maintain the canal to statutory standards.

No. 130

RIVER TAY

Authority. Dundee Harbour Trustees, Dundee.

From and To. Tentsmoor Point to Perth.

Distance. 29 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	„ „
Draught	11 ft. to Perth at high water Springs
Headroom	77 ft.

Locks. Nil.

Towing Path. None.

Bridges. Tay Bridge is 2 miles long and consists of 86 spans.

General Remarks. Pilotage, except for yachts, is compulsory within the Dundee Pilotage district. Authority for Pilots is the Dundee Harbour Trustees. Entrance to river is obstructed by numerous shifting sands, giving only a narrow entrance channel.

Connections. Two miles west of Newburgh is the River Earn. Navigable for 6 miles to the Bridge of Earn for light craft.

No. 131

UNION CANAL

Authority. The Dock Manager, East Coast Scottish Ports, D. & I.W.E., Dock Office, Grangemouth.
'Phone: Grangemouth 591.
Telegrams: 'Dainwex, Grangemouth.'

From and To. Edinburgh to Falkirk.

Distance. 31 miles.

Maximum Dimensions for Craft Using Waterway.

Length	66 ft. 0 ins.
Beam	11 ft. 3 ins.
Draught	3 ft. 6 ins.
Headroom	5 ft. 0 ins.

Locks. Nil.

Bridges. 62. Lowest Bridge, Redhall, with 5 ft. headroom.

Tunnels. **Falkirk** .. Length 696 yards ; Headroom 11 ft. 9 ins.

Speed Limit and Bye-Laws. 4 miles an hour for Motor Boats.

Approx. Time. taken to Navigate. Between Edinburgh and Falkirk, 20 hours, under ideal conditions. At certain times of the year the weeds are troublesome.

Charges. **Canal Dues.** Vary from 3d. to 3/- per ton.

Payment. To the Railway Executive at the above address.

General Remarks. There is now no entrance by water to the Union Canal, as the locks joining the canal to the Forth and Clyde Canal have been filled in, leaving the Union Canal as an isolated strip of water. Cutting off the capital of Scotland was thereby effected in 1936. Canal is semi-derelict, but capable of considerable development.

Distance Table.	*Miles.*	*Furlongs.*
Port Hopetoun to:		
Slateford Aqueduct	2	2
Ratho	8	—
Lins Mill Aqueduct (over River Almond)	10	2
Broxburn	12	4
Winchburgh	15	2
Phillipstoun	17	2
Linlithgow	21	—
Avon Aqueduct	23	4
Falkirk Tunnel Entrance	29	4
Falkirk Tunnel Exit	29	7
Falkirk	30	—

(Canal continues for a further mile to the top of the old locks, now filled in. There were 11 locks at this point connecting Forth and Clyde to the Union Canal.)

NORTHERN IRELAND

INTRODUCTION

In Northern Ireland three of the seven canals and inland navigations connect ports on the sea coast with Lough Neagh. They are the Lagan Navigation from Belfast to Ellis's Cut on Lough Neagh, the Lower Bann Navigation from Coleraine to Toomebridge on Lough Neagh, and the Newry Canal from Newry to Whitecoat Point on the Upper Bann River, which flows into Lough Neagh. •There has been very little traffic on the Newry Inland Canal for some years, and the owners have not maintained the navigation works up to the standard required for barge traffic. Steps have been taken to effect its abandonment. The Coalisland Canal connects the town of Coalisland in County Tyrone with the River Blackwater, which also flows into Lough Neagh.

Also associated with Lough Neagh is the Upper Bann Navigation, extending over the southern portion of Lough Neagh and up the Blackwater River to Blackwatertown. There are no locks on this navigation.

There are two other inland waterways which have no connection with Lough Neagh or each other. These are the Strabane Canal, which lies between the town of Strabane in County Tyrone and the River Foyle, and so gives a connection with Londonderry down that River, and the Lough Erne Navigation consisting of the navigable channels of Lough Erne and Upper Lough Erne in County Fermanagh. Many years ago the Ulster Canal, which was constructed between 1826 and 1842, provided a connection between Lough Neagh and Lough Erne, but the Northern Ireland portion of this Canal was formally abandoned ten years ago, and is now dry. This Canal formed part of the third route which crossed Ireland by water. This route was never used to any great extent, and traffic which came from Lough Neagh through the Upper Bann Navigation to the Ulster Canal and thence to Lough (Upper) Erne, proceeded through the Ballinamore and Ballyconnell Canal to the Shannon at Leitrim (Eire). The Ballinamore and Ballyconnell Canal was a series of lakes connected by short cuts and had a total length of 38¾ miles. It has been completely derelict for many years.

The two waterways which cross Ireland are both in Eire, *viz.*: The Grand Canal and The Royal Canal. Full details of the waterways of Eire, including a comprehensive description of the River Shannon Navigation, will be found in *Green and Silver*, by L. T. C. Rolt (George Allen & Unwin, Limited).

No. 132

COALISLAND CANAL

Authority. Lagan Navigation Company, Stranmillis, Belfast.
'*Phone:* Belfast 67372.

From and To. Junction with River Blackwater, 3 miles from the south-western corner of Lough Neagh to Coalisland, Co. Tyrone.

Distance. 4½ miles.

Maximum Dimensions for Craft Using Waterway.

Length	62 ft. 6 ins.
Beam	14 ft. 6 ins.
Draught	5 ft. 0 ins.
Headroom	6 ft. 0 ins.

Locks. 7. (1 double.)

Towing Path. Throughout Navigation.

Bridges. Road Bridges cross the Canal at Locks 3, 5 and 7.

General Remarks. Construction on the Coalisland Canal commenced in 1732 and was completed before the end of the 18th century.

The sources of water supply are two feeders at Coalisland Basin, one from a dam and the other a small stream.

Special Note. With the Upper Reaches of the Lagan Navigation the abandonment of the Coalisland Canal is under consideration.

No. 133

LAGAN NAVIGATION

Authority. Lagan Navigation Company, Stranmillis, Belfast.
'Phone: Belfast 67372.

From and To. Stranmillis, Belfast to Ellis Cut, Lough Neagh.

Distance. 26¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length	62 ft. 0 ins.
Beam	14 ft. 6 ins.
Draught	5 ft. 6 ins. (approx.).
Headroom	6 ft. 3 ins.

Locks. 27. (1 double, at the Tidal entrance of Stranmillis, Belfast).

General Remarks. The Lagan Navigation is in part a canalisation of the River Lagan and in part an artificial waterway. Work on the construction of the navigation was completed in 1820. The present Company assumed control in 1843. It connects Belfast Harbour with Lough Neagh and through Lough Neagh affords communication by water with Portadown on the Upper Bann River, with Coalisland at the head of the Coalisland Canal, with small landing places on Lough Neagh, namely Kinnego Harbour, Maghery, Newport Trench, Ballyronan, Toomebridge and Antrim and with the Lower Bann Navigation.

From the quays of Belfast Harbour to Stranmillis Lock, where the Lagan Navigation commences, a lighter must pass under the Queen's Bridge, the Central Railway Bridge and the Albert Bridge, and thence through the McConnell Lock, which lies in tidal waters just above the confluence of the Blackstaff River with the River Lagan. This lock is the property of the Belfast Corporation and is associated with a weir which impounds water at a level below high tide to improve the amenities of the

river up to Stranmillis Lock by covering up unsightly slob land formerly exposed at low tide. The McConnell Lock is 150 feet long and 38 feet wide and is designed to accommodate a tug and three barges. The walls are built of concrete and the gates are electrically operated. After leaving the McConnell Lock lighter passes under Ormeau Bridge and the King's Bridge and so reaches the Stranmillis Lock, which is Lock No. 1 of the Lagan Navigation. (The McConnell Lock is operated by the Belfast Harbour Commissioners.)

Westward from Stranmillis the navigation passes the busy industrial areas of Lambeg, Hilden and Lisburn. At the Union Locks just beyond the outskirts of Lisburn there is a flight of four locks where the navigation finally leaves the River Lagan and follows a contour on higher ground to Aghalee, a distance of 11 miles and 28 chains. This is the Head Level and a number of streams act as feeders on this level, namely, Newport Feeder, Hallidays Feeder, Megarrys Feeder, Trummery Feeder, Douglas Feeder, Moira Mill Feeder, and Hell Hole Feeder.

Near Moira the Head Level crosses the valley of the River Lagan in a four-span masonry aqueduct which is approached on the south side by a high embankment. There are two overfalls on this level, the main one being near the aqueduct. From Aghalee the Canal descends to Ellis Cut on Lough Neagh; there are 10 locks on that side of the Head Level.

It varies in width from 40 to 100 feet. In winter the Head Level may carry up to 7 feet of water and in summer sometimes less than 5 feet 6 inches.

Special Note. The abandonment of the Upper Reaches of the Navigation (that is between Lisburn and Lough Neagh) is at present under consideration.

Tolls. Charges for pleasure craft passing through Canal:—

	£	s.	d.
Canoes (lifted out of locks)	0	2	6
Motor launches, fishing boats, etc., from 1st Locks to:—			
Newforge	0	10	0
Edenberry	0	15	0
Drumbridge	1	0	0
Mossvale	1	5	0
Lambeg	1	10	0
Hilden	1	15	0
Lisburn	2	0	0
Newport and beyond	2	5	0

These charges include return trip within 10 days.

Distance Table.	*Miles.*	*Furlongs.*
Belfast to:		
Stranmillis, Belfast (Lock No. 1)	2	6
Lisburn Lock No. 12	12	5
Lock No. 13	13	3
Union Locks (total of 4)	13	7
(Canal commences, leaving River Lagan, after Union Locks.)		
Aghalee (8 locks here in 1¼ miles)	25	6
Leanmount Lock (entrance to Lough Neagh)	28	7

No. 134

LOWER BANN NAVIGATION

Authority. Ministry of Finance, Government of Northern Ireland, Stormont, Belfast.
'Phone: Belfast 63210.

From and To. The area controlled is approximately one-half of Lough Neagh and the Lower Bann River from Tommebridge (at the top of the Lough) to Coleraine, at the mouth of the River.

Distance. 32 miles.

Maximum Dimensions for Craft Using Waterway.

Length	100 ft.
Beam	18 ft.
Draught	6 ft.
Headroom .. Not limited, except at Coleraine, where the maximum headroom at low water ordinary Spring tides is 14 ft. at the centre of the arch.	

Locks. 5.

Towing Path. (*See* General Notes.)

General Remarks. The main construction works on this canal and on the Upper Bann Navigation were probably executed between the years 1842 and 1856, although it is possible that there was navigation of a sort before this.

The locks are situated at Toomebridge, Portna (double lock) Movanagher, Carnroe, and the Cutts, the latter being the connection between tidal and non-tidal waters and situated approximately 1½ miles upstream of the Road Bridge at Coleraine.

The navigation is canalised at the following points, and along these canals there are towpaths, but there are no such facilities along the rest of the river and craft

either must be towed by tugs or be self-propelled. The canalised lengths are as follows:

At Toomebridge from exit at the north end of Lough Neagh through Toome Lock down to the L.M.S. railway bridge.

At Portna from ¼ mile upstream of the locks to 120 yards downstream of the locks.

At Movanagher from the Weir to the Lock, a distance of ¼ mile, and 120 yards downstream of the lock.
The bridges crossing the Lower Bann Navigation are fitted with swing spans, but at Coleraine there is a fixed road bridge, built of stone with three arches, which restricts navigation to certain times of tide. In the order in which they are encountered proceeding downstream from Lough Neagh the bridges are as follows:

(1) Toomebridge L.M.S. Railway Bridge.
(2) Toomebridge County Road Bridge.
(3) Portglenone County Road Bridge.
(4) Kilrea County Road Bridge.
(5) Agivey County Road Bridge.
(6) Macfin L.M.S. Railway Bridge.

Dredging operations in the navigation channel of the river in recent years have considerably improved the facilities for navigation, although certain stanks remain in mid-stream and these are marked by navigation post or buoys.

Tolls. 1/- for each passage through a lock for pleasure craft.

Distance Table.	*Miles.*	*Furlongs.*
Lough Neagh to:		
Lough Beg (south end)	2	—
Lough Beg (north end)	5	5
Portglenone Bridge	9	7
Portna Double Lock	16	4
Movanagher Lock	19	4
Gortin Lock	20	5
Agivey Bann Bridge	24	3
Drumaheglis Railway Bridge	26	4
Loughan Island	28	6
Knockantern	29	7
Castleroe Lock	30	5
Coleraine	32	—

No. 135

LOUGH ERNE NAVIGATION

Authority. Lough Erne Drainage Board.

From and To. Belturbet to Belleek.

Distance. 52 miles.

Maximum Dimensions for Craft Using Waterway.

Length	Not limited
Beam	" "
Draught	6 ft.
Headroom	Limited to 12 ft. at Ross Ferry Bridge

Locks. None.

Towing Path. None.

General Remarks. This navigation was constructed between 1881 and 1890 in connection with arterial drainage works. For the greater part of its length this navigation runs through Upper Lough Erne and Lower Lough Erne, the latter being a very large body of water. In practice, there is no regular traffic by barge or lighter but in the summer months one or two small steamers may carry passengers, mostly excursion parties, on either lough. The level of the Lower Lough is controlled by sluices on the River Erne at Belleek. In times of heavy rain the level of the Upper Lough may be higher than that of the Lower Lough, due to the limits of the channel connecting the two.

Warning. Light craft should not venture too far from the shore as storms break very suddenly, and dangerous seas are raised very quickly.

Distance Table.	*Miles.*	*Furlongs.*
Belturbet to:		
Bunamunery (junction with River Finn, which connects with Ulster Canal, now derelict)	3	4
Crum Castle (entrance to Upper Lough Erne)	6	3
Ross Ferry Bridge	9	2
Carranadillar Ferry	10	7
Outlet from Lough Erne (there are 3 outlets)	18	2
Belleisle (junction with eastern outlet)	19	4
Carry Bridge	20	3
Tully (junction with western outlet)	25	4
Lisgoole	28	—
Enniskillen	30	2
Portora Castle (River enters Lower Lough Erne)	32	—
Devenish Island	33	—
Inis Mac Saint Island	40	—
Heron Point (Lake is 6 miles wide here)	42	2
Rosscor (River leaves Lough Erne)	49	—
Belleek	52	—

(A large sluice stops further navigation, and the river to the sea is a series of cataracts.)

No. 136

NEWRY CANAL[1]

Authority. Newry Port and Harbour Trust, Harbour Office, Newry.
'Phone: Newry 42.

From and To.
(*a*) Ship Canal. Victoria Lock in Carlingford Lough to Albert Basin, Newry.
(*b*) Barge Canal. Albert Basin, Newry to Whitecoat Point on the Upper Bann River.

Distance.
(*a*) 3½ miles.
(*b*) 18½ miles.

Maximum Dimensions for Craft Using Waterway.

Length:	Ship Canal	220 ft. 9 ins.
	Barge Canal	69 ft. 3 ins.
Beam:	Ship Canal	50 ft. 9 ins.
	Barge Canal	15 ft. 0 ins.
Draught:	Ship Canal	14 ft. 6 ins.
	Barge Canal	5 ft. 0 ins.
Headroom:	Ship Canal	Unlimited.
	Barge Canal	9 ft. 0 ins.

Locks. Ship Canal, 1 (Victoria Sea Lock).
Barge Canal, 13.

Towing Path. Throughout Waterway.

Tolls. These are charged on Registered Tonnage.

[1] At the time of going to press, information has been received that the Barge Canal has been officially abandoned.

The ship Canal is the only means of access to the port of Newry from the sea and it lies parallel to the Newry River, which at low tides is an extensive slob land.

In years gone by there was traffic between Newry and Portadown by water, but this is now a thing of the past, and any traffic by water to Portadown goes by way of the Lagan Navigation and Lough Neagh.

There are 10 locks between Newry and the Head Level, and three locks from the Head Level to the Upper Bann River.

The feeders to the Head Level are the Tandragee Feeder on the west side and the Loughbrickland Feeder on the east side. The towns of Poyntzpass and Scarva are on this level.

Special Note. In recent years no traffic has been offered and the Trustees have so reduced their expenditure on maintenance that the Canal is not now in a condition to take traffic and steps have been taken to effect its formal abandonment.

Distance Table.	*Miles.*	*Furlongs.*
Newry to:		
Canal Basin	—	2
Poyntzpass (10 locks from Newry)	9	—
Lough Shark	10	—
Scarva Bridge	12	—
Tallyho Locks	13	—
Madden Bridge	14	3
Knock Bridge	16	7
Brackagh Lock	17	3
Whitecoat Point (junction with R. Bann)	18	4
Portadown	19	5
Entrance to Lough Neagh	28	—

No. 137

STRABANE CANAL & FOYLE NAVIGATION

Authority. Strabane and Foyle Navigation, Ltd., Strabane

From and To. Strabane to Londonderry.

Distance. 14 miles.

Maximum Dimensions for Craft Using Waterway.

Length	108 ft.
Beam	20 ft.
Draught	6 ft.
Headroom	12 ft.

Locks. 2.

Towing Path. Only on the Short Strabane Canal Section.

Bridges. Railway Bridge about ½-mile below Strabane, which contracts the Canal to a width of only 20 ft.

Connections. Strabane Canal is 4 miles long and connects with the Foyle Navigation 10 miles south of Londonderry.

General Remarks. Canal Company acts as carriers, between Londonderry and Strabane.

No. 138

UPPER BANN NAVIGATION

Authority. Trustees of the Upper Bann Navigation, Riddets Buildings, 49, Donegall Place, Belfast.
'*Phone:* Belfast 20163.

From and To. Approximately half of Lough Neagh and up to the Blackwater River to Blackwatertown.

Distance. 11¼ miles.

Maximum Dimensions for Craft Using Waterway.

Length		Not limited
Beam		„ „
Draught.	Up to Moy	5 ft. 6 ins.
	Up to Blackwatertown	5 ft.
Headroom		8 ft.

Locks. Nil.

Bridges. Road bridges and a railway bridge.

Towing Path. None.

Tolls. None for pleasure craft.

General Remarks. There is very little traffic south of the entrance to the Coalisland Canal.

The main landing places under the control of the Trustees are Kinnego Harbour and Newport Trench on Lough Neagh.

Special Note. The abandonment of this canal is under consideration.

Distance Table.	*Miles.*	*Furlongs.*
Entrance to Lough Neagh to:		
Maghery Ferry (end of artificial cut from Lough Neagh)	—	3
Junction with Coalisland Canal	3	4
Verner's Bridge	4	4
Derrygalley Ferry	6	6
Junction with Ulster Canal (now derelict)	9	—
Blackwatertown	11	2

NARROW BOATS

APPENDIX

1. Historical Notes.
2. Locks and Lifts.
3. Tunnels.
4. Aqueducts.
5. Bridges.
6. Tides and Tidal Information.
7. Derelict Waterways.
8. Routes.
9. Canoeable Rivers of Great Britain and Northern Ireland.
10. Glossary of Inland Waterway Terms.
11. Navigation Hints.
12. Types of Inland Waterway Commercial Craft.

1. HISTORICAL NOTES

The history of Man's use of our rivers began with the stone net weight rings of prehistoric man and with the hide-covered coracles of the Celt, examples of which, little changed through a Millenium, still survive on the Severn, Teifi and Towy, but the first artificial cuts or canals were not made until Roman times.

Some of their canal construction can be seen to-day, running from Peterborough to the Trent. The first portion of this is called Caer-dyke (or Carr Dike), and sections of this can be seen near Bourne, Lincolnshire, and elsewhere. The other part of this ancient route from Lincoln to the Trent is still in use, being known as the Fossdyke Canal. This Roman waterway, although not used to a great extent now, has carried a great volume of traffic in the past, and as far back as 1121 records exist of Henry I having improvements carried out on the Canal.

No major canals for navigation were constructed until the middle of the 18th century, the beginning of the canal era, although great strides in inland communication had been made on the Continent by the construction of canals. Improvements were made, however, to rivers to facilitate navigation. Long before the canal era and as early as 1065, Edward the Confessor made a decree regarding four rivers. He ordered that mills and fisheries should be destroyed on the Rivers Thames, Trent, Severn and Yorkshire Ouse, and the rivers made navigable.

In these early days mention was made of the "New River" at Winchester, Hampshire, which was an artificial cut made to improve the navigability of the River Itchen. This ancient navigation is now derelict, but even to-day Alresford Dam can be inspected. This dam forms Alresford Pond and was used as a reservoir to provide a head of water to enable craft to navigate through "flash locks" to Alresford, Hampshire. This ancient specimen of civil engineering was constructed by Bishop Godfrey de Lucy (1189-1204). About the same time the care of the Thames was entrusted to the Corporation of the City of London by Richard I. Magna Charta referred to the crude weirs on the Thames and Medway and ordered their removal. Various acts were placed on the statute book after the signing of Magna Charta, and at the end of the Middle Ages the following were some of the rivers which were in use for navigation for part of their course: River Ouse (Yorkshire), Tyne, Ure, Great Ouse, Itchen, Exe, Dart, River Ouse (Sussex), Western Rother, Cuckmere, Witham, Stour (Suffolk), Thames, Lea, Humber, Avon (Somerset), Stour (Kent). Our inland waterways, which were developed under the Tudors and Stuarts, made considerable progress as the early roads made transport by pack horse the only real alternative

to transport by river. With the introduction of the lock to England, some further progress was made, but the greatest progress came with the canal era.

Although John Trew had started construction of the Exeter Canal in 1563, British Canal history virtually commenced with the opening of the Duke of Bridgewater's Canal from Worsley to Manchester in 1761. Some authorities nominate the St. Helen's Canal as the commencement of the canal era as it was opened to traffic in 1757, although this claim is difficult to uphold as the St. Helen's Canal is in fact a canalised river navigation and not a wholly artificial cut like the Bridgewater Canal. Even to-day, certain items of historical interest survive at Worsley on the Bridgewater Canal, viz., the entrance to the extensive system of subterranean canals, by which coal was carried from the face to the basin where it was transhipped into larger boats. One or two of the remarkable canal boats used on this underground system are still to be seen, together with other correspondingly miniature navigational appurtances, also Old Warke Dam, the original canal reservoir.

The canal era, which commenced in 1761, lasted practically until the opening of the railway from London to Birmingham in 1838, and during this period over 300 Acts of Parliament were placed on the statute book relating to canals, and great engineering works were carried out by James Brindley, Thomas Telford, Rennie, William Jessop, and others. The canals made the Industrial Revolution possible, which was in its infancy when canals started and England was still to a great extent self-sufficient, that is to say, she depended very largely upon her own resources.

The English country town (and in the 18th century there were few towns which might not be so described), was very closely linked with its surrounding rural area by many ties of mutual dependency. The town depended upon the labours of the countryman who, in turn, required the products of the town craftsman, and also town wastes for his land. The canal, winding out from the market towns through the countryside by many village wharves, conforms to this homogeneous pattern. The Industrial Revolution, with its new conception of an England importing food and raw materials and exporting manufactured goods, brought about a complete transformation. The old trade map faded: on the new map the important routes were those linking the great industrial areas with the ports, and it was the waterways which conformed most closely to this new pattern which enjoyed the best hope of survival.

Yet even these were threatened, for when the railways were built, conflict with the canals was inevitable. As the price of withdrawing their opposition to railway promotions, the canal companies would commonly force a railway company to buy out their canals: and at an extortionate price. Parliament laid upon the railway companies an obligation, which exists to this day, fully to maintain all canals thus acquired: but the circumstances of the acquisition, and the fact that the

canal merely competed for traffic with the railway, led the railway owners ever afterwards to follow a more or less systematic policy of neglect, high tolls, and the raising of all possible obstacles to trade (such as closing the waterways to traffic on Sundays, or prohibiting power-driven boats). Through working arrangements with independent canals was made difficult or impossible, while the most vital task of dredging was generally neglected. The objects were so to neglect the canal that trade fell away and ceased: whereupon a private bill for abandonment was promoted, and usually passed by an overworked legislature, wholly ignorant of what was going on. It should be emphasised that the diminution of canal trade is in great part the result, not of scientific or economic "progress," but merely of a deliberate policy pursued by interested parties. The tradition and consequences of this long-standing policy have been inherited by the State now that most waterways have come into its hands. Much will have to be done by the public, however, if the vast benefits to be derived from a well-run river and canal system are not to go by default. In the last 50 years, Commission after Commission has recommended the development of our canal system, but railway policy continued unchecked, and as recently as 1943, one company obtained powers to abandon nearly 200 miles of waterway from which traffic has been driven by neglect. To-day, the ancient life of the river has almost ceased to exist, and consequently the river is threatened by neglect and dereliction on the one hand, and ignorant and wanton exploitation on the other. Rail and road transport have brought about the decline, and in some cases the extinction of river navigations.

Net fishing, instead of being controlled to allow for the interests of rod fishermen, has been virtually abolished. By a process very similar to that of the Enclosures, the net fisherman has been deprived of a calling which his ancestors followed for countless generations and, on some rivers, the fishing is strictly preserved for a few wealthy individuals and syndicates. As a result of the milling monopoly, thousands of country mills with their ponds, weirs and sluices have become derelict, and due to the decay of agriculture in the years between the two world wars, the old systems of land drainage, irrigation and water conservation have become choked up, ruinous, and in many cases lost to local memory. River towing-paths have become impassable because of erosion or enclosure, while withy beds have reverted to boggy wilderness owing to the eclipse of the craft of basket-making. Rushes, once regularly cut back for use as baskets, thatch or litter, have either grown up to choke water courses or been uprooted wholesale. Serious and uncontrollable flooding has been the result of all this dereliction.

Meanwhile, active forces of disruption have accelerated the process of decay and dissolution. The bitumen laden surface water from modern roads, and industrial pollution (the latter readily preventable), have been steadily and surely destroying the wild life of our rivers both above and

below water. The ultimate result of this destruction upon natural ecology cannot be measured.

The establishment of large riverside power stations has not only destroyed river amenities but, by discharging hot condensate, has raised the temperature of many rivers to such an extent that, in summer periods of low water, great fish mortality is caused. Finally, excessive pumping for urban and industrial purposes has, in some districts, so lowered the water-table that in periods of drought the upper courses of rivers and tributaries dry up completely.

Beginning under the stress of wartime expediency, some attempt has been made recently to remedy the effects of previous neglect. Unfortunately, however, such work has generally been undertaken with insufficient local knowledge and an eye to quick results. Consequently, in the majority of cases, it has done more harm than good. Usually, the aim has been to eliminate instead of to control flooding, and to secure the quickest possible run-off with no regard for the question of water conservation. This policy is largely conditioned by the fact that owing to the loss of moisture-retaining humus in the soil, the rate of run-off from the land is more rapid than in the past, and consequently the risk of excessive floods in winter and drought in summer is much greater. So far from solving this fundamental problem, rapid drainage is a temporary expedient which, in the long run, merely aggravates it. Rivers have been dredged so deeply that flooding has been temporarily eliminated altogether with the result that riverside watermeadows, whose value depended on periodic flooding, have been rendered practically worthless. To obtain a quicker rate of flow, river banks have been stripped of vegetation. This enormously accelerates bank erosion and therefore causes increased silting in the lower reaches. Unless this silting up is checked by constant dredging, serious flooding will recur, thus the process of bank clearance ultimately defeats its own object.

Development of rivers and construction of canals began at a much later date in Ireland and Scotland. The tidal portions of the Bann, Forth, Clyde, Tay and Foyle have been used for transport since the earliest times, but after the fall of the Roman Empire, they were disused until the revival of trade and commercial enterprise which came much later than in England. Some of the waterways in Northern Ireland and Scotland have been State-owned for many years, and although State-ownership is usually the subject of political controversy, it must be stated in all fairness, that the waterways so owned have benefited. This experience is not uncommon, and some of the finest and most efficient canals on the Continent are State-owned.

By far the most hopeful auguries for the future are the foundation and rapidly increasing influence of The Inland Waterways Association, a body of disinterested enthusiasts, including many people prominent in all walks of life, which is concerned to advocate the restoration to

and maintenance in good order of all British navigable waterways, and their full use for both trade and pleasure traffic. A long series of public enquiries has unvaryingly advised that water transport is by far the cheapest for many categories of goods and recommended a new and constructive national waterways policy as a matter of urgency. No notice has ever been taken. The demand for waterborne recreation following the introduction of holidays with pay is a new factor with incalculable potentialities. All who wish for better conditions on the waterways of the future, all who wish there to *be* any waterways in the future, should join this energetic new organisation. The annual subscription is one guinea. As well as helping in a vital struggle, members receive various advantages, including the Association's *Bulletin*, issued about six times a year, and the only reliable guide to current developments The address of the Association is 11, Gower Street, London, W.C.1.

2. LOCKS, NAVIGATION WEIRS AND LIFTS

Locks.

The inventor of the pound lock is not definitely known, but credit is generally given to Leonardo da Vinci for his six locks on the Milan Canal, constructed in 1487. Credit for the construction of Britain's first lock is invariably given to John Trew, who commenced construction of the Exeter Canal in 1563, although claims have been put forward for the Canterbury Stour Locks (now derelict), and the River Idle Locks (now derelict). Pound locks were also constructed on the Thames in the 17th century at Iffly, Sandford and Swift Ditch, and also on the Wey Navigation, and othe rivers.

Locks are usually constructed of masonry or brick or a combination of both, although there are some exceptions. On some of the old river navigations will be found locks constructed wholly of timber, others have sloping turf sides with railway sleepers driven in the base of the slope to prevent boats settling down on the turf sides when the lock is being emptied. This type of lock can be found on the Kennet River section of the Kennet and Avon Navigation, and also on the River Wey Navigation. Lock gates are usually constructed of timber, although there are a few exceptions where gates are made of cast iron. Gates of the guillotine type are ceasing to be rarities. Formerly, the only examples of this type of gate were the famous stop-lock at Kings Norton on the Stratford-on-Avon Canal, and the old Shropshire Canal tub boat locks, but recently locks have been constructed with gates rising vertically on the Rivers Nene and Ouse.

Locks are almost invariably rectangular, the only exceptions being the Gravesend No. 1 Lock on the Gravesend and Rochester Canal, the Oxford Canal and the Lower Avon Navigation. Some of the locks on the two latter waterways were diamond shaped, and the rise in such locks is only small. This construction was adopted to equate the water of the lock with a small rise, with the ordinary deeper locks above it. On the derelict upper Avon and River Lark Navigations there were circular- and crescent-shaped locks.

Staircase locks or "risers" are locks arranged in flights, with the lower gate of one lock acting as the upper gate of the next. The maximum number of locks arranged in this manner is five (e.g. Bingley on the Leeds and Liverpool Canal). The main disadvantage of such an arrangement is that boats cannot pass each other during the locking through, unless they can actually pass in the lock chamber. At Foxton on the Grand Union, the risers are in two sets so that craft can pass each other halfway through the flight of locks.

On the British canal system sluice paddles are almost invariably worked

manually by lock-keepers or boat crews, using a portable windlass. Paddles are sometimes on the gates, and sometimes in the lock wall, when they are named "ground paddles." Some locks have paddles on the lock walls and gates, but it is more usual for both sets of paddles to be fitted at the upper end of the lock only. Although the rack and pinion paddles are generally operated by a windlass, there are still surviving examples of the old ratchet and crowbar system on the Calder and Hebble and elsewhere. The modern locks at Hatton on the Grand Union have enclosed gearing in a metal case and observation has to be made through a small window to check the position of the sluice valve mechanism.

Stop locks frequently have gates to work in either direction and these usually occur at the junction of two navigations when the variation in level either way is small.

The bulk of the water used by canals is consumed by locks. In an essay written by Mr. W. O'Brien, which won the Canal Association prize in 1858, he explains the water consumption during lockage as follows:—

"The loss of water caused by the passage of a boat through a lock is as follows:—

W equals L plus B, when the boat ascends.

W, loss of water; L, lockful or prism of water having the area of lock for its basis and the total fall of the lock for its height; B, volume of water displaced by the boat.

"When the boat descends, the loss is:

W equals L minus B.

"A boat going up or down takes W water, whatever be the number of locks, each lockful taken from the summit level going all the way down. If a boat goes up to the summit level and down again on the other side, it causes an expenditure equal to 2L, supposing the boat's load not to vary materially in the course of the journey.

"If the descending boat is immediately followed by one ascending, or vice versa, the loss is still the same, or only L per boat.

"Sometimes, in steep ascents, several locks are joined together without any intermediate pound; the cost of construction is lessened thereby; but in that case an ascending boat requires as many locksful as there are locks, in addition to the volume displaced by the boat, or

nL plus B,

n being the number of adjacent locks.

"In descending, the loss of water is L minus B as before."

There are several ways of saving water used during lockage, and in the report by Mr. L. T. C. Rolt to the "Association for Planning and Regional Reconstruction" on Inland Waterways, they are given as follows:—

(a) **Waiting Turns.**—The most economical use of water is secured if a boat moving up a flight of locks is succeeded by a boat travelling in the opposite direction. It leads to considerable delay unless traffic is heavy and regular but is sometimes enforced in time of drought.

(b) **Side Ponds.**—These consist of small reservoirs built beside each lock at a level midway between that of the upper and lower pounds and connected to the lock by means of a paddle or sluice. A descending boat entering a full lock first discharges the water from the lock into the side pond until lock and side pond equalise with the lock half empty. The side pond paddle is then closed, and the remainder of the water in the lock is discharged into the canal below in the ordinary way. Similarly, an ascending boat entering the empty lock first half fills the lock from the side pond before drawing the remainder from the canal above. In each case half a lock of water is saved. Many of the locks on the Grand Union Canal employ this system.

(c) **Paired Locks.**—In this case duplicate locks, side by side, employ the principle describe above, one acting as a side pond to the other.

(d) **Pumping Back.**—The installation of pumping units at each lock or compact flight of locks which return lockage water from the lower to the higher levels.

Navigation Weirs or Flash Locks.

These are primitive appliances for overcoming changes of level. They are only to be found on the Lower Avon Navigation and in the Fens, although there were three flash locks on the Upper Thames until recently.

These flash locks merely consist of a weir with gates that can be opened and closed, by alteration of paddles or raising the sluice gate vertically. Water is held up in reaches by the weirs and these have to be opened, and after the water in the reaches above and below the weir has run to a level, the craft can pass through.

These weirs have to be set in advance of the boat, and can, if not carefully used, be very dangerous.

Lifts.

There is only one lift in this country at present, which is of the vertical lift type at Anderton. Vessels 72 feet by 14 feet 6 inches can be transferred

from the River Weaver to Trent and Mersey Canal. This lift was opened in July, 1875, and was worked hydraulically until 1908. It was then converted to the present method of electric operation.

Many lifts have been constructed and have gone out of use. At one time lifts were in use on the following canals:—

Grand Western Canal (Taunton to Loudwell Section).
Bude Canal (Marhamchurch and Thurlibeer).
Worcester and Birmingham (Tardebigge).
Coalport Canal.
Trench Canal.
Grand Union (Foxton).
Monkland Canal (Blackhill).
Chard Canal.

3. TUNNELS.

In order to overcome differences in levels, canal constructors often resorted to tunnelling. As will be noted most tunnels are without a towing path. This was omitted for reasons of economy, and boats before the days of engines, were legged or shafted through the tunnel. Legging was an exhausting method and many of the early canal tunnels had their professional "leggers" who propelled the boats through the tunnel for a fee. The fee for Sapperton on the Thames Severn was 5s. for a loaded boat. Some of the later tunnels had a towing path, but in the case of Harecastle, it is not now available, and others have regulations governing entry at certain hours. Some are wide enough for two narrow boats to pass. In case of doubt enquiries should be made, particularly for those navigating with light craft.

Canal Tunnels of Great Britain

Name.	*Waterway.*	*Yards.*
Standedge	Huddersfield Narrow Canal	5415
Dudley	Birmingham Canal Navigations	3172
Blisworth	Grand Union Canal	3056
*Netherton	Birmingham Canal Navigations	3027
Harecastle	Trent and Mersey Canal	2919
West Hill	Worcester and Birmingham Canal	2726
Braunston	Grand Union Canal	2042
Foulridge	Leeds and Liverpool Canal	1640
Crick	Grand Union Canal	1528
Preston Brook	Trent and Mersey Canal	1239
Husbands Bosworth	Grand Union Canal	1166
Islington	Grand Union Canal	960
Saddington	Grand Union Canal	880
Falkirk	Union Canal	696
Shortwood	Worcester and Birmingham Canal	613
Tardebigge	Worcester and Birmingham Canal	580
Barnton	Trent and Mersey Canal	572
Gannow	Leeds and Liverpool Canal	559
Gosty Hill	Birmingham Canal Navigations	557
Savernake	Kennet and Avon Canal	502
*Chirk	Shropshire Union Canal	459
Shrewley	Grand Union Canal	433
Sattersford	Trent and Mersey Canal	424
Hincaster	Lancaster Canal	377

Name.	*Waterway.*	*Yards.*
Ashford	Brecon and Abergavenny Canal	375
*Coseley	Birmingham Canal Navigations	360
Brandwood	Stratford-on-Avon Canal	352
Hyde Bank	Peak Forest Canal	308
Maida Hill	Grand Union Canal	272
Newbold	Oxford Canal	250
Snarestone	Ashby Canal	250
Dunhampstead	Worcester and Birmingham Canal	230
*Scout	Huddersfield Narrow Canal	220
*Whitehouses	Shropshire Union Canal	191
*Woodley	Peak Forest Canal	167
Drakeholes	Chesterfield Canal	154
Bury	Manchester, Bolton and Bury Canal	141
Armitage	Trent and Mersey Canal	130
Leek	Trent and Mersey Canal	130
*Edgbaston	Worcester and Birmingham Canal	105
*Hag	Cromford Canal	93
*Ellesmere	Shropshire Union Canal	87
Cwmbran	Monmouthshire Canal	87
*Cowley	Shropshire Union Canal	81
*Knott Hill	Rochdale Canal	78
*Gregory	Cromford Canal	76
Froghall	Trent and Mersey Canal	76
*Cookery	Staffordshire and Worcester	65
*Bath	Kennet and Avon Canal	59
*Curdworth	Birmingham Canal Navigations	57
*Bath	Kennet and Avon Canal	55

The remainder are all under 50 yards long:

*Ashted	Birmingham Canal Navigations.
Salford (two short lengths)	Manchester, Bolton and Bury Canal.
*Buckland Hollow	Cromford Canal.
*Sowerby Long Bridge	Rochdale Canal.

** These canals have a towing path.*

The following canal tunnels are no longer in use:

Name.	*Length.*	*Canal.*	*Remarks.*
Sapperton	3,808	Thames Severn Canal.	Tunnel is still in fair order, canal abandoned and derelict.
Lappal	3,795	Birmingham Canal.	Closed due to subsidence from local mining.

Name.	*Length.*	*Canal.*	*Remarks.*
Norwood ..	3,102	Chesterfield Canal.	Closed due to subsidence from local mining.
Butterley ..	3,063	Cromford Canal.	Closed due to subsidence from local mining.
Old Harecastle	2,897	Trent and Mersey Canal.	Closed. Now replaced by New Harecastle Tunnel.
Greywell ..	1,200	Basingstoke Canal.	Closed due to subsidence at west end of Tunnel, caused by water.
Berwick ..	970	Shropshire Union Canal.	Canal branch abandoned.
Cardiff ..	115	Glamorganshire Canal.	Canal abandoned.

Note.—Pensax Tunnel on the Kington, Leominster and Stourport Canal was never completed. The tunnel on the Gravesend and Rochester Canal is now used by British Railways (S.R.). There are several other tunnels on other abandoned waterways which are not listed as they have long been out of use.

4. AQUEDUCTS

British canals have some very fine examples of this method of overcoming differences in levels, generally found when a canal has to be carried over a river.

The first British canal aqueduct was Brindley's Barton Aqueduct, constructed in 1761, which was 600 feet long and built of stone. This astonishing feat of early engineering was replaced in 1893 by the present Barton Swing Aquaduct. Two famous aqueducts are to be found on the Shropshire Union Canal, both constructed by Telford: Chirk aqueduct crosses the River Ceriog, is 710 feet long and was opened for use in 1801: Pontcysyllte crosses the Dee Valley, is 1,007 feet long and was opened two years after Chirk. Rennie's famous aqueduct crosses the Lune at Lancaster, is 600 feet long and was opened in 1796, and consists of five arches of 75 feet span each. Aqueducts will be found on many other canals, and the construction is worthy of close examination as they form some of our finest examples of early civil engineering. Other examples are as follows:—

Brindley's Aqueducts over River Sow on the Staffordshire and Worcestershire Canal.

Oldknow's monumental Marple Aqueduct on the Peak Forest Canal.

Derwent Aqueduct on the Cromford Canal.

Dundas Aqueduct (near Bath) on the Kennet and Avon Canal.

Scotland provides examples of aqueducts on the Union Canal, where it crosses the Water of Leith, River Avon and River Almond, and also on the Forth and Clyde at Maryhill. Here the canal crosses the River Kelvin on an aqueduct 400 feet long.

In Northern Ireland a fine aqueduct will be found on the Lagan Navigation, where it is carried on four masonry spans across the River Lagan, near Moira.

One of the best known aqueducts is of recent construction and carries the Grand Union Canal over the North Circular Road near Wembley, Middlesex.

5. BRIDGES

The hump-backed canal bridge is familiar to most road users. It is usually constructed of masonry and brick, although in the Midlands and North, subsidences due to mining have often necessitated the use of bridges which can easily be raised when the headroom is less than that required by statute. Such bridges are usually constructed of steel girders.

The towing-path alongside the waterway is often carried under the bridge, although on the River Nene and in the Fen District "the haling way" does not continue underneath the bridges, and towing-ropes have to be disconnected at each bridge and connected again on the other side. On the Stratford Canal are the famous "split bridges" with a slot 1½ in. wide in the centre of the bridge, through which the tow-line can be passed.

Bridges which carry the towing-path from one side of the waterway to the other are termed "roving bridges."

Opening bridges are to be found on many waterways. There are three kinds: (1) revolving or swing bridges; (2) lifting or bascule bridges; (3) transporter bridges. Tower Bridge, London, is an example of the hinged bascule type, in which a leaf is pivoted and counterbalanced at the back end. An example of a transporter bridge can be seen at Runcorn, over the River Mersey. On canals and rivers the commonest opening bridges encountered are lifting bridges which open upwards and which, theoretically, should be easy to operate as they are generally counterbalanced, and "turn bridges" are pivoted in the centre or at one end and turn through an angle of 90 degrees to give a clear channel to traffic on the river or canal. Practically all types of hand-worked bridges are less easy to operate now, due to lack of maintenance. Some opening bridges have bridgekeepers: River Witham and Fossdyke Canal in the Lincoln area, but the majority have to be opened by the boatmen, viz. Oxford Canal, south of Napton, and many others.

When opening bridges, great care should be taken, particularly with the type opened with a windlass similar to that used for lock-gate operation, as the windlass can fly back and cause serious injury.

Care should be taken on rivers in flood-time when negotiating bridges, as there are often dangerous eddies caused by the water heaping up on the side of the bridge facing upstream.

On rivers in particular some of the bridges are very fine architectural specimens. A few very old ones are still in use and form part of our national heritage of ancient monuments.

The following four ancient bridges have chantry chapels: St. Ives (Hunts.), Bradford-on-Avon (Wilts.), Rotherham (Yorks.), and Wakefield (Yorks.). Two bridges still have houses on them, namely Pulteney Bridge, Bath, and High Bridge, Lincoln. The structure on the famous Monnow Bridge at Monmouth is a fortified gatehouse.

6. TIDAL INFORMATION

Craft in navigable waters which are influenced by the ebb and flow of the tide are usually conducted in the same direction as the tidal current. It should be noted that tides are influenced to a great extent by wind, and considerable variations can be caused to the time of high and low water and the height of the rise and fall of the tide. In rivers, tides are also affected by the volume of land water coming down from the upper reaches, and in places such as the entrance to the Market Weighton Canal in the River Humber, the volume of land water is so great at some times of the year that craft cannot enter the Canal from the tidal river for several days. On the River Thames during the rainy seasons the sluices are often kept raised for days at the Richmond half-tide lock to allow easy discharge of the land water from the upper portion of the Thames Catchment area.

On some rivers the flood tide flowing up the river becomes heaped up and is termed a "bore" or "aegre." The latter term is used in eastern England and the other in the west. This phenomena can be seen on the Rivers Parrett, Dee, Severn and Trent, as well as on other rivers whose estuaries contract to a narrow channel in a very short distance proceeding upstream from the sea.

Unless familiar with the tidal water, yachtsmen should make local enquiries, and in the case of the English Channel river estuaries, reference should be made to *The Pilot's Guide to the English Channel*, published by Messrs. Imray, Laurie, Norie and Wilson, Ltd. A similar publication is obtainable covering the Thames and rivers of East Anglia, entitled "*The Pilot's Guide to the River Thames.* In both these publications there are more detailed descriptions of the phenomena of the tides in general.

Charts covering many of the better known river estuaries can be obtained from Messrs. Imray, Laurie, Norie and Wilson, Ltd.

APPROXIMATE TIMES OF HIGH WATER AT THE ENTRANCES TO THE CANALS AND RIVERS OF GREAT BRITAIN AND NORTHERN IRELAND

CONSTANTS		ENGLAND AND WALES	Amount of high water.		RISE.	
Dover.	*Standard Port.*	Place.	○ and ●.		*Springs.*	*Neaps.*
			hr.	min.	ft.	ft.
+0405	Standard Port	Tyne River Entrance	3	24	14½	11
+0431	,, ,,	Tees River Entrance	3	50	17	12
−0346	+0140 Immingham	Goole, River Ouse (Humber)	7	23	18	11¼
−0458	+0021 Immingham	Hull	6	21	21¾	16¾
−0447	+0034 ,,	Boston	6	32	21½	15½
−0350	+0134 ,,	Wisbech	7	29	15¼	11¾
−0443	+0038 ,,	Kings Lynn	6	36	21¾	16
−0210	Standard Port	Yarmouth	9	9	6¼	5
−0147	+0017 Yarmouth	Lowestoft	9	32	6¾	5¾
−0106	−0141 Harwich	Blyth River Entrance (Southwold)	10	13	6½	4½
+0005	−0030 ,,	(Alde) River Entrance (Orford Harbour)	11	24	7½	6½
+0015	−0015 ,,	Deben River Entrance	11	39	11	8
+0105	+0035 ,,	Ipswich	0	7	13¼	11
−0059	−0129 ,,	Manningtree	0	18	6	—
+0048	−0039 Sheerness	Colne Point	11	51	14½	12
+0056	−0031 ,,	Burnham-on-Crouch	0	5	15	12
+0138	−0104 London Bridge	Gravesend	0	54	20	16¼
+0241	Standard Port	London Bridge	1	58	22¼	18¼
+0127	,, ,,	Sheerness	0	37	17	14
+0012	Dover	Stour River Entrance (Richborough)	11	31	12½	9¼
−0005	,,	Newhaven	11	14	20¾	16
+0010	,,	Adur River Entrance	11	27	18¼	14
+0014	±0000 Portsmouth	Arun River Entrance	11	38	16½	12
+0011	±0000 ,,	Chichester Harbour	11	34	14	11
+0020	+0012 ,,	Cowes	11	41	11¼	8½
−0213	−0215 } +0100 ,,	Christchurch Bar {	9	27	4¾ }	4
+0117	+0105 }	{	11	37	4¾ }	
−0234	−0240 } { −0400 ,,	} Poole Bar {	8	58	} 6½	4¾
+0050	+0115 } { +0035 ,,	{	12	33	}	
−0438	+0043 Devonport	Exe River Entrance	6	41	11	8¼
−0505	+0041 ,,	Teignmouth	6	14	13	9¼
−0449	+0027 ,,	Kingsweare	6	30	14	10
−0517	+0009 ,,	Tamar River Entrance	6	2	15	11
−0516	−0030 Pembroke Dock	Bude	6	3	23	17
−0417	+0013 Cardiff	Bridgwater Bar	7	2	35	26¼
−0359	±0000 Bristol	Avonmouth	7	20	42¼	31¾
−0311	+0106 Cardiff	Sharpness	8	8	33	16
−0353	+0005 Bristol	Beachly Point	7	36	42¼	31¼
−0417	Standard Port	Cardiff	7	2	37¾	27¾
−0448	+0013 Swansea	Neath River Entrance (Glamorgan)	6	31	13½	—
−0501	Standard Port	Swansea	6	18	28½	21
+0109	+0105 Liverpool	Chester	12	28	10	—
+0009	Standard Port	Liverpool	11	28	28¾	22¾

CONSTANTS		SCOTLAND	Amount of high water.		RISE.	
Dover.	*Standard Port.*	Place.	○ and ●.		*Springs.*	*Neaps.*
			hr.	min.	ft.	ft.
+0116	+0012 Invergordon	Inverness (Clachnaharry)	12	35	14	11¼
+0325	+0121 Aberdeen	Dundee	2	44	15	11
+0332	+0002 Rosyth	Queensferry	2	51	12	9
+0351	−0021 ,,	Grangemouth	3	10	18½	14¾
+0007	−0002 Liverpool	Kirkcudbright	11	26	23	17
+0129	+0024 Greenock	Bowling Harbour (River Clyde)	0	48	12¼	10
+0147	+0008 ,,	Glasgow	1	6	13½	11
+0103	−0044 Glasgow	Ardrishaig	12	22	10½	9
+0608	+0405 ,,	Crinan	5	11	7	4¾
−0455	+0022 Oban	Fort William (Corpach)	6	24	12	8
		NORTHERN IRELAND.				
+0016	−0009 Kingstown	Carlingford Lough / Warren Point	11	35	15½	12¾
−0020	Standard Port	Belfast	10	43	10¾	9¾
−0428	−0117 Londonderry	Coleraine	6	51	6¼	4
−0247	Standard Port	Londonderry	8	32	8	5½
−0528	+0043 Galway	Ballyshannon	5	51	11¼	8½

7. DERELICT WATERWAYS

The following list of inland waterways, no longer navigable, is given for general interest.

Many of the canals listed are in various stages of dereliction, some are very difficult to find, others form enjoyable walks for the rambler, and the pleasure boatman with time to spare could, with considerable pleasure, explore some of the country along old towing paths.

A few of the canals, e.g. the Wey Arun Junction Canal, and the Oakham and Wreak Navigation, still have a number of isolated stretches of water used for fishing, and form exceptionally pleasant parts to explore on foot.

In some cases canals have been converted into railways, viz. Somerset Coal Canal.

In the case of the river navigations, the length not now navigable has been listed, but whereas in some the locks are either derelict or have completely disappeared, the tidal portion of the river in most instances is still usable. Many of these rivers can be used by light craft such as canoes, but particular care should be taken in negotiating the old locks. Some can be shot by the expert canoeist, but the slow crumble and decay of old masonry may make this an extremely hazardous procedure. Portaging is recommended, although after a preliminary reconnaissance from the bank it is possible in certain cases to shoot through the old lock-chamber.

Old maps marking waterways no longer in existence, should be treated with reserve. Some projected canals appear on early maps as completed waterways, whereas in fact they were only started and then abandoned for one reason or another, and in other cases canals are marked as completed, when in actual fact they did not pass the initial planning stage.

Some of these navigations have been abandoned by Act of Parliament, others have been neglected and have not been maintained to statutory standards, with the result that traffic has been unable to use the waterway. Many railway canals have been lost in this manner to the detriment of our national economy.

Several of the waterways in the following list have not been abandoned by Act of Parliament. They have merely been allowed to fall into a state of neglect which is apparently illegal and certainly contrary to every public interest.

ENGLAND AND WALES

Name.	*Length in Miles.*
Aberdare Canal	6¾
Adur Navigation (Part)	14
Arun Navigation (Part)	6
Alford Canal	6½
Andover Canal and Test Navigation	22½
Ashby Canal (Part)	3
Avon Navigation (Wilts.)	38½
Axe Navigation	9
Baybridge Canal	3½
Blyth Navigation	5
Bourne Eau	3¼
Bradford Canal	3
Brue Navigation	12
Bude Tub Boat Canal	40
Caistor Canal	4
Canterbury Navigation	6
Carlisle Canal	11½
Chichester Canal (Part)	4½
Coalport Canal	7½
Combe Hill Canal	3
Croydon Canal	9½
Dorset and Somerset Canal. (Only two miles of this waterway were constructed. It was never used for traffic.)	
Droitwich Barge Canal	5¾
Droitwich Junction Canal	1½
Duke of Sutherland's Tub Boat Canal	5½
Earl of Jersey's Canals	4
Glastonbury Canal	14
Glamorganshire Canal (Part)	12
Gloucester and Hereford Canal	34
Grand Western Canal (Loudwell to Taunton)	14½
Grantham Canal	33¾
Gravesend and Rochester (Part)	4½
Gresley's Canal	9
Hackney Canal	¾
Horncastle Canal	11
Ilchester Canal and River Yeo Navigation (Ivel)	9
Ilminster and Chard Canal	14
Ipswich and Stowmarket Navigation	15½
Itchen Navigation	14
Ivel Navigation (Beds.) and Shefford Canal)	15
Kidwelly Canal	3½

Name.	*Length in Miles.*
Kington, Leominster and Stourport Canal (this canal was never completed)	20
Lark Navigation (Part)	15
Launceston Canal	10
Leven Canal	3¼
Liskeard Canal	6
Louth Canal	11¾
Lugg Navigation	23¾
Montgomeryshire Canal and Branches	44¼
Nar River Navigation	15
Neath Canal	13
Newport Pagnell Canal	4
Nottingham Canal (Part)	12½
Nutbrook Canal	4½
Oakham Canal and Wreak Navigation	26
Old Straford and Buckingham Canal	10¾
Ouse (Sussex) Navigation	27
Ouse, Little, or Brandon River Navigation (Part)	12
Parrett Navigation (Part)	12
Portsmouth and Arundel Canal	12
Ribble Navigation (Part)	11
Rother Navigation (West Sussex)	12
Rother Navigation (East Sussex)	8
St. Columb Canal	6
Salisbury Canal (this canal was never completed)	15
Somerset Coal Canal	10½
Swansea and Trewyddfa Canal	16½
Tamar Manure Navigation	1½
Tavistock Canal	4½
Tennants Canal	8½
Thames Severn Canal	28½
Tone Navigation	9
Torridge Navigation	6
Uckfield River	4
Ulverston Canal	1¾
Upper Avon Navigation (Evesham to Stratford)	22
Usk Navigation	9
Welland Navigation (Part)	11
Wendover Canal (Part)	6¾
Westport Canal and River Isle Navigation	6
Wey Arun Junction Canal	15
Wiltshire and Berkshire Canal (including North Wiltshire Canal)	69

Name.	*Length in Miles.*
Wisbech Canal	5¼
Wye Navigation	84
Yeo Navigation	17

SCOTLAND

Aberdeenshire Canal	19
Forth and Cart Junction Canal	1
Glasgow, Paisley and Johnstone Canal	12
Glenkenns Canal	27
Innes Canal	4
Spynie Canal	3½

NORTHERN IRELAND

Ulster Canal	46

8. ROUTES

The following are some of the routes which can be taken by craft, using the Rivers and Canals of England. Reference should be made to the body of the work for particulars of each Waterway.

Route 1. River Thames (Richmond to the Bristol Channel at Avonmouth).

Waterways.	River Thames (Richmond). Kennet and Avon Canal and Navigation. River Avon (Avonmouth).
Approximate Distance.	159 miles.

Route 2. River Thames to River Severn (Sharpness Docks).

Waterways.	Same as Route 1 to Avonmouth. Thence Bristol Channel to Sharpness.

Route 3. River Thames (Brentford) to River Severn (Gloucester).

Waterways.	Grand Union Canal (Brentford to Kingswood). Stratford-on-Avon Canal. Worcester and Birmingham Canal. River Severn (Gloucester).
Approximate Distance.	190 miles. Between Braunston and Napton Navigation is over the Oxford Canal.

Route 4. River Thames (Oxford) to River Severn (Gloucester).

Waterways.	Oxford Canal. Grand Union Canal. Stratford-on-Avon Canal. Worcester and Birmingham Canal. River Severn (Gloucester).
Approximate Distance.	138 miles.

Route 5. River Thames (Brentford) to River Mersey.

Waterways.	Grand Union Canal. Birmingham Canal Navigations. Staffordshire and Worcestershire Canal. Shropshire Union Canal (Ellesmere Port). Manchester Ship Canal.
Approximate Distance.	236 miles.

Route 6. River Thames (Brentford) to River Mersey) Runcorn).

Waterways.	Grand Union Canal. Oxford Canal. Coventry Canal. Birmingham Canal Navigations. Trent and Mersey Canal. Bridgewater Canal (Runcorn).
Approximate Distance.	221 miles.

Route 7. River Thames (Brentford) to Leicester).

Waterways.	Grand Union Canal.
Approximate Distance.	131 miles.

Route 8. River Thames (Brentford) to Birmingham.

Waterways.	Grand Union Canal.
Approximate Distance.	137 miles.

Route 9. River Thames (Brentford) to Cambridge.

Waterways.	Grand Union Canal. River Nene. Middle Level Navigation. River Ouse. River Cam.
Approximate Distance.	220 miles.

Route 10. River Thames (Brentford) to River Humber (Trent Falls).

Waterways.	Grand Union Canal. River Trent and Nottingham Canal.
Approximate Distance.	270 miles.

Route 11. River Thames (Brentford) to the Wash.

Waterways.	Grand Union Canal. River Nene.
Approximate Distance.	173 miles.

Route 13. River Severn (Gloucester) to the Wash.

Waterways.	River Severn. Worcester-Birmingham Canal. Stratford-on-Avon Canal. Grand Union Canal. River Nene.
Approximate Distance.	210 miles.

Route 14. River Severn (Gloucester) to River Humber (Trent Falls).

Waterways.	River Severn. Worcester and Birmingham Canal. Birmingham Canal Navigations. Coventry Canal. Trent and Mersey Canal. River Trent and Nottingham Canal.
Approximate Distance.	215 miles.

Route 15. River Severn (Gloucester) to the River Mersey.

Waterways.	River Severn. Staffordshire and Worcestershire Canal. Shropshire Union Canal. Manchester Ship Canal.
Approximate Distance.	133 miles.

Route 16. River Severn (Gloucester) to River Mersey (Runcorn).

Waterways.	River Severn. Worcester and Birmingham Canal. Birmingham Canal Navigations. Staffordshire and Worcestershire Canal. Trent and Mersey Canal. Bridgewater Canal (Runcorn).
Approximate Distance.	155 miles.

Route 17. The River Humber (Goole) to River Mersey (Liverpool).

Waterways.	Aire and Calder Navigation. Leeds and Liverpool Canal.
Approximate Distance.	169 miles.

Route 18. The River Humber (Trent Falls) to River Mersey (Runcorn).

Waterways.	River Trent and Nottingham Canal. Trent and Mersey Canal. Bridgewater Canal (Runcorn).
Approximate Distance.	214 miles.

9. CANOEABLE RIVERS

Particulars of several of the following rivers have already been given. The others, listed here are only of interest to the canoeist. Some are privately owned, and therefore before attempting a passage on any of them, local enquiries should be made or advice sought from the appropriate canoeist body beforehand.

This list has been prepared in conjunction with the British Canoe Union, "Hedge Briars," 33, The Avenue, Radlett, Herts., whose co-operation is gratefully acknowledged.

ENGLAND AND WALES.

Aire (Yorks.).
Arun.
Avon (Hants.).
Avon (Somerset).
Avon (Stratford), including the tributaries Arrow, Leam, Alne and Stour.
Dart (Devon).
Dee (Cheshire).
Derwent (Yorks.).
Eden.
Fal (Cornwall).
Lea.
Lune (Lancs.).
Medway (Kent).
Nene.
Norfolk and Suffolk Broads.
Ouse (Great) (Beds.), including the tributaries Ouzel, Brandon River, Lark and Cam, also the adjoining Middle Level Navigations.
Ribble (Lancs.), including the Calder and Hebble.
Severn, including the Vyrnwy, Tern and Teme.
Stour (Dorset).
Stour (Kent).
Tamar (Cornwall).
Torridge.
Tees.
Teifi (Cardiganshire).
Thames, including Thame, Cherwell, Churn, Colne, Coln, Kennet, Evenlode and Loddon. (Most of the lower tributaries are also canoeable.)
Tavy.

Towy..
Trent, including Penk, Sow, Soar, Churnett, Dove, Derwent and Idle.
Tyne.
Ure (Yorks.), including Swale and Nidd.
Usk (Brecknock).
Wear.
Weaver.
Wey.
Wharfe (Yorks.).
Witham.
Wye, including Ithon, Lugg and Monnow.

SCOTLAND.

Clyde.
Dee (Aberdeenshire).
Dee (Kirkcudbright).
Don.
Earn.
Forth.
Leven.
Ken.
Nith.
Spey.
Tay.
Tweed.

NORTHERN IRELAND (ULSTER).

Bann.
Erne.
Foyle, including Finn and Derg.

10. GLOSSARY

(For most of the terms given below I am indebted to *Bradshaw's Guide to the Canals and Navigable Rivers of England and Wales*, by the late Mr. Rodolph de Salis, and *Narrow Boat*, by Mr. L. T. C. Rolt.)

Animals.—A boatman's name for donkeys, which until recently were much in use for towing purposes, particularly on the canals adjacent to the River Severn, a pair of them taking the place of one horse.

Balance Beam or Balance.—The beam projecting from a lock gate which balances its weight, and by pushing against which the gate is opened or closed.

Barge.—A term including a variety of vessels, both sailing and non-sailing, in use for canal or river traffic, whose beam is approximately twice that of a narrow boat. The name "barge" is often applied erroneously to all vessels carrying goods on a canal or river, whether barge, wide boat, narrow boat, lighter or any other vessel.

Beck.—A dike or drain.

Blow To.—To give warning when approaching a bridge-hole or other narrow place where the view ahead is restricted and there is therefore a danger of collision. Motor-boats either crack their whips or blow a horn of polished brass which is kept in the cabin within reach of the steerer.

Bobbins.—Short, hollow wooden rollers, several of which are usually threaded on each of the traces of horses engaged in towing, to prevent the traces chafing. They are often painted in bright colours.

Bollard.—Wood or metal posts used for tying up boats at locks and moorings.

Bore.—A tidal wave.

Bow Hauling.—Hauling by men, in distinction from the more usual method of hauling by horses. When a motor-boat and butty are working through a flight of narrow locks, the tow-line is usually detached and the butty bow hauled.

Breast or Mitre Post.—Of a lock gate, the vertical post of the gate farthest from its hanging; where the gates are in pairs, the two breasts are usually mitred to bed against each other when shut.

Bridge Hole.—The narrow channel beneath an over-bridge.

Butty Boat.—A boat working in company with another boat. The term is generally applied to a boat towed by a motor-boat.

Bye-Trader.—A term used to designate any trader on a canal other than the canal company itself when carriers. All canal companies are not carriers themselves, some merely providing the waterway and taking toll for its use.

Chalico.—A mixture of tar, cow-hair and horse-dung made hot, used for dressing the timbers of wooden boats.

Compartment Boats.—Commonly called a "Tom Pudding," a type of boat in use on the Aire and Calder Navigation, which is worked in trains with other similar boats.

Cratches.—The supports of the gang-planks of a narrow boat at the fore end of the boat. The deck cratch is placed at the point where the fore deck terminates and the cargo space begins, the false cratch being situated a short distance abaft the deck cratch.

Cut.—A boatman's name for canal, so applied on account of its artificially-cut channel, as distinguished from the natural channel of a river.

Day Boats.—Boats without cabins, used in working short-distance traffic and on which there is no sleeping accommodation. Also called open boats.

Doors.—A Fen term for gates; in the Fens all lock gates are called sluice doors.

Draw.—To draw a paddle, slacker, slat, weir or staunch is to open it in order to allow the water to escape. The reverse is to "lower," "drop" or "shut in," or, in the case of a staunch, to "set."

Dydle (*Norfolk*).—To dredge, to clean out.

Fender.—Wood plank or mat to protect boat sides in locks, wharves, etc.

Flash or Flush.—A body of accumulated water suddenly released, used for the purpose of assisting navigation on river.

Flash.—An inland lake caused by subsidence of the ground due to salt-mining. This term is also used for the small inland lakes forming part of the Basingstoke Canal.

Flat.—A Mersey flat is a type of vessel which conducts the bulk of the traffic on that river and neighbouring canals. A black flat is a larger vessel trading between Liverpool and the River Weaver. The term "flat" is also used to describe the shallow punts or rafts used by lock-keepers or lengthmen for canal maintenance.

Fleet (*Norfolk*).—Shallow.

Fly Boat.—Originally described a horse-boat which, using relays of horses, travelled day and night. The term now applies to any type of boat so travelling. A boatman so engaged is said to be "working fly."

Freshet.—An increase in the flow of a river due to rain.

Gang.—The number of Fen lighters or River Stour (Suffolk) lighters chained together for travelling. In the case of Fen lighters the number in a gang is five, on the River Stour always two.

Gang Planks.—Removable planks used to afford a means of passing from one end of a narrow boat to the other; when in place they run from the top of the cabin aft to the deck cratch forward, being supported in between by upright supports called stands. These stands, which are also removable, fit into mortices in the stretchers and boat's floor and have the gang planks tightly lashed down to them.

Gauging.—The means of ascertaining by the draught of a vessel the weight of cargo on board for the purpose of taking tolls. The first gauging of canal boats is carried out at a weigh-dock, where particulars of the boat's

draught are taken when empty, and when fully loaded, and at intermediate points, such as at every ton of loading. The boat is loaded with weights kept for the purpose, which are lifted in and out by cranes; the result arrived at is then either transferred to graduated scales fixed to the boat's sides, which can be read at any time, or the particulars of each vessel are furnished to each toll office in a book, from which, on gauging the immersion of the boat, the number of tons on board can be at once ascertained. The usual method of gauging a boat for immersion is to take what is called the "dry inches"—that is, the freeboard, at four points, at one point each side near the bow and at one point each side near the stern. This is done by an instrument consisting of a float in a tube, having a bracket projecting from the side of the tube. The bracket is rested on the boat's gunwale, and the float indicates the number of inches between that and the level of the water in the canal.

Give Way, To.—To concede the right of passage to another boat—e.g., empty boats usually give way to loaded, motors to horse-boats. The actual passing rule varies on different waterways, keeping to the right being now most general, but a motor-boat always gives a horse-boat the tow-path side, for obvious reasons.

Gongoozler.—An idle and inquisitive person who stands staring for prolonged periods at anything out of the common. This word is believed to have its origin in the Lake District.

Handspike.—A bar of wood used as a lever; on some of the old-fashioned locks a handspike was required for working the lock paddles instead of rack and pinion gears. It is also used for working the anchor chain roller on river barges.

Hain (Norfolk).—Higher, "The water is hain to-day." That is: The water is higher to-day.

Haling Way.—A Fen term; a towing-path.

Heel Post.—The vertical post of a lock gate nearest to its hanging, and the axis on which the gate turns, being rounded at the back to fit into the hollow quoin, in which it partially revolves.

Hold In, Hold Out.—Boatmen's terms used as directions for steering, having reference to the position of the towing-path. "Hold in" means hold the boat in to the towing-path side of the canal, and vice versa.

Hollow Quoin.—The recess into which the heel post of a lock gate is fitted, and in which it partially revolves when being opened and closed.

Horse Boat.—Strictly speaking, a small open boat for ferrying over towing horses from one side of a river to the other where no bridge is available. In common use in the Fen district, where it is towed astern of a gang of lighters. One is also kept for use at Trent Junction to ferry horses from the mouth of the River Soar over the Trent to the junction of the Erewash Canal. Of recent years the term has come to be loosely used to describe any horse-drawn narrow boat, as distinct from motor craft.

Horse Marines (Yorkshire).—Men who contract for the haulage of vessels by horses on the canals.

House Lighter.—A Fen term, used to denote a lighter provided with a cabin.

Invert.—An inverted arch of brickwork or masonry, used chiefly as regards canal work to form the bottom of locks and tunnels in cases where lateral or upward pressure has to be sustained.

Keb.—An iron rake used for fishing up coal or other articles from the bottom of a canal. Boatmen may often be seen fishing for coal in this way at coal wharves.

Keel.—A type of boat in extensive use on the Yorkshire rivers and canals, they measure approximately 58 feet long by 14 feet beam.

Land Water.—A term used to denote the water in a river brought down from up country, in distinction from the water set up by the floodtide from seawards.

Legging.—A method used to propel horse-drawn boats through tunnels which have no towing-path, the boatman pushing with his feet against the tunnel walls. At one time leggers could be hired at most of the longer tunnels, notably Standedge on the Huddersfield Narrow Canal, 5,456 yards long, which is the longest in England, and Sapperton on the old Thames and Severn Canal, 3,808 yards long.

Lengthman.—A canal company's employee in charge of a particular section or length of waterway.

Let Off.—An appliance for getting rid of some of the water from a canal in rainy weather so that it may not overflow its banks. Originally a trap-door sluice set in the bottom of the canal and worked by a chain, but now resembling the ordinary lock paddle.

Level.—When two reaches of water, one on each side of a lock or weir, from the flow of the tide or other cause become level, a level is said to be made.

Lighter.—A term including a variety of vessels in use on the Fens, the Thames, the River Stour (Suffolk) and the Bridgewater Canal. On an average they measure 42 feet in length by 10 feet beam, but Thames lighters equal barges in size, differing from them in the respect that they have "swim ends," i.e., flat, sloping ends like a punt.

Lock, To.—To work a vessel through a lock.

Loodel.—A staff used to form a vertical extension of the tiller of a barge for the purpose of steering when loaded with high loads, such as hay or straw. The loodel, when required, is inserted in a mortice in the fore end of the tiller.

Narrow Boat.—A craft measuring approximately 70 feet long by 7 feet beam, extensively used throughout the Midland canal system. Sometimes also referred to as a *Monkey Boat* or *Long Boat.*

Nip (River Trent).—A narrow place.

Number Ones.—Boats owned by the boatmen who work them, and who are consequently their own masters, in distinction from boats owned by a firm or company.

Paddle.—A sluice valve, by opening or closing which the water can either be allowed to pass or be retained. Sometimes also called a *slacker* or *clough.* Ground paddles or jack cloughs are those that admit water to the lock by culverts built in the ground, as distinct from the Fly Paddles, Ranters or Flashers, which are fitted to the gates themselves.

Pen (a Lock Pen).—A Fen term; a lock chamber. Also "to pen," to lock a vessel, e.g., "A narrow boat is too long to pen at Stanground."

Pound.—The stretch of water on a canal between two locks.

Punt.—Thames lighter.

Quant (Norfolk).—A pole or shaft.

Ram's Head.—The boatman's name for the wooden rudder post of a narrow boat; usually it is bound with a pipe-clayed Turk's-head knot, and occasionally decorated with a horse's tail.

Rimers.—The posts in the removable portions of weirs on the Upper Thames against which the weir paddles are placed.

Roding.—A Fen term; cutting rushes or reeds in a river, or cotting if they are uprooted.

Roving Bridge or Turnover Bridge.—A bridge carrying a towing-path from one side of a canal to the other.

Scour.—Bank of silt caused by a flow of water.

Screw.—A boatman's term for any boat driven by a screw propeller.

Set, To.—To set a staunch is to close it so that the water may accumulate.

Shaft, To.—To propel a boat through a tunnel with a long shaft as an alternative to legging.

Sill.—Of a lock. The bar of masonry below water against which the bottom of the lock gates rests when closed.

Staircase Locks.—Also called *risers.* A flight or series of locks so arranged that the top gate or gates of each lock except the highest also form the bottom gate or gates of the lock above. The best example of a staircase in England is the flight of five at Bingley on the Leeds and Liverpool Canal.

Staith (Midlands and North).—A coal-loading wharf. In Norfolk the word refers to a general wharf.

Stands.—The intermediate supports for the gang-planks of a narrow boat.

Stank.—A temporary water-tight dam constructed of piling from which the water can be pumped to enable below-water repairs to be carried out. The word is also used as a verb, e.g., "to stank off."

Staunch or Navigation Weir.—An appliance for overcoming change of level in a navigable river. It consists of a weir provided with a gate through which vessels may pass, and which is equipped with paddles like a lock gate. When proceeding upstream, vessels close the gate behind them and wait until sufficient depth of water has accumulated in the reach above the gate to allow them to proceed. Travelling downstream the procedure is reversed. This is natually a very slow business, but examples are still in use in the Fen district and at Pershore and Cropthorne on the Warwickshire Avon.

Stemmed, Stemmed Up.—The boatman's term for running aground on a mud-bank.

Stop.—A *stop* or *stop lock* is generally a gate or a lock erected at the junction of one canal with another, to prevent loss of water from one to the other if necessary, normally there being little or no change of level. There is generally a toll office at a stop lock where cargoes are declared and gauged and tolls paid.

Stop Gates.—They answer the same purpose as stop grooves and planks, but are made in the form of lock gates, and are always kept open except when required for use. In long canal pounds it is usual for stop gates to be fitted at intervals, so that in the event of a leak or burst the escape of water may be confined to that portion of the pound between two gates.

Stop Grooves.—Vertical grooves, usually provided at the head and tail of a lock and in other situations where under-water repairs may have to be carried out, into which stop planks can be inserted to form a temporary dam or stank.

Stoppage.—A temporary closing of a waterway for repairs.

Stud.—The tee-headed pin fitted on bow and stern of a narrow boat to which mooring lines are attached. The towing stud of a narrow boat is C-shaped, and is fitted to the top of a tall post called the mast.

Summit Level.—The highest pound of water in a canal, and therefore the pound into which the main supply of water for working the locks has to be delivered. Consequently, in dry weather it is the first to be affected as regards deficiency of navigable depth. The highest summit level in England is that of the Huddersfield Narrow Canal, which is 4½ miles long from Diggle to Marsden, and is 644 feet 9 inches above Ordnance Datum. For 3¼ miles of this summit level the course of the canal is through Standedge Tunnel.

Sweep.—A large oar.

Swim, to.—A boat light in draught and which answers readily to the helm is described by boatmen as "a good swimmer," or may be said to "swim well."

Tackle.—A boatman's name for the harness of a boat horse.

Tail (of a lock).—That portion immediately below the bottom gates. The equivalent portion above the top gates is called the head.

Toll.—The charge payable by a trader for the use of a canal.

Towing Path.—The path beside a canal for the use of towing horses, also called in different districts *haling path* or *haling way.*

Trow.—A type of vessel in use on the River Severn; they measure approximately 70 feet long by 17 feet beam.

Tub Boats.—Small box boats carrying from three to five tons, once used in Shropshire and on the Bude canal in Cornwall.

Turns, Waiting Turns or Working Turns.—A system often adopted in dry weather in order to make the utmost use of the water. At any lock a boat must wait for the arrival of another coming in the opposite direction, thus making sure that the maximum of traffic is passed for the water consumed.

Tying Point.—The shallowest point in a navigation. For instance, the bottom sill of Cranfleet Lock, better known to boatman as Old Sal's Lock, was at one time the tying point on the river Trent between Nottingham and the junction of the Erewash Canal; that is to say, any vessel that could float over this sill could find enough water everywhere else between these places.

Wash Lands or Washes.—Lands adjoining a river, so embanked that the river can overflow on to them when in flood.

Wherry.—The name given to the sailing vessels which trade over the rivers Bure, Yare and Waveney and their connecting dykes and broads; they vary considerably, from a 12 ton boat about 35 feet long by 9 feet beam to the "Wonder" of Norwich, 65 feet long by 19 feet beam.

Wide Boat.—A type of boat in use on canals having wide locks. It is of a size between the narrow boat and the barge, 70 feet long by 10 to 11 feet beam. Such craft navigate the Grand Union Canal from London as far north as Berkhamstead. They are not used for longer distances, since they do not travel so well as a narrow motor boat and butty, on account of their broader beam.

Wind, to.—To wind a boat is to turn a boat round.

Winding Place, Winding Hole, Winning Place or Winning Hole.—A wide place in a canal provided for the purpose of turning a boat round.

Windlass.—Also called in some districts a *crank*, is a handle or key for opening and closing lock paddles, shaped in the form of the letter L, and having a square socket at one end to fit on the square of the spindle operating the paddle gear.

Wings.—Flat pieces of board rigged for the purpose of legging in tunnels when the tunnel is too wide to permit of the leggers reaching the side walls with their feet from the boat's deck. A fully equipped narrow boat would carry two pairs of wings, a pair of "narrow-cut wings" and a pair of "broad-cut wings"—that is, a pair of wings suitable for the full-size tunnels of narrow boat canals, and also a pair suitable for the tunnels of barge canals.

11. NAVIGATION HINTS FOR PLEASURE CRAFT

(I am indebted to The Inland Waterways Association for permission to reproduce the following notes from their leaflet, and to their author, Mr. L. T. C. Rolt.)

COMMERCIAL AND PLEASURE TRAFFIC ON CANALS

As a result of our policy of advocating use of our canal system by all classes of traffic we find that while on the one hand we are often accused of paying too little attention to pleasure traffic, upon the other those interested in the commercial side are inclined to accuse us of endeavouring to promote pleasure traffic to an extent which would seriously interfere with trading craft. This state of affairs, we believe, is very largely the result of a lack of understanding between these two classes of waterways users.

It is unfortunately true that the prejudice which some canal officials and canal boatmen entertain against pleasure craft is not altogether without foundation. In the past, certain owners of pleasure craft have tended to forget that the canal is first and foremost a commercial highway. Also that although his boat moves slowly, every minute counts to the working boatman, who is not paid by the day but by the ton carried.

Wishing to promote a better understanding in the future, we have thought it advisable to compile the following brief lists of "Do's and Don'ts" for the benefit of those without previous experience who may be contemplating canal navigation.

General Navigation Hints.

On canal turns a mud bank is generally thrown up on the inside of the turn. Turns should therefore be taken wide. DON'T try to cut turns or you may run aground and possibly impede other traffic.

When approaching blind turns, and especially turns under narrow bridge holes where craft cannot pass each other, ease down, sound your horn or siren, and listen for oncoming craft, for the crack of a whip, or the sound of a horn. If you do hear an indication that boats are approaching, wait for them to round the turn or come through the bridge. DON'T play the game of "race you to the bridge"; the working boat is heavier and stronger than your cruiser, and if the result is a collision you will be the sufferer.

On our rivers and over most of the canal system, including the Grand Union, the passing rule is KEEP RIGHT; but there are exceptions to this, such as the Worcester and Birmingham Canal, where the rule is

KEEP LEFT. When entering a strange canal, ask what the rule is: DON'T guess. If you are wrong and you happen to meet another boat in a tunnel, the result may be unfortunate for you.

Obviously this rule does not apply when meeting horse-drawn craft; which should always be given the towpath side. Otherwise the boatman would have to pass his tow-line over you.

Always give way to loaded boats; you may think they are taking more than their fair share of the channel, but remember that they are drawing much more water than you are. Watch the steerer of the oncoming boat; it is possible that under certain circumstances he may signal you to pass him on the wrong side owing to the state of the channel.

DON'T travel at such speed that your boat creates a breaking wave at the stern. This damages the canal banks and antagonises canal officials, while from your point of view it means that you are using precious fuel for practically no return in extra speed.

Use of Locks.

When you know that you are approaching a flight of locks, don't overtake a working boat and so steal his "road" leaving all the locks against him. Similarly, if when you enter a flight you see that a working boat is following you through, draw in and let him pass. He can work through the lock more quickly than you, whereas you will inevitably delay him. This may delay you; but you are on holiday and his time is money. If you hold him up it may well mean that he will miss his turn for loading or unloading at his destination. DON'T try to keep in front of him; wilfully to do so is perhaps the greatest single cause of bad feeling. If you help the boatman in this way, he will help you.

When locking downhill, never let you boat float back against the top gate or gates. Remember that there is a masonry sill projecting into the lock chamber below the gate which is uncovered when the lock is empty. If the stern lodges on this as the lock empties you may break the back of your boat.

When locking up with a small boat in a large lock, DON'T draw the paddles suddenly to their full extent or the boat may cannon about uncontrollably. Where side and gate paddles are provided use the side paddle first, drawing first the paddle on the same side of the lock as the boat. This will usually hold the boat steady against the lock side wall.

Where a side pond is provided to economise water, always use it. With all other paddles closed, draw the side-pond paddle and wait until the water in the pond and in the lock chamber make a level. Then drop the side-pond paddle and continue to fill or empty the lock in the usual way. The same procedure applies to paired locks with an interconnecting paddle such as the Cheshire Locks on the Trent and Mersey Canal.

If you are working down a flight of locks with a very short intervening

pound and you see that a boat working uphill has just entered the lock next below the one you have entered DON'T draw the lower gate paddles of your lock until you see them start to draw. If you do not follow this rule it is possible that the pound below you may overfill and flow over the gates and on to the boats in the lock.

Except on certain canals where traffic is dense, or where you have been advised to the contrary, always close top gates behind you when locking up. The lower gates of a lock are not so well adapted to hold back the water in the pound above. Consequently, in the case of many locks, if the water is left against the lower gates, the pound above may drain dry owing to gate leakage before the next boat arrives to use the lock. This means a serious loss of water and of boatman's time.

For the same reason always see that no floating rubbish has prevented gates from closing properly and so caused leakage; also that all paddles holding up water are fully closed. Much trouble has been caused in the past through pleasure-boat crews inadvertently leaving paddles partly drawn. Particular care should be taken in the case of the enclosed worm-and-nut type paddle gears used on the later type Grand Union locks. When released, these do not always run back to their full-extent, particularly in cold weather. Look through the peephole in the worm-casing and make sure that the worm has run right back to the rubber seating washer, which should be clearly visible.

Mooring.

DON'T moor on blind or awkward turns where you are likely to be in the way of other craft.

DON'T moor at wharves or other points where it is obvious from the well-used rings or other evidence that working boats are accustomed to lie. Loaded boats on account of their deep draught can only moor conveniently at certain points whereas you have a wider choice.

DON'T moor on the towpath side on canals much frequented by horse-drawn boats. It will mean that every horse boatman must pass his line over you.

Even on canals where there is no horse-drawn traffic, DON'T impede the towing-path with mooring lines or other gear which may obstruct lock-wheelers going ahead to set locks, lockkeepers, lengthmen, or other users of the path. Carry mooring spikes and drive them into the bank between the path and the canal.

DON'T moor immediately at the head or tail of a lock. You may get in the way of craft waiting to enter, while the flush when paddles are drawn may disturb you or cause your boat to heel over.

If you lie for the night away from recognised mooring places on a canal where traffic moves after dark, it is advisable to show a riding light, but this should not be very bright or it may dazzle and confuse steerers, who frequently travel with little light.

For Walkers, Cyclists and Fishermen using Towing Path.

Remember that the canal towing path is not a public right of way and that you use it by courtesy of the company concerned. Usually cycling is only allowed by permit. DON'T obstruct boat horses, lock-wheelers, lock-keepers, lengthmen, or other canal officials, but realise that you are there by courtesy whereas they are there by right. For the same reason DON'T crowd round locksides when boats are working through, thus hindering boat crews. · DON'T try to stare into the boatman's cabin when boats are locking through. It is his home, and he resents it as much as you would if every passer-by were to peer in through your front door.

12. TYPES OF INLAND WATERWAY COMMERCIAL CRAFT

The commonest type is the Narrow Boat, sometimes called Long Boats or Monkey Boats. Narrow Boats work in pairs, the leading boat towing the butty boat. The narrow boats are the traditional craft and are mostly of a standard pattern, being approximately 70 feet long by 7 feet wide. In the North of England a shortened and widened version is used to go through the differently proportioned locks on certain canals. In the Black Country will be found narrow boats without cabins, used for short journeys and called Day Boats. The 70-foot boat can carry about 30 tons, but due to the lack of dredging of British canals, 25 tons is the usual limit.

Wide Boats will be found on the Wey Navigation and Basingstoke Canal. Swim Ended barges are towed by tugs on the Thames and can be seen on the lower section of the Grand Union, the Lee, Stort and elsewhere, near the River Thames. They are known to the lightermen as "punts." The wide boats on the Mersey and Weaver are known as "flats,"

Iron Compartment Boxes are seen on the Aire and Calder, and are called "Tom Puddings." They are towed in trains, of up to nineteen boats, by steam tugs.

Other specialised craft characteristic of certain areas are the Severn Trows, Yorkshire Keels and Norfolk Wherries. These three types of craft are sailing vessels, and some of them are very rare, although the famous Thames Sailing Barges can still be seen on the Medway and elsewhere in considerable numbers.

In Scotland, fishing boats are often seen on the canals, together with the famous Puffers which are common on the Crinan Canal and Forth and Clyde Canal.

The Lagan Navigation in Northern Ireland is still frequented by the characteristic Lagan Lighter.

Narrow boats are painted in the traditional manner. This traditional painting is the only remaining folk art alive to-day in Britain.

All canal boats used as dwellings are subject to George Smith's famous Acts of Parliament of 1877 and 1884. They must be registered under Regulations issued by the Ministry of Health, for which a fee of 5*s*. is charged. This certifies the lettering, numbering and marking of the boat, and the age, number and sex of the boat's occupants. The second Act places the responsibility on the local sanitary authorities for the enforcement of the Ministry of Health Regulations.