

WALTHAMSTOW MARSHES :

THE 1970s SURVEY by SAVE THE MARSHES CAMPAIGN



Originally entitled

**WALTHAMSTOW MARSHES:
OUR COUNTRYSIDE UNDER THREAT**

"What though the radiance which was once so bright
Be now for ever taken from my sight,
Though nothing can bring back the hour
Of splendour in the grass, of glory in the flower."

Wordsworth : Ode
"Intimations".

CREDITS TO 2007 EDITION

Reproduced by Mike Trier, 2007
with the kind permission of
John Nash, Save the Marshes Campaign

Geological map © J.D. Nash & D.J. Gibbins

CREDITS TO 1981 EDITION

Design of front cover : Paul Ferguson

Typing : Penny Dearsley; Barbara Simpkins

Printing : Woodberry Down School
Pete Mercer
June Gosnell
Islington Community Press
Trojan

Save the Marshes Campaign, 93 Mayola Road, London, E.5

CONTENTS

Introduction.....	4
Walthamstow Marshes: The Fen in the City: Fact sheet of history and natural history	8
The Issue.....	10
Walthamstow Marshes.....	11
Walthamstow Marshes – Our heritage..... John Nash	13
1822 map of Walthamstow Marshes.....	14
Sketch map of Walthamstow Marshes.....	15
The flowering and non-flowering plants of Walthamstow Marshes..... Brian Wurzell	16
A survey of selected plant families.....	17
General resumé of habitat types represented on the marshes.....	19
Geological map of Walthamstow Marshes..... J.D.Nash and D.J.Gibbins	22
The flora of Walthamstow Marshes..... Brian Wurzell	24
Bird watching on Walthamstow Marshes..... R. Topham	36
Bird species list for Walthamstow Marshes..... Graham Brandjes, Recorder, Slimbridge Wild Fowl Trust and Lea Valley Project	37
The insects on Walthamstow Marshes..... Harry Britton	40
Checklist of insects on Walthamstow Marshes..... Harry Britton	42
The butterflies of Walthamstow Marshes..... Brian Wurzell	44
The moths of Walthamstow Marshes..... Brian Wurzell	46
The smaller moths..... Brian Wurzell	49
Appendix: The flora of Walthamstow Marshes First supplement, January 1981..... Brian Wurzell	51

INTRODUCTION

This revised edition of *Walthamstow Marshes: Our Countryside Under Threat* is produced with the kind permission of John Nash, who was instrumental with others in saving Walthamstow Marshes for future generations by carrying out an extensive survey of the Marshes in order to influence the owners, Lee Valley Regional Park Authority, not to carry out their plans to extract gravel from the site.

Their work richly deserves preserving for posterity, and it is for this reason, and to give a wider audience access to their enormous achievement, that I have carried out this revision and made it available electronically. The text was written at the end of the 1970s – nearly 30 years ago – and reflects the situation at that time.

To all those involved in the Save The Marshes Campaign, I extend my grateful thanks for preserving a unique piece of countryside so close to the centre of London. With major constructional work to the Lower Lea Valley under way for the 2012 Olympic Games, this record is made more poignant still.

The text contains the original pleas for support and addresses for those to petition. *These are no longer current*.

Please note that scientific names followed by an asterisk (*) are queries, being the closest match I could find in the appropriate taxon dictionary of Recorder 2002.

Mike Trier. October 2007.



INTRODUCTION TO THE FIRST EDITION

This publication is offered to the general public for one precise purpose: to save Walthamstow Marshes from destruction through gravel extraction by demonstrating its unique value to East London as an area of real countryside in the heart of the city, the last of the marshes along the River Lea miraculously preserved, with immense educational potential.

We deeply hope that, upon reading this publication, the members of the Lee Valley Regional Park Authority, which owns the Marshes and which is applying for permission to dig it up to quarry gravel, will reconsider their plans and designate the area one of great natural interest, which should be preserved. Likewise we hope that their colleagues on the Greater London Council and the two London Boroughs of Hackney and Waltham Forest will support such a re-designation.

September 1979

“How with this rage shall beauty hold a plea,
whose action is no stronger than a flower?”

Shakespeare, Sonnet LXV

INTRODUCTION TO THE SECOND EDITION

This book is the main document of the Save the Marshes Campaign and it is reproduced here in the same form as before, with a few corrections. However, we are continually filling in the gaps in our knowledge. Further study has revealed communities of hybrid sedge (see the section *Carex* in the list of plant species). In addition, we have done research into the Common Land history of the Marshes. We know now that the Lammas rights on the Marshes were extinguished by an Act of Parliament in 1934. So the Marshes are no longer Common Land, as some of us had hoped. In 1956 a Bill was put through the House of Lords, despite fierce and bitter local opposition, to allow gravel-extraction from the Marshes. Although permission was granted it was never used and the clause was then added to the Walthamstow Corporation Act. This clause was inserted in its entirety into the Lee Valley Regional Park Act of 1966.

Thus the Marshes have been stolen systematically from the people. The basic aim of the Campaign is to preserve them for the people.

In February 1980 the Minerals Subcommittee of the Greater London Council refused permission for gravel extraction from the Marshes, a decision strongly recommended by the two neighbouring boroughs of Hackney and Waltham Forest. In August 1980 the Lee Valley Regional Park Authority appealed to the Department of the Environment. There will be a public enquiry in the Summer of 1981.

The Campaign has always taken a positive stance. We have suggested improvements to the Marshes; for example, clearing out the bomb crater pond. So far the Park Authority has not allowed this. What we enjoy today is a piece of countryside of extraordinary antiquity set right in the heart of the city. The ancient watermeadow has survived largely intact as if by a miracle. Its natural plant communities have flourished and diversified to produce the fenlike landscape we are trying to protect.

In the last century the Marshes survived the tide of industrialisation; what is needed today is for its new owners, the Lee Valley Regional Park Authority, to recognise the unique value of Walthamstow Marshes – the fen in the city – and resolve to pass it on to future generations.

December 1980



WALTHAMSTOW MARSHES: The Fen in the City

FACT SHEET [1979]

Location: East of River Lea, South of Coppermill Stream and reservoirs, and North of Leyton Marsh playing fields.

Railways divides the Marshes into three sections: North Marsh; South Marsh; and The Triangle. Over the River Lea from North Marsh is Springfield Park, in Hackney.

Access: North end via Coppermill Lane – Car Park by very low railway bridge (cattle creep).
South end from Lea Bridge along towpath (Prince of Wales P.H.) Car Park by Pub.

Café at bottom of Spring Hill over River (open all year)

Café in Springfield Park (not open in Winter).

Description

Last expanse of natural marshland left within London. 88 acres. All others dumped-on (e.g. Leyton Marsh, Hackney Marsh) or developed (e.g. Reservoirs to N and gravel workings further N). Most of the land surface has lain undisturbed since the Ice Age. Has never been ploughed. Topsoil silt and peat. Gravel underneath! In Summer, water table lies few feet below surface but in Winter large tracts become submerged despite fact that River Lea no longer floods. (Flood Relief channel constructed in 1950s).

HISTORICAL

It is said that in King Alfred's time many of wild marshes along River Lea were drained to make grazing possible and became common land – good meadow land was in very short supply. Drained marshland produced a rich crop of hay which was vital to rural economics. The channel which drained Walthamstow Marshes is still visible, crossing the superimposed pattern of railways.

John Coe's map (1822) in Vestry House Museum shows Marshes divided up into strips – this was the Lammas system which lasted centuries until 1934 when rights were extinguished and Marshes became Public Open Space. Strips were not, and ownership was only operative in the hay season (April to August) when grazing was not allowed. Each strip holder had share of hay crop. Outline of some strips can still be detected (drainage ditches).

Railways built 1850–70

Later were to prove barrier to development, particularly in 1950s when Walthamstow wanted to extract gravel. Railway blocked drainage system and returned Walthamstow Marshes to undrained condition.

A.V. Roe's Historic Flight

First all-British flight took place on Walthamstow Marshes in 1909. Tiny tri-plane constructed in workshop under railway viaduct arches where railway crosses River Lea. Roe went on to found Avro aircraft company. Tri-plane on display in Science Museum. Wings were covered in oiled paper.

War Years 1939–45

Anti-invasion trenches dug in 1940 – filled back in 1949. Can still be detected by linear vegetation pattern and hollows. Pond on South Marsh caused by V2 rocket (now sadly in need of restoration because of dumping).

Lee Valley Regional Park Authority bought land in 1971 and constructed Springfield Marina. They want to extract gravel from Marshes.

NATURAL HISTORY

Flood

Wetter parts of Marshes have beautiful mixed-fen vegetation, i.e. large expanses of sedge (beautiful in flower in May) distinctly zoned from stands of Reed Sweet Grass (*Glyceria maxima*) and Reed Grass (*Phalaris arundinacea*). Latter grow to 5 and 6 ft.

Two large Reed Beds – North Marsh (3 acres) and South Marsh. Reeds grow to 2.5m (8ft) and are at their best in Winter.

Reed Mace ("bulrush" misnamed) – especially in Coppermill Stream.

Tufted Hair-Grass – ancient grassland indicator.

Yellow Flag – in railway ditches and Stream.

Marsh Horsetails.

Comfrey.

Sallows – only 7 years old, next to Marina – grew because of silt dumping.

Seasonal "change of clothes" in drier areas:

Spring : Comfrey, Cow parsley etc.

Summer : Meadowsweet

Late Summer : Michaelmas Daisies in abundance.

In all, 350 plant species recorded.

Insects

17 species of butterfly breed on the Marshes.

Important colony of Essex Skippers.

Breeding ground for colourful butterflies which visit our gardens.

Dragonflies and damselflies, particularly at Coppermill Stream.

Crickets call noisily in Summer.

Birds

Warblers – Sedge and Reed (Reed Beds) – and Reed Buntings.

Finches – flocks of Goldfinches and Greenfinches feeding on thistles etc.

Stonechats, Skylarks etc.

Hérons always flying over from reservoirs feed on ground on Marshes in Winter.

Kestrels – always several hunting.

Snipe and waders in Winter.

Small animals

Lots of voles and shrews.

Harvest Mice strip phalaris reed grass for nesting material.

Frogs to be seen in Spring – spawn in ditches and reed beds.

Other features

Many other features of historical/geographical interest in the immediate vicinity.

The Old Coppermill, for example (hence Coppermill Lane). Now a listed building. References to a Powder Mill here in 1600s, later a rolling mill for rolling copper.

References

"Walthamstow Marshes and Lammas Rights" by G.A. Blakeley (Vestry House Museum).

Coe Map (Vestry House Museum)

A.V. Roe Leaflet published by Walthamstow Antiquarian Society.

Exhibition "The Walthamstow Marshes – the Fen in the City", initially at Vestry House Museum, then at local libraries.

THE ISSUE

The Lee Valley Regional Park Authority, which owns Walthamstow Marshes, has applied to the Greater London Council for planning permission to quarry gravel from the marsh. The plan of the Authority is to first remove the 8 feet of topsoil, and then quarry out thirty feet of gravel below. The operation will be in two stages.

The north marsh (i.e. that part of the marsh between the railway line and the Warwick reservoirs) will be dug out first; and the southern marsh (that between the railway line and Leyton marsh) will be dug out next. The quarrying will last five to six years. The gravel will be removed by 20 ton lorries, some 75 to 150 a day. They will enter and leave the marsh by using a specially constructed slip road built into Lea Bridge Road. Sometime after the quarrying is over, the north marsh will be turned into a lake for motorized water sports, with a special access road provided, parking areas and other related facilities. The south marsh will be filled back in, and turned into playing fields.

The case for opposing the quarrying:

1. The quarrying will destroy Walthamstow Marshes. It is the last of the genuine marshes along the River Lea.
2. The quarrying will take from East Londoners one of their greatest local assets, namely, the only bit of real countryside inside London. The marsh is actually open and wild. Common land and rights of way will be gone.
3. There are estates and houses facing onto the marsh, only 50 yards from where the site plant will be. All local people will be subjected to horrific noise and pollution for at least the next six years. And when the operation is over, there will be no return to tranquillity, which all local people enjoy. Instead, the north marsh, onto which the estates, parks and houses face, will be for noisy motorized sports.
4. The gravel pits, some 30 to 40 feet deep, will be a source of danger to local people, especially children.
5. The lorries using the site, and other vehicles in addition, will increase the congestion which motorists already suffer on Lea Bridge Road, and in neighbouring boroughs.
6. In destroying the marsh the Lea Valley Regional Park Authority destroy forever an area of incalculable natural value (plant life, bird life, insect life) and an open-air amenity for East Londoners, whom the Authority has never consulted on the matter.
7. The gravel might be of great financial importance; gravel might well be a very desirable commodity in the South East. Its location, so close to central London, no doubt makes it more valuable. But the gravel will prove only a short-term gain; the loss to East London will be incalculable.

WALTHAMSTOW MARSHES

These marshes lie in east London, still real marsh and wild, even though surrounded by the densely populated and industrialised districts of Hackney and Walthamstow. It is bounded on the west by the River Lea. This river, which flows into the Thames at Canning Town, once had other real marshes on its banks: Tottenham Marsh, Leyton Marsh and the Hackney Marsh. Tottenham Marsh has been filled in and levelled and is now mainly used by motorbikes; Leyton Marsh was used to dump rubble in after the East End Blitz and is now half playing fields and a fair ground; the Hackney Marsh are now the largest football pitch area in east London. Walthamstow Marshes alone remains as real marsh. The desire of the Lea Valley Regional Park Authority is to quarry it for gravel to a depth of some 38 feet; its southern half will then be filled in for more playing-fields (even though those on Leyton and Hackney Marsh are under-used) and the northern half will be turned into a large lake for motor boats and motorised water sports.

The northern boundary of the Marsh is formed by the Warwick Reservoir, with the slender Coppermill Stream (also known as the Silk Stream) flowing between the reservoir banks and the marsh into the Lea. The playing fields of Leyton Marsh form its southern boundary; and the Clapton–Chingford/Hertford railway line runs on an embankment across it. It is this line which doubtless has protected it in the last hundred years from despoliation; the line made access difficult. The total area of the marsh is some 88 acres.

In this publication, contributors who are experts on botany, ornithology and entomology will demonstrate to the reader what an immense treasure of plant life, birds, small wild animals, insects and butterflies the marsh is. Their contributions will make those of us who use the marsh for such pastimes as walking, picnicking, jogging, enjoying the fresh air, taking the dog for a walk, seeking out peace and quiet, really sit up in amazement, in astonishment that the open marsh we have enjoyed in a simple way is so rich and valuable. In this chapter our intention is to show how the marsh has been used by people who are not devoted naturalists, but who simply find the marsh a wonderful, open, wild place to be in.

The River Lea, as has been said, forms its western edge. The western bank of the Lea at this point is very high, forming the steep slopes of Springfield Park. The visitor to the marsh approaching from the Hackney side will descend to it down Spring Hill, or Harrington Hill, or Big Hill or Bakers Hill and cross the river over High Bridge or Horseshoe Bridge. If you come to the marsh from Walthamstow you come down Coppermill Lane past the modern and the old waterworks and under the low railway bridge beside the stream; and if you come on to the marsh from its southern end, from the Leyton side, you cross over Leyton marsh and along the tow path of the river on either side and past the timber yards.

The finest view of the marsh can be obtained from the top of Springfield Park. This Park runs down to the river and to the eye seems to run on into the marsh. It is the hundreds and thousands of people who use Springfield Park year in, year out, who benefit most from the open aspect of Walthamstow Marshes. They benefit from the great acreage of openness and peace the park and marsh combine to bestow upon the area. People, old and young, walk from one to the other as one natural extended walk; joggers run from one to the other; youngsters play in both in the course of any one afternoon or evening. Nothing threatens the Park so much as the threat to the Marshes. The conversion of the Marshes into a lake for motorised water sports will destroy the park with the dreadful noise and whine of engines echoing and thundering across the total area. Already the peacefulness of the area is sometimes destroyed by the roar of motorbikes, which scramble on the towpath, illegally and dangerously. The intentions of the LVRPA will now institutionalise that noise and disturbance.

Only those sort of planners who do not live in a place and can only visualise it on a piece of paper can create such schemes. Quarrying will bring in a constant stream of 20-ton lorries for the next five years, as many as 150 a day. A lake for motorised water sports will thereafter bring in cars with trailers on all roads leading to the Marshes (by then a marsh no longer). Indeed, the LVRPA has drawn up a plan to build a road through the valley itself and has allotted parking areas for future use. It is not without sadness and a sense of irony that one reflects upon the significance of the symbol of the LVRPA: the three-leaf clover. In the Authority's own words: 'The Authority's symbol is designed to express the concept of Man's re-creation in nature' (official brochure 1968).

Any day of the week and at all hours, people use the marsh. The night-watchman at Latham Timber Yards, which face on to it from the Hackney side, has stated how he enjoys the sight of ducks, which roost by night on the marsh, rising in the early hours. Joggers and athletes use the paths across it and the tow path along it

before a day's work and at weekends and in the evenings. People walk their dogs at all times of the day. The marsh is simply an open piece of countryside, in which it is delightful to walk with a dog, or indeed a companion.

Parents use it to take their children on little local picnics. It is possible to be completely hidden in the tall reeds, in the high grass or in the comfrey. Indeed, the reeds in large clumps are sometimes over six feet high, and any attempt to walk through them takes on the character of a trek through the heavy undergrowth of a forest. Kids mess about in it. People pick flowers in it. The people living in the houses and GLC flats that overlook it from the Hackney side enjoy it. It is safe to play in. And a gentleman with bagpipes has been spotted using it as a safe place for him to play in!

It is a favourite local haunt of bird watchers. Not just the experts but also the amateurs in great numbers. Its value to the bird-watcher is very varied. The Warwick reservoirs, its northern boundary, house the second largest heronry in the country and are inhabited by many different species of waders and ducks, by gulls and other fowl. They use the marsh for feeding and roost on it by night. The reed and sedge provide a habitat for warblers, the grasses for larks, pipits and wagtails, the willows and bushes for finches, wrens, thrushes and blackbirds. The list is indeed long. It is part of the local scenery to see bird-watchers in and around the marsh with binoculars strung over their shoulders.

Similarly, it is a haunt for botanists. Over 340 different species of wild plants have been identified on the marsh. The reed beds are both ancient and rare. In other parts of the country preservation orders have been placed on reed beds and in some parts they are being re-introduced. Yet here, we have an ancient and natural reed bed threatened with destruction through quarrying! It is a haunt for people who enjoy the sight of butterflies, moths and insects, feeding, living, breeding, in genuine wild surroundings. There are small mammals: foxes, rabbits, ferrets, moles.

When will the planners and those people empowered to provide 'leisure' for us come to understand that the vast majority of people still like real things, natural wild things, and do desire at least a section of their lives and their environment to be spared concrete, engines, tarmac and noise?

Artists use the marsh. It has clear open sky above it. It has river on one side of it. It is countryside. Water-diviners have been known to use it. As it is a marsh, they are sure to be successful! People from the LVRPA riding stables on the edge of Leyton Marsh gallop and trot over it. Schools use it for educational purposes, and Harrington Hill Primary School make regular, frequent use of it to educate their children. This is an aspect of the marsh which must be pursued.

It is an area that costs not one penny to use or to maintain. It is an area of quiet and peace. People come to it for the freedom and peace it gives them. It is not an area of created artificial 'leisure'. It has not been designed and set out by any of those modern organisations which can be termed 'leisure-makers'. It has been created by nature over the course of many centuries.

Walthamstow Marshes has spiritual value. It ministers to people's need for peace, openness, freedom, wildness and space. These things can be taken away and destroyed, but they cannot be artificially created or laid on. The marsh is unique to East London; it is the last of the Lea Marshes. It is simply irreplaceable.

WALTHAMSTOW MARSHES – OUR HERITAGE

In '45 there was rebellion in the land. Most of Scotland was under the rule of the Young Pretender, Bonnie Prince Charlie. His Highlanders had routed the Government troops under Sir John Cope on the battlefield of Prestonpans and marched down through England to reach Derby. Most of the English army was in Flanders, and in London there was panic; a run on the bank was only met by paying out in sixpences. A Government force encamped on Finchley Common to protect London.

In that year of 1745 John Rocque was completing his survey of the County of Middlesex. His map, carefully preserved in the Hackney Borough Archives, shows the villages of the Hackney area set amidst open countryside. By the village of Clapton the fields fell steeply to the clear-flowing Lea and across the river a wide open level stretched to the distant village of Walthamstow on gently rising ground.

WALTHAMSTOW IN MEAD was John Rocque's name for this large flat expanse. The land was described as 'meadow, common marshland' in the analysis of the Walthamstow parish rate book of 1836. This common marshland meadow is shown on the map of 1822 (opposite), part of the Walthamstow parish survey of 1822, which is displayed in the Borough's delightful Vestry House Museum. A drainage channel divided the common marshland into two great meadows, the Inner Marsh and Outer Marsh, before entering the Lea where the railway now crosses the river. Drained marshland produced very good hay and two crops were harvested each year. What a sight the expanse of rich meadow must have been, a vast smooth green carpet – which the west wind could turn to a moving sea beating towards the far shore.

Then came the Industrial Revolution. Railway embankments swept majestically across the flat land breaking up the Outer Marsh into an assortment of shapes. The Inner Marsh held on to a good deal of its area and most of its river boundaries. The long towpath walk was unaffected, although the diagonal path that struck off towards Coppermill was swung round to its present line, and the local people went on using their traditional routes. The coming of the railway may have changed the Marshes, but it had not destroyed them. Indeed, the Inner Marsh was now protected by the long curve of the embankment from the outside world – the railway builders had paradoxically helped to preserve it against the coming tide of industrialisation.

We have an account, thanks to the Walthamstow Antiquarian Society's leaflet, of an historic event in the Summer of 1909. A.V. Roe's aeroplane flight on the Marshes was the first all British flight. His flimsy tri-plane, constructed in a workshop under the railway viaduct, can be seen on display in the Science Museum.

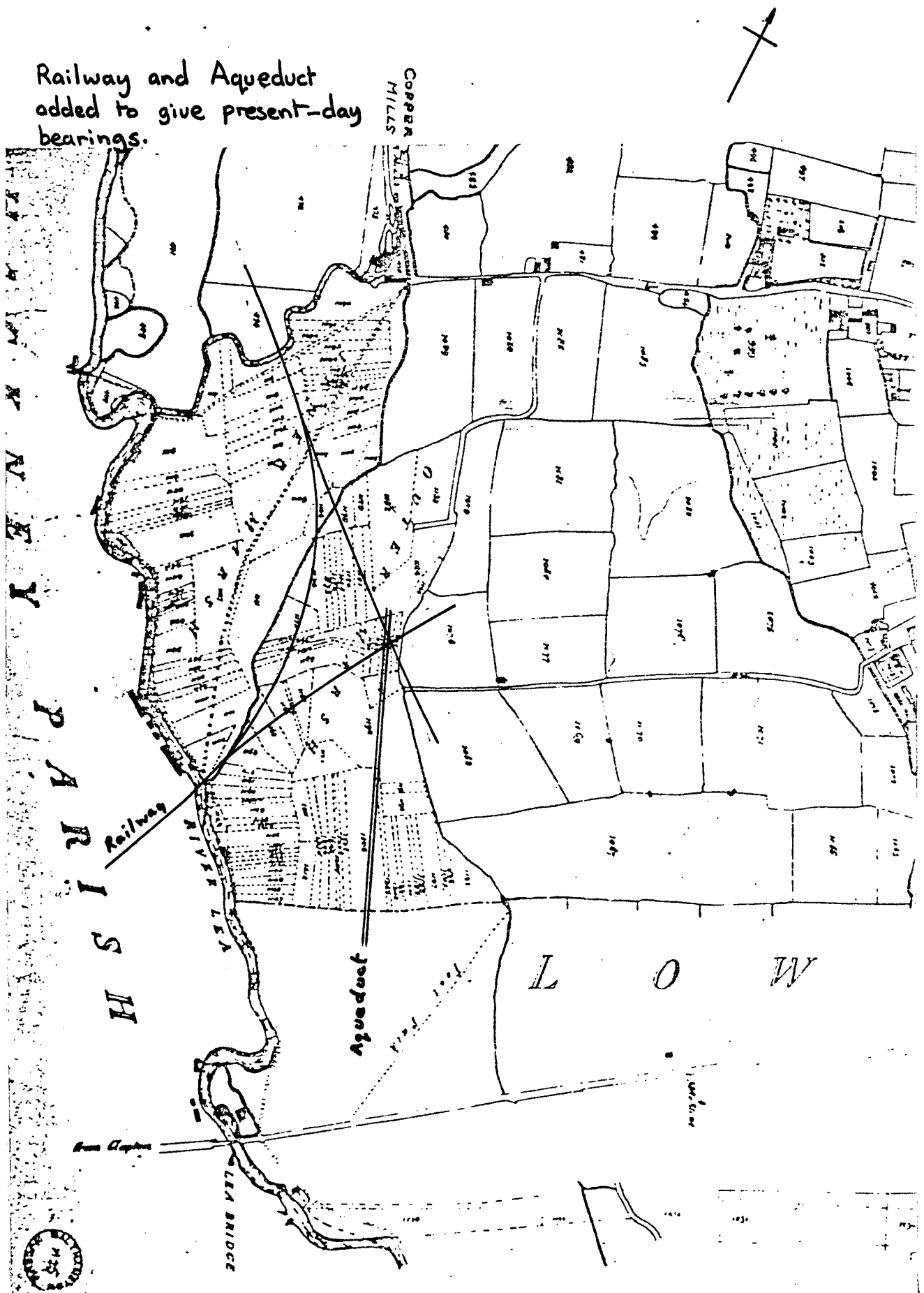
By 1935 the Marshes were officially described as public open space and that is how they are used today, with ownership vested in the Lee Valley Regional Park Authority.

Common marshland, public open space, the Marshes have withstood the test of time, surviving the coming of the railway and the tide of industrialisation. Now in this Summer of 1979 the Marshes face a different reality, the grim reality of this sentence of death by its new owners: "Walthamstow Marshes you are found designated as vacant land and shall be dug up and demineralised until you are destroyed."

But these Marshes are not vacant, unfilled, unoccupied, and we press for their reprieve.

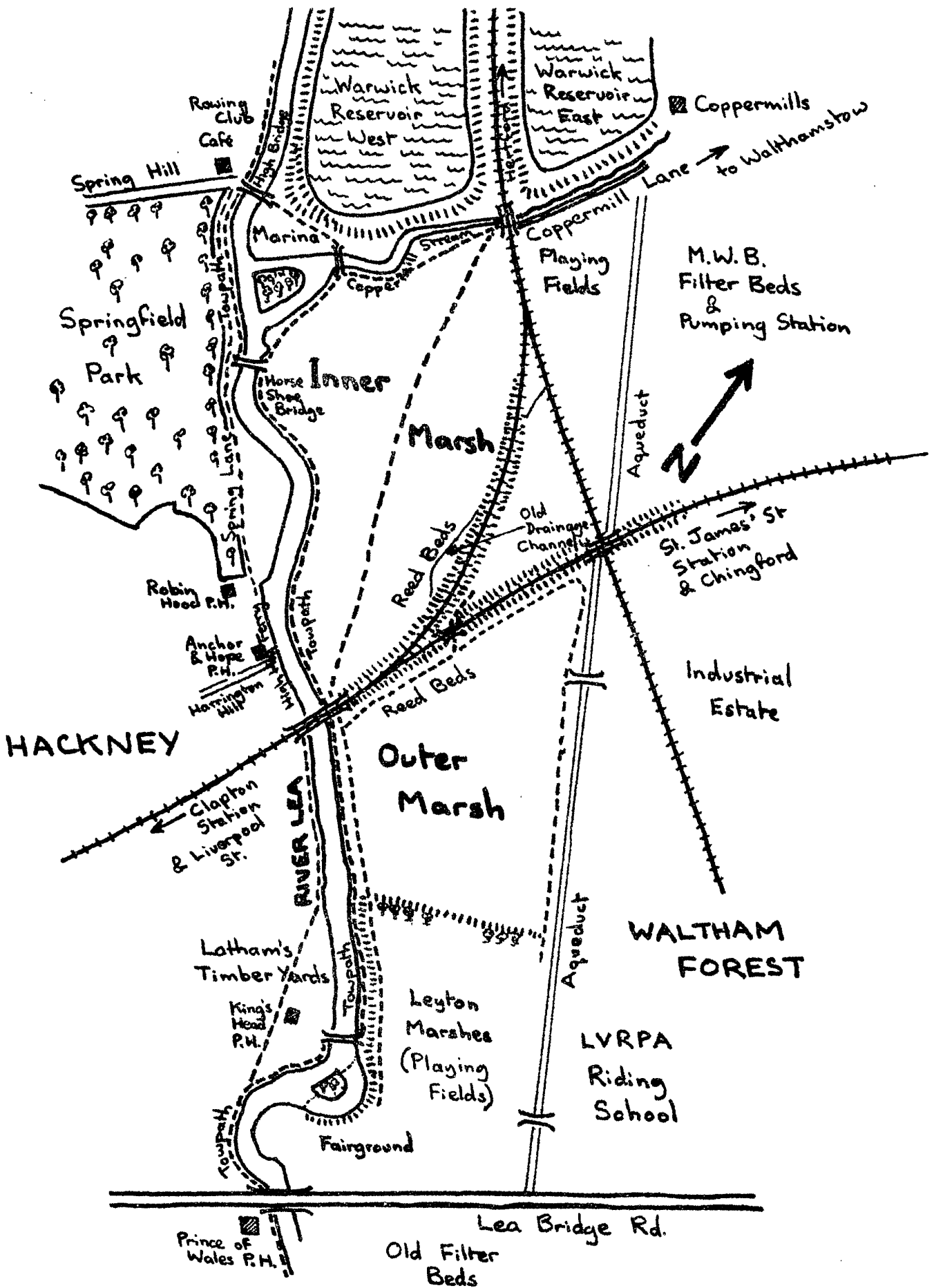
Please write stating your objection to the destruction of the Marshes to:
Department of the Environment Room 12/06 Tollgate House Houlton Street Bristol BS2 9DJ

MAP OF WALTHAMSTOW MARSHES, 1822
 PART OF THE WALTHAMSTOW PARISH SURVEY



The common marshland of 1822 was largely intact in 1979.

SKETCH MAP OF WALTHAMSTOW MARSHES, 1979



THE FLOWERING AND NON-FLOWERING PLANTS OF WALTHAMSTOW MARSHES

As a field botanist, I was brought up on the Marshes. This is where it all began. Living only a few minutes walk away, I have, since early childhood, paid many hundreds of visits to the area in all seasons and weather conditions, I have seen golden Summer sunrises glow gently upon shoulder-high wreaths of soft light mist. I have seen black storm and tempest sweep like savage seas across the swirling reed pastures. From the Great Blizzards of 1963 to the Great Drought of 1976, no mere climatic extreme has yet dramatically changed the rich and delicately-balanced fauna and flora of Walthamstow. Man alone now holds the balance.

During my own formative years of learning the British Flora, Walthamstow Marshes played a more active part in my life than any other locality. Each visit revealed new discoveries, new challenges, new species to be identified and remembered. No longer just weeds, they became vegetables, spices, salad greens, herbs, medicinal plants, scented plants, living fossils, deadly poisons, models and mimics, garden escapes, canary-seed aliens, and foreigners from every continent of the world. Every plant became an individual and a character. Poetically and even humorously named flowers abounded on all sides. I learnt that a grass could be a Fox-Tail or a Cock's-Foot, and I still know a bank where, although there's no wild thyme growing there, we can still find Cat's-Ears and Mouse-Ears living together in perfect harmony. Children have often taken an interest in my searchings; and I'll always remember one young boy who said, "Well, nature's the best thing, really," as though already accepting that the process of growing up would one day inevitably force him to substitute the purely commercial recreations which one would assume were all his parents may have known. Certainly, as a society, we are now gradually developing a more sympathetic attitude towards nature as being a rewarding interest for young adults, too, not just something which children are eventually expected to "grow out of". This is encouraging, and I certainly feel that Walthamstow Marshes could serve no better social function in London than to help foster this attitude as widely as possible.

And so, from the early days of separating a Timothy from a Yorkshire Fog, I gained by degrees, sufficient confidence and experience with wild plants to contact, and then work for, botanic gardens and museums, to join world-wide natural history societies, and to write papers on notable discoveries and habitats, But there was never any question of "growing out of" Walthamstow, or leaving it behind as a childhood phase that had served its purpose.

Twenty years of visits have not exhausted the excitement and interest of the area, nor even would twenty more. Its very vitality lies in the subtle changes continually occurring there within the natural processes of evolution and plant competition. Species increase and decrease, old ones go, and new ones arrive. The flora is never static. Difficult groups like the Dandelions and the Michaelmas Daisies have still got even Kew Gardens puzzled as to precisely how they should be identified. And a great scope exists for sharing the area's immensely varied plant life with children, students and interested adults, from everywhere around.

In adult life, one's horizons continually widen, and so my regular forays and botanical travels and experience elsewhere (including abroad) constantly put the Walthamstow scene in a new perspective. Yet there must be very few inhabited localities anywhere on the entire globe where we would not easily find at least one of the plants on our appended Walthamstow species list. Thus the area can always serve as a point of reference, and a standard for making comparisons. For me, above all, there is the added deep gratitude that this is where a whole lifetime of guaranteed joy and fascination was originally born and bred.

Walthamstow Marshes may be our very last relic of the original marshes and water meadows upon which London itself was born. Morally, socially, and ecologically, it would be a tragedy to have this ancient land destroyed for ever.

A SURVEY OF SELECTED PLANT FAMILIES

The flowering plants, ferns and horsetails of Walthamstow Marshes comprise roughly of 350 species and hybrids, covering 60 botanical families. Here is a brief look at just the 15 most important families represented in this area, in order to illustrate the more valuable educational, economical and popular assets of each family, to indicate their relevance to G.C.E. Botany students at both levels, and to show the number of species in each family which grow here.

1 Equisetaceae

The Horsetails are living fossils in evolutionary decline, being diminutive ancestors of the world-predominant Tree Horsetails of the Carboniferous Age. Three species and a vigorous hybrid are to be found on Walthamstow Marshes.

Horsetails produce wind-pollinated cones for spore (not seed) reproduction and it is particularly interesting to demonstrate that these most ancient plants are apparently not eaten by any of our more modern insects which are known to have evolved far more recently. Students of primitive non-flowering plants will also find, at Walthamstow, a few species of lichens, and mosses, and some aquatic algae, awaiting identification.

2 Cruciferae

This is a very important family for human food. Wild Mustards, Horse Radish and various Cresses and Turnips, abound at Walthamstow, along with many smaller, weedier species. 23 species grow here, all with white or yellow 4-petalled flowers.

3 Ranunculaceae

There are five distinctive buttercup species here. Useful for both O- and A-Level Botany students.

4 Caryophyllaceae

The Chickweeds and Campions play a conspicuous part in the colonisation of disturbed areas, but compete poorly or not at all, with perennials. We have 11 species.

5 Chenopodiaceae

A family of mealy-looking weeds, but some, like Fat-Hen, are as edible as the related spinach. Various Oraches and Goosefoots grow commonly on disturbed soil and sedge peat, comprising seven species in all.

6 Leguminosae

A family of considerable and vital agricultural importance for their nitrogenous properties. 14 species at Walthamstow, mostly Vetches, Trefoils, Clovers, Melilots, etc., growing in perennial grassland. Useful for O-Level students.

7 Rosaceae

Examples occur at Walthamstow of all the British perennial Rosaceous growth forms, as shrubs/bushes/trees (Hawthorn and Blackthorn), thorny climbing shrubs (Roses and Brambles), tall herbs (Meadowsweet), and creeping low herbs (Cinquefoil and Silverweed). An extremely important family for soft fruits and stone fruits, and horticultural trees, shrubs and herbaceous plants. A-Level students.

8 Umbelliferae

An important family of about 15 edible and poisonous, distinctive Walthamstow species, including Parsnip, Cow Parsley, Celery, Angelica, Hemlock, Hogweed.

9 Polygonaceae

An exceptionally well represented family of nine Polygonums (Knotgrass, Persicaria, Knotweed, Bistort), and a unique Dock community whose current state of evolutionary flux is such that Darwin himself would have been proud to study it.

10 Salicaceae

Poplars, Willows, Sallows, and Osiers are abundantly represented by ten species and hybrids of major botanical, ecological and landscape importance.

11 Scrophulariaceae

The Toadflax, Figwort and Speedwell species illustrate widely varying flower-types for O- and A-Level students. 11 species.

12 Labiatae

An important family of culinary herbs, and some weeds, including Dead-Nettles, Mints, Woundworts. 11 generally distributed species.

13 Compositae

A huge, and very diverse family, including showy displays of Summer and Autumn Thistles, Michaelmas Daisies, Ox-Eye Daisies, Yellow Fleabanes, Ragworts, May-weeds, Hawksbeards, Sowthistles, Burdocks etc.

This family has the longest flowering season (except for the grasses), from Dandelion and Coltsfoot in February/March to lingering Yarrows and Knapweeds in November/December. The many large, showy, wild and garden flowers in this family make it popular and easily recognised. The Walthamstow Composites include aliens from the USA, Canada, South America, Europe, the Mediterranean, China and Australia. Nearly 60 species at Walthamstow. O- and A-Level students.

14 Cyperaceae

The Sedges (*Carex*) are characteristic primary marsh and fen species, of which 12 different ones have been recorded from Walthamstow, although some may have gone in recent years. A few are of very local occurrence, though previously much more widespread.

15 Gramineae

The GRASSES are the largest single plant family in the world, economically the most important, ecologically the most successful, and evolutionally the most advanced. In most years, around 40 species, hybrids, and varieties of grasses may be found at Walthamstow, a truly noble heritage surely unequalled anywhere else so close to Central London. They comprise native and aliens, annuals and perennials, soft and coarse species. Specific grass recognition is a vital to many for ecological studies. Grasses as a whole provide more essential cover and food for birds and insects than any other single plant family, and the grasses include species which flower all the year round.

Apart from botanists, ecologists, entomologists, and ornithologists, a thorough knowledge of the grasses is also necessary for all students of agriculture, farming, horticulture, gardening, and the management of parks, playing fields and cemeteries. They may initially be learnt when in flower but identification by the vegetative characteristics alone is also highly desirable during their non-flowering seasons, together with knowledge of their Winter appearances, and survival techniques, wherever these are relevant to the perennial species. A detailed knowledge of this family is, of course, essential for all O- and A-Level Botany students.

Grasses make excellent herbarium specimens, lend themselves beautifully to line drawings, and their dried inflorescences are among the most rewarding materials available to flower arrangers, collage artists, and other creative designers, certainly including young children artistically experimenting for the first time. The grass flora of Walthamstow is its most valuable, and its most vulnerable, single feature.

GENERAL RESUMÉ OF HABITAT TYPES REPRESENTED ON THE MARSHES

1 Open Water

Of River Lea, and its Backwater (correctly called the Coppermill or Silk Stream). This contains varied aquatic life and animal life. There is still a very little open water in the small pond by Coppermill railway bridge (our only locality for the rare Lesser Reed Mace), but Reed Grasses are encroaching (as they are also in the Stream), and both would benefit from some clearance of marginal mud and vegetation. A small ancient pond in the Outer Marsh (Triangle area) is now a damp hollow by a relict ditch, but False Fox Sedge and Tubular Water Dropwort still persist there, and they grow nowhere else hereabouts. The bomb-crater pond in the south field used to be very interesting, but it is now largely spoiled by the unauthorised dumping of rubbish. It would be very desirable to restore this, and to dig one or two other ponds of this size in the Coppermill area, as very small aquatic habitats of this kind have much value and interest in many ways.

The Ecology of the Walthamstow Waterweeds

The zonation of the various plant communities found from open water through to dry land always offers rich scope for interesting ecological surveys and demonstrations. The following plant communities may be observed:

Totally submerged species: Fennel Pondweed, Frog's Lettuce, Canadian Waterweed (*Elodea*), Water Milfoil, and Hornwort.

Marginally submerged species Ivy-leaved Duckweed always occupies a very narrow subsurface zone, mixed only with algae.

Floating Species Common and Fat Duckweeds are abundant on the water surface. I have recently re-discovered the Great Duckweed, mixed with these other two, on the surface of the River Lea itself, in small quantities. Plants which overlap all the above zones, and have developed a most interesting range of leaf variations to adapt to each zone, include: Water Starwort, Yellow Water Lily, Branched Bur-Reed, and Water Crowfoot. The contrasts of floating and terrestrial leaf forms of the Water Bistort are also very striking. The latter form is commoner.

2 True Waterside Marsh

The Reed Mace species, Lesser Pond Sedge, the Reed Grasses *Glyceria* and *Phalaris* and sometimes *Phragmites*, are among the very first tall marsh plants to invade open water, and begin land reclamation from it. The more beautiful plants of this zone include Great Water Dock, Purple Loosetrife, Yellow Flag, Sweet Flag, and Orange Balsam.

3 Open Expanses of Semi-Marsh Grassland

These are subject to flooding in very wet spells, but often dry in Summer, and capable of surviving prolonged drought. This habitat is reminiscent of the Fens or the Broads, with extensive wind-rippled stands of the grasses *Glyceria*, *Phragmites* and *Phalaris*, mixed with Sedges. Here we find characteristic marshland species, including Meadowsweet, Water Mint, Water Pepper, Bur-Marigold, Hairy Willowherb, Angelica, Skullcap, Wild Hop, Hedge Bindweed, and Gypsywort. Michaelmas Daisies have recently become thoroughly established in the company of these others, and are all now of natural spontaneous origin (not planted), exactly as they appear at Wicken Fen, Cambridgeshire, or the rolling meadows of the Mid-West of the USA. They are now so abundant that they make a most spectacular and beautiful display on the Marshes in September. Several species and hybrids are involved.

4 Rough Pasture

This may approximately be divided into the following sub-categories:

(a) Predominantly Couch Grass, succeeding the above semi-marsh community in progressively drier and more stabilised soil conditions.

(b) Association of Couch Grass with Russian Comfrey, the two plants co-dominant, or associated with smaller quantities of stinging nettles, Thistles, Prickly Lettuce, False Oat, Hogweeds, and various Docks. Or any combination of these. This is a particularly rank mixture, and is characteristic of former grassland which was disturbed by man, and then left – probably previously a semi-marshland plant community of Category 3 type, as above. This demonstrates very clearly how sensitive long-established grassland is to any change, and how it can *never* be restored to its original condition once the ground has been broken. For the flora which colonised broken ground will always be different from that which was there before. This "4b" Category is typical of heavy (clay) soil disturbance. On the other hand, if the disturbed soil is lighter, or more loosely dumped, material left in mounds, it will give rise to a succession of common weed annuals, which will rapidly give way to perennials, and then culminate with Sallow scrub. This flora development can clearly be seen opposite the marina, where soil was dumped in the course of its recent construction.

(c) Meadowland association of Couch Grass with Tufted Vetch, Meadow Vetchling, Tall Fescue, Creeping Thistle, Common Ragwort, and Meadow Buttercup. This community tends to be a less rank mixture, occurring on drier soil, and probably of more ancient disturbance than the last. This assumption is supported by a richer associated insect fauna, including Burnet Moths, and Meadow Brown and all the Skipper Butterflies. This more desirable habitat will *not* develop on newly disturbed soil straight away, and it takes many years for it to become relatively stable.

5 Dry Grassland

This can approximately be divided into the following sub-categories:

(a) The next stage in succession from the last category (4c), in *drier* turf, with the following species tending to replace the Couch Grass: Black Knapweed, Yarrow, White Clover, Cock's Foot Grass, Yellow Oat, Fine and other Bent Grasses, Rosebay Willowherb, Yellow Toadflax, Cat's-Ear, and various Hawkbits.

(b) This habitat in mown condition, to become playing-fields, in which case the taller species will normally be eliminated altogether, but most of the smaller ones will usually survive in stunted, non-flowering, condition, together with those additional plants which are particularly characteristic of well trodden pathways.

(c) This same habitat again but on artificial inclines, such as railway banks, or the banks of the Lea Bridge Road playing-field (Leyton Marsh), which has in the past been a rubbish tip. On these less controlled slopes, where mowing is not possible, any or all the above plants may be accompanied by larger plants, including Oxford Ragwort, Soapwort, Greek Dock, and Japanese Knotweed (which are all very familiar natives). It must be emphasised that the species given as being "typical" of these categories should not be assumed to grow exclusively in them. They will naturally tend to occur also, in smaller quantities, in those habitats most closely related to the ones under discussion. There are no absolute delineations in nature.

6 Hard, Trodden Pathways

Although difficult to understand how plants can survive in such harsh growth conditions, there are nevertheless species which not only do so, but even specialise in them. Many of these have evolved crush-proof rosette leaf arrangements, like Plantains, Daisies, and the first-year growths of a wide range of biennial species, so that the feet of animals and man do them no harm whatsoever.

In addition to this, such species, and other non-rosette forming plants, may produce strong but flexible stems, to ensure survival. These include Plantains, Knotgrass, Pineapplewood, Rye-Grass, Annual Meadow Grass, Dandelions etc.

7 Old Brickwork and Concrete

River banks and railway bridges generally support a poor depauperate selection of species more characteristic of waste ground, like Oxford Ragwort and Rosebay Willowherb. A few Lichens and Mosses may be found locally in small numbers.

8 Railway Ballast

A very distinctive and characteristic association of Sticky Groundsel, Common Horsetail, Field Bindweed, Yellow Toadflax, and particularly, Small Toadflax, the latter restricted entirely to this habitat, where it is common.

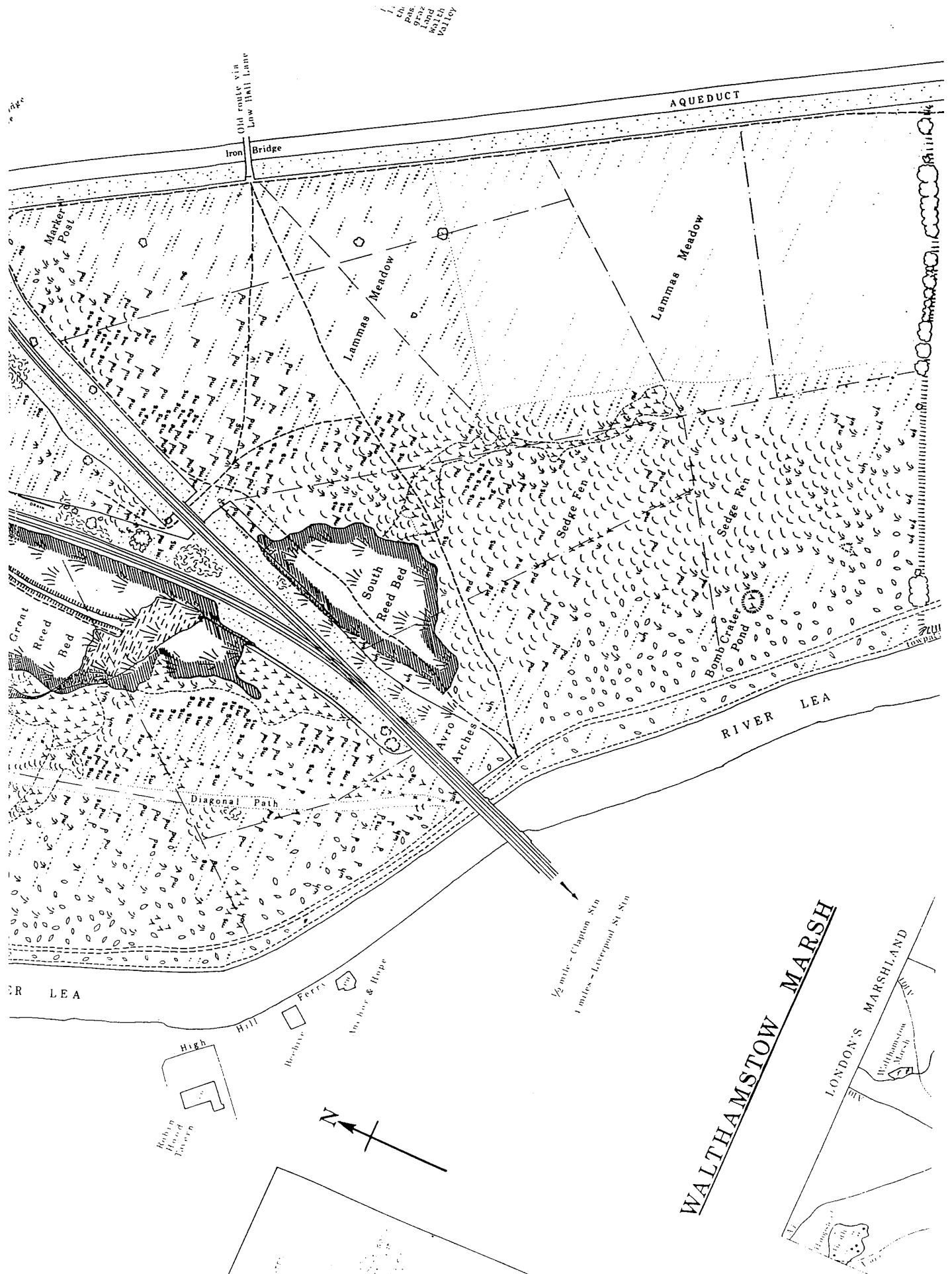
9 Newly Disturbed Ground

The study of pioneer plants on bare soil has many interesting ecological implications. In this area, we normally have a combination of so-called weeds of parks and gardens, but at Walthamstow, these are usually mixed with examples of marsh plants, which in these conditions may enjoy a brief period of exceptional luxuriance. Such communities are necessarily very fugitive, for the stronger perennials of the area will soon encroach and take over, as the next stage in succession. Plants which may turn up only once or twice and not be able to persist are termed "casuals" in the species list given later. Many of these are alien introductions from gardens or with canary seed.

Consequences of a Major Upheaval

From the above account, it can straightaway be seen that the water, marsh and above all the particularly valuable grassland habitats would be totally destroyed, beyond all hope of restoration in their present forms in our lifetime.

Habitat balances are very delicate situations, especially if they have evolved over a long period, as here. The sallow scrub we now have on Walthamstow Marshes is valuable for insect and bird life, but we have enough of it to serve its purpose, and it would not be desirable for it to increase further, at the expense of the grassland. Any sallow colonisation of either of the two outer marsh fields would similarly be undesirable. The Russian Comfrey colonies have limited ecological value and should not be encouraged to increase.



THE FLORA OF WALTHAMSTOW MARSHES

A comprehensive list of all the species recorded there.

Scientific name	English name	Status at Walthamstow
<i>Equisetum arvense</i>	Common Horsetail	Common on dry banks.
<i>Equisetum palustre</i>	Marsh Horsetail	Common on sedge peat.
<i>Equisetum x litorale</i>	Hybrid Horsetail	Critical studies in 1980 revealed this to be the commonest Horsetail towards the margins of each meadow. It must have arisen with the railway constructions over a century ago, and continues to penetrate the grassland and sedge. It is <i>E. arvense</i> x <i>limosum</i> .
<i>Pteridium aquilinum</i>	Bracken	Very occasional young plants only on walls.
<i>Dryopteris filix-mas</i>	Male fern	As above.
<i>Ophioglossum vulgatum</i>	Adders Tongue Fern	First recorded over 130 years ago from Coppermill to Lea Bridge Road. Rediscovered in 1980, sparingly among grass near Coppermill Lane, but plentiful among tall sedge on South Marsh. An important ancient meadow species.
<i>Ranunculus acris</i>	Meadow Buttercup	Common and variable.
<i>Ranunculus repens</i>	Creeping Buttercup	Rare on damp ground.
<i>Ranunculus sceleratus</i>	Celery-leaved Buttercup	Locally common on bare or damp ground in hollows.
<i>Ranunculus ficaria</i>	Lesser Celandine	Common in Spring.
<i>Ranunculus pseudofluitans</i>	Water Buttercup	Local in River Lea only.
<i>Nuphar lutea</i>	Yellow Water Lily	Coppermill Stream only (and reservoirs).
<i>Ceratophyllum demersum</i>	Hornwort	Grows with above. Formerly in small pond.
<i>Papaver rhoeas</i>	Corn Poppy	Occasional casual.
<i>Papaver dubium</i>	Long-headed Poppy	Scarce casual.
<i>Papaver somniferum</i>	Opium Poppy	Occasional casual – showy.
<i>Brassica napus</i>	Rape /Wild Turnip	Abundant and spectacular in Spring over much of area.
<i>Brassica rapa</i>	Wild Turnip	Occasional with above. Less common.
<i>Brassica nigra</i>	Black Mustard	Rare. Mostly near Lea Bridge Road and Leyton Marsh.
<i>Brassica juncea</i>	Chinese Mustard	Scarce casual.
<i>Hirschfeldia incana</i>	Hoary Mustard	Scarce casual.
<i>Sinapis arvensis</i>	Charlock	Occasional on disturbed ground.
<i>Diplotaxis muralis</i>	Stinkweed	Rare casual.
<i>Diplotaxis tenuifolia</i>	Wall Rocket	A few scattered well established clumps.
<i>Lepidium ruderale</i>	Narrow-leaved Pepperwort	Scarce casual.
<i>Lepidium sativum</i>	Garden Cress	Scarce casual on paths.
<i>Coronopus squamatus</i>	Swine's Cress	Occasional.
<i>Coronopus didymus</i>	Lesser Swine's Cress	Occasional.
<i>Cardaria draba</i>	Hoary Cress	Several well established patches on verges.

Scientific name	English name	Status at Walthamstow
<i>Capsella bursa-pastoris</i>	Shepherd's Purse	Very common on bare ground and paths. Variable.
<i>Armoracia rusticana</i>	Horseradish	Locally plentiful, on verges and banks.
<i>Cardamine pratensis</i>	Lady's Smock	Several tall clumps in Triangle only.
<i>Cardamine hirsuta</i>	Common Bittercress	Occasional.
<i>Barbarea vulgaris</i>	Wintercress	Thinly scattered. Some plants have spreading recurved pods and are referable to the rare variety or subspecies <i>arcuata</i> .
<i>Rorippa islandica</i>	Marsh Yellow Cress	Common on bare or damp ground.
<i>Rorippa amphibia</i>	Greater Yellow Cress	Scarce in wet ground and sedge swamp.
<i>Rorippa nasturtium-aquaticum</i>	Water Cress	Extinct by bomb crater pond. Survives by Coppermill Stream.
<i>Erysimum cheiranthoides</i>	Treacle Mustard	Small quantity on disturbed ground near Marina.
<i>Alliaria petiolata</i>	Jack-by-the-Hedge	Quite plentiful alongside Marina. Rare elsewhere.
<i>Sisymbrium altissimum</i>	Tumbling Mustard	Occasional on disturbed ground.
<i>Sisymbrium orientale</i>	Eastern Mustard	Rare casual on disturbed ground.
<i>Sisymbrium officinale</i>	Hedge Mustard	Common on paths and verges.
<i>Sisymbrium officinale</i> var <i>leiocarpum</i>	A glabrous variety of the above.	
<i>Reseda luteola</i>	Weld	Scarce and usually on disturbed ground only.
<i>Hypericum perforatum</i>	Common St John's Wort	Scarce on railway banks.
<i>Silene vulgaris</i>	Bladder Campion	Local; on railway banks.
<i>Lychnis dioica</i>	Red Campion	Common on waysides.
<i>Lychnis alba</i>	White Campion	Scattered plants mostly near Coppermill.
<i>Lychnis alba</i> x <i>dioica</i>	Hybrid Pink Campion	As above. Regularly seen.
<i>Saponaria officinalis</i>	Soapwort	Coppermill railway bank only. Plentiful.
<i>Cerastium holosteoides</i>	Common Mouse-ear	Thinly scattered in grassland.
<i>Cerastium glomeratum</i>	Stocky Mouse-ear	Occasional on bare ground.
<i>Myosoton aquaticum</i>	Water Chickweed	Very fine stands of this recently. Now much decreased, but survives.
<i>Stellaria media</i>	Common Chickweed	Very common. Edible.
<i>Sagina apetala</i>	Annual Pearlwort	Quite common on bare dry gravelly ground.
<i>Sagina procumbens</i>	Mossy Pearlwort	Common on bare but harder and damper ground.
<i>Chenopodium polyspermum</i>	Many-seeded Goosefoot	Common on disturbed ground.
<i>Chenopodium album</i>	Fat Hen	Common. Edible.
<i>Chenopodium ficifolium</i>	Fig-leaved Goosefoot	Quite common.
<i>Chenopodium rubrum</i>	Red Goosefoot	Occasional on damp ground.
<i>Beta vulgaris</i>	Beetroot	An occasional casual, rarely persisting.
<i>Atriplex patula</i>	Orache	Common.
<i>Atriplex hastata</i>	Halberd-leaved Orache	Commoner than the above esp. on sedge peat and less dependant on continually disturbed ground.
<i>Malva sylvestris</i>	Common Mallow	Quite common and pretty on dry verges.

Flora

Scientific name	English name	Status at Walthamstow
<i>Malva neglecta</i>	Small Mallow	Very scarce.
<i>Geranium molle</i>	Common Cranesbill	Occasional in grassland.
<i>Geranium pyrenaicum</i>	Pyrenean Cranesbill	Occasional in grassland.
<i>Geranium dissectum</i>	Cut-leaved Cranesbill	Quite frequent on disturbed ground.
<i>Impatiens capensis</i>	Orange Balsam	Still abundant along Coppermill Stream and most attractive in high Summer.
<i>Impatiens glandulifera</i>	Himalayan Balsam	Surprisingly much more scarce than the last species. Abundant in Hackney Marsh.
<i>Acer pseudoplatanus</i>	Sycamore	Self-sown locally, not to be encouraged.
<i>Medicago lupulina</i>	Black Melilot	Frequent on disturbed ground.
<i>Medicago sativa</i>	Lucerne	Occasional. Very valuable fodder plant.
<i>Melilotus officinalis</i>	Common Melilot	Occasional on disturbed ground.,
<i>Melilotus albus</i>	White Melilot	Rare and sporadic.
<i>Trifolium pratense</i>	Red Clover	Very common and variable.
<i>Trifolium medium</i>	Zigzag Clover	Rare.
<i>Trifolium repens</i>	White Clover	Very common in dry turf.
<i>Trifolium campestre</i>	Hop Trefoil	Occasional.
<i>Trifolium dubium</i>	Lesser Yellow Trefoil	Frequent on stony banks.
<i>Lotus corniculatus</i>	Bird's Foot Trefoil	Frequent in grassland.
<i>Colutea arborescens</i>	Bladder Senna	A few self-sown shrubs on railway banks and one on North Marsh.
<i>Vicia hirsuta</i>	Hairy Vetch	Sparingly on dry banks.
<i>Vicia cracca</i>	Tufted Vetch	Locally frequent and colourful in grass.
<i>Lathyrus pratensis</i>	Meadow Vetchling	Locally frequent in grassland.
<i>Lathyrus latifolius</i>	Garden Everlasting Pea	On railway bank, established at Coppermill only. Very colourful.
<i>Filipendula ulmaria</i>	Meadowsweet	Fine ancient stands in grassland in all meadows.
<i>Rubus</i> species	Bramble	Several thickets on drier ground and railway banks.
<i>Potentilla reptans</i>	Cinquefoil	Common in dry grassland.
<i>Potentilla anserina</i>	Silverweed	Only locally common and most attractive.
<i>Rosa canina</i>	Dog Rose	Very scarce on dry ground.
<i>Rosa multiflora</i>	Polyantha Rose	Long established near Coppermill Lane.
<i>Prunus spinosa</i>	Blackthorn	One or two bushes on railway banks.
<i>Crataegus monogyna</i>	Hawthorn	A few scattered mature shrubs in grass.
<i>Lythrum salicaria</i>	Purple Loosestrife	Fine patches in marsh near Coppermill.
<i>Chamaenerion angustifolium</i>	Rosebay Willowherb	Common in drier grassland, forming large patches.
<i>Epilobium hirsutum</i>	Great Hairy Willowherb	Common, forming large patches on wetter ground.
<i>Epilobium montanum</i>	Broad-leaved Willowherb	Very rare.
<i>Epilobium adenocaulon</i>	American Willowherb	Common on more open and disturbed ground.
<i>Epilobium obscurum</i>	Short-fruited Willowherb	Of doubtful occurrence.

Scientific name	English name	Status at Walthamstow
<i>Epilobium tetragonum</i>	Square-stemmed Willowherb	Occasional. The hybrids <i>E. Tetragonum</i> x <i>adenocaulon</i> and <i>E. hirsutum</i> x <i>adenocaulon</i> have occurred but are impermanent.
<i>Myriophyllum spicatum</i>	Water Milfoil	Rare. Coppermill Stream. Formerly bomb crater.
<i>Callitriche obtusangula</i>	Water Starwort	Grows with above at Coppermill in quantity.
<i>Hedera helix</i>	Ivy	Very rare.
<i>Anthriscus sylvestris</i>	Cow Parsley	Abundant and showy in Spring everywhere.
<i>Conium maculatum</i>	Hemlock	Local, mostly alongside River Lea.
<i>Apium graveolens</i> var <i>dulce</i>	Cultivated Celery	Casual.
<i>Apium nodiflorum</i>	Fool's Watercress	Scarce by bomb crater pond and Coppermill.
<i>Pimpinella saxifraga</i>	Burnet Saxifrage	Scarce on dry railway banks especially by Triangle.
<i>Berula erecta</i>	Lesser Water Parsnip	Rare near Coppermill. A nice species, not always seen.
<i>Oenanthe crocata</i>	Hemlock Water Dropwort	Frequent by River Lea and Coppermill Stream.
<i>Oenanthe fistulosa</i>	Tubular Water Dropwort	Very rare in Outer Marsh only. Special.
<i>Aethusa cynapium</i>	Fool's Parsley	Occasional on disturbed ground.
<i>Foeniculum vulgare</i>	Fennel	Rare, perhaps not permanent.
<i>Angelica sylvestris</i>	Angelica	Quite frequent in reed grassland.
<i>Angelica archangelica</i>	Garden Angelica	Not yet arrived. Abundant by Hackney Marsh.
<i>Pastinaca sativa</i>	Wild Parsnip	Occasional on dry verges.
<i>Heracleum sphondylium</i>	Hogweed	Very common everywhere.
<i>Heracleum mantegazzianum</i>	Giant Hogweed	Newly appeared on South Marsh. Increasing.
<i>Heracleum sphondylium</i> x <i>mantegazzianum</i>	Hybrid Hogweed	One fine plant detected in 1980.
<i>Daucus carota</i>	Carrot	Casual.
<i>Bryonia dioica</i>	White Bryony	Scarce on dry ground.
<i>Mercurialis annua</i>	Annual Mercury	Common on disturbed ground.
<i>Euphorbia peplus</i>	Petty Spurge	Common on disturbed ground.
<i>Euphorbia helioscopia</i>	Sun Spurge	Occasionally with above.
<i>Euphorbia</i> x <i>pseudovirgata</i>	Twiggy Spurge	An alien hybrid near Lea Bridge Road; also on reservoirs.
<i>Polygonum aviculare</i>	Knotgrass	Common.
<i>Polygonum arenastrum</i>	Equal-leaved Knotgrass	Common.
<i>Polygonum persicaria</i>	Persicaria	Common.
<i>Polygonum lapathifolium</i>	Pale Persicaria	Fairly common.
<i>Polygonum nodosum</i>	Knotted Persicaria	Decreasing, now scarce.
<i>Polygonum hydropiper</i>	Water Pepper	Common in wet ground.
<i>Polygonum convolvulus</i>	Black Bindweed	Occasional on disturbed ground.
<i>Polygonum amphibium</i>	Water Bistort	Terrestrial form common.
<i>Polygonum cuspidatum</i>	Japanese Knotweed	Occasional dense thickets by River Lea and Leyton Marsh.

Rumex

The species of *Rumex*, or Dock, in the Lea Valley forms one of the most interesting groups of plants to be found anywhere in the London area, or even Britain.

Man's treatment of the land in the past has led to a diversity of native species and also to the introduction of several alien species, which now are settling into the stabilising habitats. The process of settling in has led to hybridisation at sterile, partly fertile, and completely fertile levels.

Two newly arisen Docks on Walthamstow Marshes are now new to science and it is very much to be hoped that these and their habitats will not be destroyed.

A third hybrid new to science, found near Hoddesdon, Hertfordshire, may now have gone. This was *R. conglomeratus* x *R. obtusifolius* ssp *sylvestris*.

Scientific name	English name	Status at Walthamstow
<i>Rumex acetosa</i>	Common Sorrel	Quite common in drier grassland.
<i>Rumex acetosella</i>	Sheep's Sorrel	Quite common on railway banks.
<i>Rumex hydrolapathum</i>	Great Water Dock	Local near Coppermill Stream and elsewhere.
<i>Rumex cristatus</i>	Greek Dock	Local but increasing; a huge spectacular species.
<i>Rumex crispus</i>	Curled Dock	Quite common. Variable.
<i>Rumex obtusifolius</i>	Broad-leaved Dock	Common. Variable.
<i>Rumex obtusifolius</i> , subspecies <i>sylvestris</i>		An alien relative of the last. Scarce.
<i>Rumex palustris</i>	Marsh Dock	Very rare. Formerly by bomb crater but now only a few scattered plants by Coppermill Stream.
<i>Rumex conglomeratus</i>	Clustered Dock	Very common.
<i>Rumex sanguineus</i> var <i>viridis</i>	Wood Dock	Refound in small quantity on North Marsh in 1979.
<i>Rumex maritimus</i>	Golden Dock	Formerly by reservoirs only. Extinct.

The Dock Hybrids

The following hybrids have been recorded from this area:

<i>R. cristatus</i> x <i>obtusifolius</i>	<i>R. conglomeratus</i> x <i>crispus</i>
<i>R. cristatus</i> x <i>crispus</i>	<i>R. obtusifolius</i> x <i>crispus</i>
<i>R. palustris</i> x <i>crispus</i>	<i>R. obtusifolius</i> x subspecies <i>sylvestris</i>
<i>R. palustris</i> x <i>conglomeratus</i>	

Of these, the two following are new to science:

R. obtusifolius x subspecies *sylvestris* : This interbreeding of the native and the alien forms was observed for the first time in 1974 and confirmed by J E Lousley, an authority on the Docks, to whom I showed the plants at Walthamstow. These hybrids are fertile and, if left undisturbed, will eventually stabilise a new intermediate form peculiar to this area.

R. obtusifolius x *crispus* : This remarkable plant was first discovered by me at Tottenham Hale, in 1974, where it just hangs on despite River Lea bank improvements. It was confirmed and named *Rumex* x *lousleyi* in honour of Mr J E Lousley who died in January 1975. A new plant has arisen in company with the parents by the River Lea on the North Marsh and may be the only other plant of this hybrid anywhere in existence in the world at this present time. It appears to be partly fertile but seed viability remains unproven as yet.

Further examples of the hybrids listed above and new combinations which have not yet been observed are likely to arise, in company with their parents, in grassland at Walthamstow, in future years, if the locality is allowed to remain in its present favourable condition for this to happen. In this family, and in this locality, we are observing the process of evolution in our own time.

Scientific name	English name	Status at Walthamstow
<i>Urtica dioica</i>	Stinging Nettle	Common. A vital plant for several butterfly species.
<i>Urtica urens</i>	Small Nettle	Occasional on disturbed ground.
<i>Humulus lupulus</i>	Wild Hop	Common in tall marsh vegetation. Certainly native.
<i>Betula pendula</i>	Silver Birch	A few scattered examples on dry banks.
<i>Alnus glutinosa</i>	Alder	A few fine trees near Coppermill (within the reservoirs area) and isolated examples near the Marina and Horseshoe Bridge.
<i>Populus x canadensis</i>	Black Italian Poplar	A fine planted row by Leyton Marsh.
<i>Salix fragilis</i>	Crack Willow	Very fine ancient group by Marina.
<i>Salix purpurea</i>	Purple Osier	Very interesting small colony by Coppermill railway bridge and in Stream.
<i>Salix viminalis</i>	Common Osier	Two shrubs near the Marina.
<i>Salix caprea</i>	Pussy Willow	Numerous shrubs near the Marina.
<i>Salix caprea x viminalis</i>	Hybrid Sallow	Two shrubs near the Marina.
<i>Salix caprea x atrocinerea</i>	Hybrid Sallow	One superb example only near the Marina.
<i>Salix atrocinerea</i>	Common Sallow	Common near the Marina. Variable.
<i>Salix atrocinerea x viminalis</i>	Hybrid Sallow	One shrub near the Marina. Recorded at Lea Bridge Road 100 years ago, and of particular interest.
<i>Salix calodendron</i>		This triple hybrid, <i>Salix viminalis x caprea x atrocinerea</i> , is now represented only by a single surviving tree between the Marina and Coppermill railway bridge and is in urgent need of protection. It is known only in one or two other localities in the London area. The main stock of this species was destroyed by building in 1972.
<i>Lysimachia vulgaris</i>	Yellow Loosestrife	Very rare in North Marsh, not seen recently.
<i>Lysimachia punctata</i>	Dotted Loosestrife	Very rare alien, perhaps gone.
<i>Anagallis arvensis</i>	Red Pimpernel	Occasional on disturbed ground,
<i>Buddleja davidii</i>	Buddleia	Very occasional seedlings in area.
<i>Fraxinus excelsior</i>	Ash	One or two on railway banks only.
<i>Ligustrum ovalifolium</i>	Japanese Privet	One or two planted relics in area.
<i>Symphytum officinale</i>	Common Comfrey	Rather scarce. White flowers. On original sedge swamp.
<i>Symphytum x uplandicum</i>	Russian Comfrey (hybrid)	Abundant. Purple-blue flowers. On recently disturbed ground.
<i>Myosotis scorpioides</i>	Water Forget-me-not	Local near Coppermill only.
<i>Convolvulus arvensis</i>	Field Bindweed	Common on dry grassy banks.
<i>Calystegia sepium</i>	Hedge Bindweed	Common in tall marshy vegetation.
<i>Calystegia silvatica</i>	Greater Bindweed	Common on dry banks.
<i>Calystegia silvatica x sepium</i>	Hybrid Bindweed	Fairly common.
<i>Lycium barbarum</i>	Duke of Argyll	Established on Coppermill railway bank.
<i>Atropa belladonna</i>	Deadly Nightshade	To be looked for. Frequent near by.
<i>Solanum dulcamara</i>	Woody Nightshade	Frequent in marshy vegetation.

Flora

Scientific name	English name	Status at Walthamstow
<i>Antirrhinum majus</i>	Snapdragon	Casual on disturbed ground.
<i>Linaria vulgaris</i>	Yellow Toadflax	Common. Grassland and railway banks.
<i>Linaria purpurea</i>	Purple Toadflax	Occasional casual. Attractive.
<i>Chaenorbinum minus</i>	Small Toadflax	Coppermill. Abundant by railway.
<i>Mimulus guttatus</i>	Monkey Flower	Recently found by Marina.
<i>Scrophularia aquatica</i>	Water Figwort	Occasional in marshland.
<i>Veronica persica</i>	Buxbaum's Speedwell	Occasional on disturbed ground.
<i>Veronica arvensis</i>	Wall Speedwell	Occasional in short turf.
<i>Veronicahederifolia</i>	Ivy-leaved Speedwell	Occasional on loose soil.
<i>Veronica catenata</i>	Pink Water Speedwell	Very notable for this area. Scarce.
<i>Veronica beccabunga</i>	Brooklime	Rare in marsh by Coppermill Stream only.
<i>Mentha spicata</i>	Spearmint	Rarely established in rough grassland.
<i>Mentha aquatica</i>	Water Mint	Fairly plentiful. Coppermill etc.
<i>Mentha alopecuroides</i>	Greater Apple Mint	An occasional introduction.
<i>Mentha longifolia</i>	Horse Mint	As above.
<i>Lycopus europaeus</i>	Gipsywort	Quite common in marsh vegetation.
<i>Stachys palustris</i>	Marsh Woundwort	Rather scarce in marsh vegetation.
<i>Ballota nigra</i>	Black Horehound	Frequent. White-flowered form by River Lea north of Springfield Park.
<i>Lamium purpureum</i>	Red Dead Nettle	Very common in Spring.
<i>Lamium album</i>	White Dead Nettle	Very common.
<i>Lamium amplexicaule</i>	Henbit	Scarce on disturbed ground.
<i>Galeopsis bifida</i>	Hemp Nettle	Scarce in grass near Coppermill.
<i>Scutellaria galericulata</i>	Skullcap	Scarce by Coppermill Stream.
<i>Plantago major</i>	Greater Plantain	Common.
<i>Plantago lanceolata</i>	Ribwort Plantain	Common.
<i>Galium mollugo</i>	White Bedstraw	Very scarce on railway banks.
<i>Galium erectum</i>	Upright Bedstraw	A reservoir speciality. Here too?
<i>Galium verum</i>	Lady's Bedstraw	A single patch known for 15 years.
<i>Galium aparine</i>	Goosegrass	Common.
<i>Galium palustre</i>	Marsh Bedstraw	Interesting marsh relic, scarce in two spots.
<i>Sambucus nigra</i>	Elder	Common on dry banks.
<i>Dipsacus fullonum</i>	Teasel	One or two patches of this very spectacular plant in the North Marsh area among Sallows.
<i>Helianthus annuus</i>	Sunflower	Rare casual on disturbed ground.
<i>Helianthus decapetalus</i>	Narrow-leaved Sunflower	Established in the past, perhaps gone.
<i>Helianthus rigidus</i>	Prairie Sunflower	One or two established patches
<i>Helianthus tuberosus</i>	Jersusalem Artichoke	A large patch by River Lea, usually cut back.
<i>Rudbeckia speciosa</i>	Cone Flower	Rare casual, garden escape.
<i>Helenium autumnale</i>		As above.

Scientific name	English name	Status at Walthamstow
<i>Bidens tripartita</i>	Bur Marigold	Common on muddier ground and in sedge swamp.
<i>Galinsoga ciliata</i>	Shaggy Soldier	Rare casual on disturbed ground.
<i>Galinsoga parviflora</i>	Gallant Soldier	As above.
<i>Senecio vulgaris</i>	Groundsel	Common weed of disturbed ground.
<i>Senecio jacobaea</i>	Common Ragwort	Common in tall grassland.
<i>Senecio viscosus</i>	Sticky Groundsel	Occasional on railway ballast.
<i>Senecio squalidus</i>	Oxford Ragwort	Very common on bare and stony ground.
<i>Tussilago farfara</i>	Coltsfoot	Common on grassy verges.
<i>Pulicaria dysenterica</i>	Yellow Fleabane	Frequent on damper ground.
<i>Solidago canadensis</i>	Garden Golden Rod	Established here and there.
<i>Aster x lanceolatus</i>	Michaelmas Daisy	Well established in grassland with hybrids.
<i>Aster x novi-belgii</i>	Michaelmas Daisy	Well established in grassland with hybrids.
<i>Aster x salignus</i>	Michaelmas Daisy	Well established in grassland with hybrids.
<i>Conyza canadensis</i>	Canadian Fleabane	A frequent weed of disturbed ground.
<i>Bellis perennis</i>	Daisy	Quite common in short grass.
<i>Eupatorium cannabinum</i>	Hemp Agrimony	Scarce in marsh vegetation near Coppermill.
<i>Achillea millefolium</i>	Yarrow	Common in grass. Interesting colour forms.
<i>Achillea ptarmica</i>	Sneezewort	One large plant only from 1962 to 1980.
<i>Tripleurospermum maritimum</i>	Scentless Mayweed	Common.
<i>Matricaria recutita</i>	Scented Mayweed	Quite common with the above.
<i>Matricaria matricarioides</i>	Pineappleweed	Very common on all trodden pathways.
<i>Chrysanthemum leucanthemum</i>	Ox-eye Daisy	Local on railway banks.
<i>Chrysanthemum maximum</i>	Shasta Daisy	Formerly occurred as garden escape.
<i>Chrysanthemum vulgare</i>	Tansy	Rather common in tall marsh vegetation.
<i>Artemisia vulgaris</i>	Mugwort	Common.
<i>Artemisia absinthium</i>	Wormwood	Very rare.
<i>Artemisia verlotiorum</i>	Chinese Wormwood	Very local.
<i>Arctium minus</i>	Lesser Burdock	Common.
<i>Arctium lappa</i>	Greater Burdock	Scarce.
<i>Cirsium vulgare</i>	Spear Plume Thistle	Fairly common.
<i>Cirsium arvense</i>	Creeping Thistle	Abundant. A white-flowered form persists.
<i>Silybum marianum</i>	Milk Thistle	Casual in 1972.
<i>Carduus acanthoides</i>	Wetted Thistle	Uncertain occurrence. Grows by reservoirs.
<i>Centaurea nigra</i>	Black Knapweed	Locally common and variable in grass.
<i>Centaurea cyanus</i>	Cornflower	Casual in 1961 (garden escape).
<i>Lapsana communis</i>	Nipplewort	Quite common in dry localities.
<i>Hypochaeris radicata</i>	Cat's Ear	Common in drier and shorter turf.
<i>Leontodon autumnalis</i>	Autumn Hawkbit	Occasionally frequent in places.
<i>Picris hieracioides</i>	Hawkweed Ox-tongue	Occasional.
<i>Picris echioides</i>	Bristly Ox-tongue	Occasional.

Flora

Scientific name	English name	Status at Walthamstow
<i>Tragopogon minor</i>	Goat's Beard	Fairly frequent.
<i>Tragopogon pratensis</i>	Goat's Beard	A larger form very rare near Lea Bridge.
<i>Lactuca serriola</i>	Prickly Lettuce	Very common in rough pasture.
<i>Sonchus arvensis</i>	Corn Sowthistle	Occasional in marshy places.
<i>Sonchus asper</i>	Prickly Sowthistle	Occasional on disturbed ground.
<i>Sonchus oleraceus</i>	Common Sowthistle	As above.
<i>Hieracium perpropinquum</i>	Leafy Hawkweed	Local on grassy banks.
<i>Hieracium pilosella</i>	Mouse-ear Hawkweed	As above.
<i>Crepis vesicaria</i>	Beaked Hawksbeard	Fairly common.
<i>Crepis capillaris</i>	Smooth Hawksbeard	Fairly common.
<i>Taraxacum officinale</i>	Dandelion	Common. Probably about 8 to 10 different species of Dandelion in this locality. They require very specialist attention.
<i>Sagittaria sagittifolia</i>	Arrowhead	Not on Marsh. By Springfield Park only.
<i>Alisma plantago-aquatica</i>	Water Plantain	Scarce by Coppermill Stream.
<i>Alisma lanceolatum</i>	Narrow Water Plantain	Formerly in bomb crater pond, now extinct.
<i>Butomus umbellatus</i>	Flowering Rush	Probably now extinct in bomb crater pond.
<i>Elodea canadensis</i>	Canadian Waterweed	Quite common near Coppermill.
<i>Potamogeton pectinatus</i>	Fennel Pondweed	Locally plentiful in River Lea and Coppermill Stream.
<i>Potamogeton crispus</i>	Frog's Lettuce	With above at Coppermill.
<i>Asparagus officinalis</i>	Asparagus	Occasional in South Marsh. Established alien.
<i>Juncus inflexus</i>	Hard Rush	Surprisingly uncommon for this area.
<i>Juncus effusus</i>	Soft Rush	As above. A few clumps only.
<i>Juncus bufonius</i>	Toad Rush	Plentiful by one railway bridge.
<i>Juncus articulatus</i>	Jointed Rush	By bomb crater pond only, perhaps surviving.
<i>Iris germanica</i>	Bearded Iris	An occasional garden escape.
<i>Iris pseudacorus</i>	Yellow Flag	Plentiful at Coppermill, rare elsewhere.
<i>Acorus calamus</i>	Sweet Flag	Very notable plant for this area. Local but sometimes plentiful and flowering.
<i>Endymion hispanicus</i>	Spanish Bluebell	Rare casual, garden escape.
<i>Lemna minor</i>	Common Duckweed	Common or abundant in Coppermill Stream.
<i>Lemna gibba</i>	Fat Duckweed	As above and growing with it.
<i>Lemna trisulca</i>	Ivy-leaved Duckweed	Usually common with the last two.
<i>Lemna polyrrhiza</i>	Great Duckweed	Scarce in River Lea. Extinct in [sic].
<i>Sparganium erectum</i>	Branched Bur-Reed	Scarce in Coppermill Stream.
<i>Sparganium emersum</i>	Unbranched Bur-Reed	Scarce in River Lea, never flowering.
<i>Typha latifolia</i>	Reed Mace	Fine stands near Marina.
<i>Typha angustifolia</i>	Lesser Reed Mace	Decreasing stand at Coppermill. To preserve.

Carex

The sedge communities of Walthamstow Marshes were made the object of specialised study in 1980 and are now considered our finest evidence of ancient water meadow habitat. *Carex vesicaria*, *spicata*, *oralis*, *nigra* and *pseudocyperus* have not been re-found so far, but the most abundant sedges, previously recorded under *C. acutiformis*, are now known to be a co-dominant mixture of the similar *C. acuta* and *C. x subgracilis*. Critical examination in May/June is essential to identify these plants correctly. Our sedge records are now revised as follows:

Scientific name	English name	Status at Walthamstow
<i>Carex riparia</i>	Great Pond Sedge	A little in Coppermill Stream and a patch in a relict ditch in the Triangle.
<i>Carex acutiformis</i>	Lesser Pond Sedge	Plentiful as a waterside plant by Coppermill Stream. Abundant in the reservoirs.
<i>Carex acuta</i>	Graceful Sedge	Newly recognised as abundant and very fine in relatively undisturbed pasture throughout.
<i>Carex x subgracilis</i>	Hybrid Sedge	A cross between <i>C. acuta</i> and <i>acutiformis</i> , largely or totally sterile, intermediate in appearance and distributed throughout the range and habitat of <i>C. acuta</i> , in large quantity. This most remarkable plant is confirmed by Dr Stace of Leicester University (the British authority on wild hybrids) and also by the British Museum. If it can be shown that the entire Walthamstow Marshes population is one clone, (i.e. the vegetatively distributed offspring of a single historical cross-fertilisation) then we shall have living proof of a habitat of very exceptional antiquity.
<i>Carex hirta</i>	Hairy or Hammer Sedge	Very common in drier grassland.
<i>Carex disticha</i>	Brown Sedge	Found to be very common in both North and South Marsh on moderately damp ground.
<i>Carex otrubae</i>	False Fox Sedge	Several tufts only by drainage channel in Triangle.
<i>Phragmites communis</i>	Common Reed	Several fine stands, usually dominant.
<i>Glyceria maxima</i>	Great Water Grass	Abundant as tall pasture.
<i>Glyceria fluitans</i>	Sweet Grass	Local in ditch.
<i>Festuca pratensis</i>	Meadow Fescue	Common. Probably hybridises with next.
<i>Festuca arundinacea</i>	Tall Fescue	Common and variable.
<i>Festuca rubra</i>	Red Fescue	Common and very variable.
<i>Festuca tenuifolia</i>	Fine-leaved Sheep's Fescue	Scarce on dry railway banks.
<i>Festuca ovina</i>	Sheep's Fescue	Yet to be confirmed from this area.
<i>Lolium perenne</i>	Perennial Rye Grass	Very common. Hybridises with next.
<i>Lolium multiflorum</i>	Italian Rye Grass	Occasional on disturbed ground.
<i>Festuca pratensis x Lolium perenne</i>		Occasionally occurs and is distinctive.
<i>Poa annua</i>	Annual Meadow Grass	Very common especially on bare paths.
<i>Poa trivialis</i>	Rough Meadow Grass	Common.
<i>Poa pratensis</i>	Smooth Meadow Grass	Common and variable.
<i>Catabrosa aquatica</i>	Water Whorl Grass	Most interesting species. Sporadic.
<i>Dactylis glomerata</i>	Cock's Foot	Common.
<i>Cynosurus cristatus</i>	Crested Dog's Tail	Quite common in dry grassland.

Flora

Scientific name	English name	Status at Walthamstow
<i>Zerna erecta</i>	Upright Brome	Common on railway banks.
<i>Anisantha sterilis</i>	Barren Brome	Very common, especially in Spring.
<i>Bromus mollis</i>	Soft Brome	Common on disturbed ground.
<i>Bromus mollis</i> var <i>leiostachys</i>		Is a glabrous form of uncertain status. Local.
<i>Bromus lepidus</i>	Lesser Soft Brome	By Coppermill Lane; small, interesting colony discovered in 1975. Still there.
<i>Agropyron repens</i>	Couch Grass	Abundant.
<i>Agropyron repens</i> var <i>aristatum</i>		Couch Grass Common with the type.
<i>Triticum aestivum</i>	Bread Wheat	Casual.
<i>Hordeum distichon</i>	Two Row Barley	Casual.
<i>Hordeum vulgare</i>	Common Barley	Casual.
<i>Hordeum murinum</i>	Wall Barley	Common.
<i>Hordeum secalinum</i>	Meadow Barley	Locally plentiful in dry grassland.
<i>Trisetum flavescens</i>	Yellow Oat	Local in short dry grassland.
<i>Avena fatua</i>	Wild Oat	Local in short dry grassland.
<i>Avena sativa</i>	Oat	Casual.
<i>Arrhenatherum elatius</i>	False Oat	Very common, including bulbous forms.
<i>Deschampsia caespitosa</i>	Tufted Hair Grass	An anciently established native of wet clay meadows, rather scarce on North and South Marshes, but very fine in Triangle.
<i>Agrostis tenuis</i>	Fine Bent Grass	Very common in dry grassland.
<i>Agrostis stolonifera</i>	Creeping Bent Grass or Fiorin	Very common on damper ground.
<i>Agrostis stolonifera</i> x <i>tenuis</i>	Hybrid Bent	Probably common.
<i>Agrostis gigantea</i>	Black Bent	Occasional on disturbed ground.
<i>Agrostis castellana</i> and hybrids		Highland Bent Probably common. Difficult to name.
<i>Agrostis canina</i>	Brown Bent	Yet to be confirmed from here.
<i>Holcus lanatus</i>	Yorkshire Fog	Common.
<i>Phleum pratense</i>	Timothy	Common.
<i>Phleum nodosum</i>	Cat's Tail	Scarce. Merges into the last.
<i>Alopecurus geniculatus</i>	Marsh Foxtail	Local.
<i>Alopecurus pratensis</i>	Meadow Foxtail	Frequent, especially on South Marsh.
<i>Alopecurus myosuroides</i>	Slender Foxtail	Local on disturbed ground.
<i>Secale cereale</i>	Rye	Casual.
<i>Phalaris arundinacea</i>	Reed Grass	An abundant marsh and pasture grass.
<i>Phalaris canariensis</i>	Canary Grass	Casual.
<i>Panicum miliaceum</i>	Millet	Casual.
<i>Galium palustre</i>	Marsh Bedstraw	Most interesting marsh relic. Very scarce, in two places only.
<i>Galium aparine</i>	Goosegrass	Very common.

Mosses

Approximately ten species of moss occur in this area. Seven have been named, including:

Byrum argentium

Tortula muralis

Grimmia pulvinata

Ceratodon purpureus

Funaria hygrometrica

Liverworts and stoneworts appear to be extinct. The lichen *Leconora conaizeoides* is frequent. Species of Enteromorpha and Blanket Weed Algae are common, and these, like numerous fungi species, require specialist identification.

Brian Wurzell.

BIRD WATCHING ON WALTHAMSTOW MARSH

For the bird watcher the changing seasons always provide a unique feeling, seeing and hearing birds that have travelled great distances on migration, and return periodically year after year to Winter or to Summer. On hearing the first willow warbler and meeting the first swallow in Spring is like meeting an old friend who has returned home.

The Walthamstow Marshes are no exception. And I will never cease to be amazed at watching sedge warblers and reed warblers chattering and grating their song from the tips of reeds with a London pub in the background. When I first went bird watching on Walthamstow Marshes some years ago, I was never expecting the place to have such a wealth and variety of bird life.

For example, on the last Sunday of August of this year I was out there early at 7 am. By the time I returned home a few hours later I had spotted and counted 45 different species on and around the Marshes. On the reservoirs there was the greenshank, an oystercatcher, a dunlin (and I was able to creep within 10 yards of it) and overhead flew some four species of gulls. On the field beside the Marshes I came across a flock of Canada geese grazing; and closer examination with binoculars revealed one feral greylag goose among them. The sallows on the Marshes were teeming with life. Every branch held chattering birds. I counted over a hundred and fifty goldfinches! A willow warbler was in full song, an unusual occurrence for late August. The blue tits were busily coming into song again. I also saw a spotted flycatcher. And all this time sand martins and swallows were flying and darting over the Marshes and reservoirs.

Sadly the redpolls, which built their nest too close to the path, where it runs between the sallows, not only lost their eggs, but their nests as well. I have not seen them return for two years. However, the redpoll's close relative, the linnet, continues to return every Summer, and a few may be seen during the Winter.

Spring time will provide several terns passing through, and a good variety of wading species, such as the common sandpiper, the little ringed plover, the lapwing, the greenshank and the dunlin. If one is very lucky, the unexpected bird may appear, perhaps an avocet, a wheatear or another unusual passing migrant. Winter can provide very good birdwatching, with the reservoirs attracting wildfowl in large numbers. However, I shall never forget that unforgettable day in January, when I watched a kingfisher and a robin face to face on a stone wall beside the Marshes, utterly surprised at each other's bright appearance. They glared at each other, but soon departed in opposite directions. Skylarks, redwings, fieldfares, meadow pipits and tree sparrows are but a few of the birds one can see on a cold Winter's morning over the Marshes looking for food.

A good 40 species of wild birds can be seen on the Marshes on any average day. The habitat has such variety; the large group of sallows growing on the piles of earth heaped there when the marina was dug out some seven years back; the river which runs along the edge of the Marshes; the great variety of wild flowers from comfrey to meadowsweet to vetch to thistle to dock to wild hops – a long list; the great areas of sedge, which bow so gracefully in the wind; the grasses and the tall reeds. They attract so many different types of bird, for breeding, for feeding or for roosting.

How exciting to preserve this facility, so close to the centre of London, and what an ideal opportunity for education, to be found on our doorstep! In the event that the Lee Valley Park Authority were to realise the great naturalist value of the Marshes, and resolve to preserve it, and not to destroy it, steps could be taken to make use of the great educational potentials of the Marshes. Without overburdening the Marshes or cluttering them up, hides could be constructed in select spots for bird watching. Paths to them could be made, which would make the hides available to even crippled and handicapped people, who get profound enjoyment from birdwatching. The Authority, in conjunction with the two neighbouring educational committees could develop this activity for local schoolchildren, although such management of the Marshes must not entail the loss of any part of it as open land for the public. The Marshes are also more than big enough to have shallow pools or scrapes made in them, which would attract additional species of birds, especially waders. Again, there is scope for some planting of trees and shrubs, which would not only increase the variety of birds attracted to the Marshes, but would add to the beauty of its appearance.

Every birdwatcher has a rich store of unforgettable experiences. One of mine, with which I conclude this little piece, is of the sedge warblers of Walthamstow Marshes in late September. These birds are only

110mm (4.5in) in size. Normally they are as quick and speedy as shafts of light, flitting among the reeds. But not in late September. In the Summer months they eat and eat to build up a large store of fat. They are then heavy, roughly double their weight. The reeds of the Marshes bent beneath them, before they flew off, as from all parts of the country, on their long, non-stop migration to the Sahara, and then beyond to the marshlands of tropical Africa.

BIRD SPECIES LIST FOR WALTHAMSTOW MARSHES

The list is made of observations during the years 1974-1979, and accepted as records by the British Bird Committee, of Walthamstow Marshes and Reservoirs. The sequence is that of Voous (now widely adopted), progressing from the least to the most advanced species of bird. Their status as applied to the given area is shown as follows:

- BM: where breeding has been confirmed on the marsh.
 M: where a bird has been seen on the marsh, but has not had breeding confirmed, e.g. a Winter visitor or passage migrant.
 (M): where the particular bird has been seen flying over the marsh (usually to the adjacent reservoirs).
 R: where the particular bird has been seen only on the reservoirs.

R	Red-throated Diver <i>Gavia stellata</i>
R	Black-throated Diver <i>Gavia arctica</i>
R	Great Northern Diver <i>Gavia immer</i>
BM	Little Grebe <i>Tachybaptus ruficollis</i>
M	Great Crested Grebe <i>Podiceps cristatus</i>
R	Red-necked Grebe <i>Podiceps grisegena</i>
(M)	Cormorant <i>Phalacrocorax carbo</i>
R	Shag <i>Phalacrocorax aristotelis</i>
M	Bittern <i>Botaurus stellaris</i>
M	Grey Heron <i>Ardea cinerea</i>
R	White Stork <i>Ciconia ciconia</i>
M	Mute Swan <i>Cygnus olor</i>
R	Greylag Goose <i>Anser anser</i>
M	Canada Goose <i>Branta canadensis</i>
R	Barnacle Goose <i>Branta leucopsis</i>
R	Shelduck <i>Tadorna tadorna</i>
R	Ruddy Shelduck <i>Tadorna ferruginea</i>
R	Wigeon <i>Anas penelope</i>
R	Gadwall <i>Anas strepera</i>
M	Teal <i>Anas crecca</i>
BM	Mallard <i>Anas platyrhynchos</i>
R	Pintail <i>Anas acuta</i>
R	Garganey <i>Anas querquedula</i>
M	Shoveler <i>Anas chrypeata</i>
R	Red-crested Pochard <i>Netta rufina</i>
M	Pochard <i>Aythya ferina</i>
(M)	Tufted Duck <i>Aythya fuligula</i>
R	Scaup <i>Aythya marila</i>
R	Common Scoter <i>Melanitta nigra</i>
R	Velvet Scoter <i>Melanitta fusca</i>
R	Goldeneye <i>Bucephala clangula</i>
R	Smew <i>Mergus albellus</i>

Birds

R	Red-breasted Merganser	<i>Mergus serrator</i>
R	Goosander	<i>Mergus merganser</i>
R	Ruddy Duck	<i>Oxyura jamaicensis</i>
R	Osprey	<i>Pandion haliaetus</i>
BM	Kestrel	<i>Falco tinnunculus</i>
M	Grey Partridge	<i>Perdix perdix</i>
M	Pheasant	<i>Phasianus colchicus</i>
BM	Moorhen	<i>Gallinula chloropus</i>
M	Coot	<i>Fulica atra</i>
M	Avocet	<i>Recurvirostra avosetta</i>
R	Little Ringed Plover	<i>Charadrius dubius</i>
R	Ringed Plover	<i>Charadrius hiaticula</i>
(M)	Lapwing	<i>Vanellus vanellus</i>
R	Pectoral Sandpiper	<i>Calidris melanotos</i>
R	Dunlin	<i>Calidris alpina</i>
R	Ruff	<i>Philomachus pugnax</i>
M	Snipe	<i>Gallinago gallinago</i>
R	Whimbrel	<i>Numenius phaeopus</i>
M	Curlew	<i>Numenius arquata</i>
M	Redshank	<i>Tringa totanus</i>
M	Greenshank	<i>Tringa nebularia</i>
R	Green Sandpiper	<i>Tringa ochropus</i>
R	Common Sandpiper	<i>Actitis hypoleucos</i>
R	Pomarine Skua	<i>Stercorarius pomarinus</i>
R	Little Gull	<i>Larus minutus</i>
M	Black-headed Gull	<i>Larus ridibundus</i>
R	Common Gull	<i>Larus canus</i>
(M)	Lesser Black-backed Gull	<i>Larus fuscus</i>
(M)	Herring Gull	<i>Larus argentatus</i>
R	Glaucous Gull	<i>Larus hyperboreus</i>
(M)	Great Black-backed Gull	<i>Larus marinus</i>
R	Scandinavian Black-backed Gull	
(M)	Common Tern	<i>Sterna hirundo</i>
R	Arctic Tern	<i>Sterna paradisaea</i>
R	Little Auk	<i>Alle alle</i>
M	Woodpigeon	<i>Columba palumbus</i>
BM	Cuckoo	<i>Cuculus canorus</i>
M	Tawny Owl	<i>Strix aluco</i>
M	Long-eared Owl	<i>Asio otus</i>
M	Short-eared Owl	<i>Asio flammens</i>
M	Swift	<i>Apus apus</i>
M	Kingfisher	<i>Alcedo atthis</i>
M	Great Spotted Woodpecker	<i>Dendrocopos major</i>
BM	Skylark	<i>Alda arvensis</i>
BM	Sand Martin	<i>Riparia riparia</i>
BM	Swallow	<i>Hirundo rustica</i>
M	House Martin	<i>Delichon urbica</i>
M	Meadow Pipit	<i>Anthus pratensis</i>
R	Water Pipit	<i>Anthus spinoletta</i>
BM	Yellow Wagtail	<i>Motacilla flava</i>
R	Blue-Headed Wagtail	<i>Motacilla flava flava</i>
M	Grey Wagtail	<i>Motacilla cinerea</i>
BM	Pied Wagtail	<i>Motacilla alba</i>

M	White Wagtail	<i>Motacilla alba alba</i>
R	Sykes Wagtail	
BM	Wren	<i>Troglodytes troglodytes</i>
BM	Dunnock	<i>Prunella modularis</i>
BM	Robin	<i>Erithacus rubecula</i>
R	Black Redstart	<i>Phoenicurus obrueros</i>
BM	Stonechat	<i>Saxicola torquata</i>
M	Wheatear	<i>Oenanthe oenanthe</i>
BM	Blackbird	<i>Turdus merula</i>
M	Fieldfare	<i>Turdus pilaris</i>
BM	Song Thrush	<i>Turdus philomelos</i>
M	Redwing	<i>Turdus iliacus</i>
M	Mistle Thrush	<i>Turdus viscivorus</i>
M	Cettis Warbler	<i>Cettia cetti</i>
M	Grasshopper Warbler	<i>Locustella naevia</i>
BM	Sedge Warbler	<i>Acrocephalus schoenobaenus</i>
BM	Reed Warbler	<i>Acrocephalus scirpaceus</i>
M	Lesser Whitethroat	<i>Sylvia curruca</i>
BM	Whitethroat	<i>Sylvia communis</i>
M	Garden Warbler	<i>Sylvia borin</i>
M	Blackcap	<i>Sylvia atricapilla</i>
M	Chiffchaff	<i>Phylloscopus collybita</i>
BM	Willow Warbler	<i>Phylloscopus trochilus</i>
BM	Spotted Flycatcher	<i>Muscicapa striata</i>
M	Bearded Tit	<i>Panurus biarmicus</i>
M	Coal Tit	<i>Parus ater</i>
BM	Blue Tit	<i>Parus caeruleus</i>
M	Great Tit	<i>Parus major</i>
M	Magpie	<i>Pica pica</i>
M	Rook	<i>Corvus frugilegus</i>
M	Carrion Crow	<i>Corvus corone</i>
M	Starling	<i>Sturnus vulgaris</i>
M	House Sparrow	<i>Passer domesticus</i>
M	Tree Sparrow	<i>Passer montanus</i>
M	Chaffinch	<i>Fringilla coelebs</i>
R	Brambling	<i>Fringilla montifringilla</i>
BM	Greenfinch	<i>Carduelis chloris</i>
BM	Goldfinch	<i>Carduelis carduelis</i>
BM	Linnet	<i>Carduelis cannabina</i>
BM	Redpoll	<i>Carduelis flammea</i>
M	Bullfinch	<i>Pyrrhula pyrrhula</i>
M	Yellowhammer	<i>Emberiza citrinella</i>
BM	Reed Bunting	<i>Emberiza schoeniclus</i>

THE INSECTS ON WALTHAMSTOW MARSHES

The most successful group of creatures in the world is insects. It is not surprising therefore to discover something in excess of 800 different species living, feeding and breeding on the Marshes.

One of the most outstanding discoveries has been the naming of 17 plus butterflies breeding year after year on Walthamstow Marshes. The webs of the Small Tortoiseshell caterpillar can be seen in the early Spring on even the smallest clump of nettle. Nettle also supports butterflies like the beautiful Peacock, with its staring eye spot on each wing and a rich, deep red ground colour.

The Marshes are also an important breeding ground for the Essex Skipper who, in spite of loss of habitat in other locations, is on the increase at Walthamstow. Even the lowly Small White flits erratically across the plants like a fairy messenger. On every ear and stalk of grass, on every Dock or Common Mallow, each Ragwort and Bulrush, lives one kind of insect or another.

The Roesel's Bush Cricket is another success story. Two years ago there was a small colony of about 30 individuals on the very edge of Walthamstow Marshes and nowhere else for miles but at the beginning of August 1979 I heard, then spotted, three males and one female, separately and a mating pair, close to the footpath by the copse of Sallow on Walthamstow. The Roesel's Bush Cricket is quite restricted in this country, mainly to southern Kent, north and central Norfolk, southern Hampshire and the Isle of Wight. The Roesel's song is truly beautiful, second only to one or two other species of cricket or grasshopper.

The great pirate of the insect world must be the Emperor Dragonfly, hovering and darting along the Lea and Coppermill stream like a small helicopter. It has been likened to the Red Baron of insects, as it feeds on the wing. I have also noted at least five damselflies along the Coppermill backwater. These have to stay quite close to water as they are not as strong flyers as their larger cousins and, like dragonflies, are aquatic in their larval stage.

Coppermill stream is also the home of many water bugs and beetles: Pondskaters and Backswimmers, Lesser Diving Beetles and Whirlygig Beetles thrive there. I have noted 11 different Hoverflies on the Marshes; with their beautiful black and yellow bodies, they are perfect mimics of wasps and bees. When you get a chance, watch them while they hover; their wings beating at about a thousand times a second are just a blur, as the fly remains perfectly still in mid air. Along with the rest of the True Flies (those with two wings) they are nature's refuse men, breaking down decaying organic matter as larvae, once any juices have been removed by the adult.

Without a doubt, the largest number of individuals in one group, is Hymenoptera, which consists of Wasps, Bees and Ants. I have discovered 54 underground Bees' nests on the Marshes but have no fear for these are well away from paths and are quite hard to find, for bees are basically shy and reserved creatures, as are Ants, whose nests on the Marshes are quite big; the largest I have seen was spread over several square feet. As for Wasps, I have noted 23 different species; mostly these have been Solitary Wasps and Ichneumons; only three were hive builders. During high Summer I would estimate the total bee and wasp population outnumber the population of Hackney three to one.

I have even sighted Honey Bees, both wild and domesticated. The wild bees, although the same species as the domestic variety are slightly smaller. This must be due to the hit and miss factor of obtaining nectar from the same plant type, along with surviving with no home made for them by man.

There exists a rather silly insect, the Soldier Beetle. These are so funny for although they hate being handled, it takes several seconds for them to realise they are not on their foodplant. There are hundreds of these beetles comically falling around. They remind me of an inexperienced tightrope walker, as they do tend to fall off their plants.

I have noted only 17 different Beetles; I'm sure this low number is due to the fact that most beetles are nocturnal.

This brings me to my greatest love in the insect world. Many people think that moths 'just eat your carpets and woolly jumpers', but these nocturnal arial ballet dancers are second only to bees in the pollination of flowering plants. Moths come in all shapes and sizes, from the 75mm (3in) wing span of the beautiful Eyed Hawk Moth with its black and orangey red eyespots on its hind wing, to the smallest

pyralid that is drab brown with a wingspan of a 6mm (0.25in). In between, there exists for me the most fascinating and exciting group of insects. Any enterprising lunatic, who dares tread the Marshes at night, with a white sheet and hurricane lamp, can expect to get a visit from somewhere in the region of 20 different species. I have recorded 42 species in one night with just such equipment set up in the middle of Walthamstow Marshes. I have also baited moths with a mixture of treacle, sugar and a nip of rum. The moths do tend to get a bit drunk, but it is then, when they are perfectly still, you can study their shape, size and colour properly.

The Walthamstow Marshes are my hunting ground, my insect laboratory, not to kill and pin them out for display, but to share their lives and to learn from them. To have this extraordinary piece of wild but very inhabited countryside, just ten minutes walk from my house, has increased my knowledge of insects a thousand fold.

My love for nature, due almost entirely to the Marshes, has affected me so much that I am now planning to make Entomology, the study of insects, my future profession. Love of nature can only make someone more beautiful as a person, and a real possession is a thing to be valued.

LET US PRESERVE OUR COUNTRYSIDE!

Harry Britton.

CHECKLIST OF INSECTS ON WALTHAMSTOW MARSHES

This insect checklist is by no means complete, but it will give both the casual observer and the dedicated naturalist a starting point on Walthamstow Marshes in Entomology.

I. Hemiptera: The True Bugs.

Land bug	<i>Chrosoma schillingi</i>
Marsh damsel bug	<i>Nabicula limbata</i> (<i>Dolichonabis limbatus</i>)
Spurge bug	<i>Dicranocephalus medius</i>
Leaf bug	<i>Amblytylus nasutus</i>
Leaf bug	<i>Psallus varians</i>
Leaf bug	<i>Halticus apterus</i>
Back swimmer	<i>Notonecta glauca</i>
Common pond skater	<i>Gerris lacustris</i>
Water scorpion	<i>Nepa cinerea</i>
Plant hopper	<i>Philaenus spumarius</i>
Plant hopper	<i>Macropsis scutellata</i>
Plant hopper	<i>Thamnotettix confinis</i>
Parent bug	<i>Elasmucha grisea</i>
Pied shield bug	<i>Sebirus bicolor</i>

Scientific names followed by an asterisk (*) are queries, being the nearest equivalent I could find in the taxon dictionaries of Recorder 2002.

Mike Trier, 2007

II. Odonata: Dragonflies and Damselflies.

Emperor dragonfly	<i>Anax imperator</i>
Brown hawk	<i>Aeshna grandis</i>
Common blue damselfly	<i>Enallagma cyathigerum</i>
Blue-tailed damselfly	<i>Ischnura elegans</i>
Azure damselfly	<i>Coenagrion puella</i>

III. Coleoptera: Beetles.

Two-spot ladybird	<i>Adalia bipunctata</i>
Seven-spot ladybird	<i>Coccinella septempunctata</i>
22-spot ladybird	<i>Theu vigintiduopunctata</i>
Soldier beetle	<i>Rhagonycha fulva</i>
Mealworm beetle	<i>Tenebrio molitor</i>
Mealworm beetle	<i>Oeddemera nobilis</i>
Mealworm beetle	<i>Gnaptor spininanus</i> *
Whirlygig beetle	<i>Gyrinus natator</i>
Diving beetle	<i>Dytiscus marginalis</i>
Weevil	<i>Otiorhynchus clavipes</i>
Tortoise beetle	<i>Cassida virdis</i>
Common cockchafer	<i>Melolontha melolontha</i>
Garden chafer	<i>Phyllopertha horticola</i>
Devils coachhorse	<i>Ocyopus olens</i>
Devils coachhorse	<i>Byrrhus pilula</i>
Flea beetle	<i>Phyllotreta nemorum</i>

IV. Orthoptera: Grasshoppers, Crickets and Cockroaches.

Common cockroach	<i>Blatta orientalis</i>
Roesel's bush-cricket	<i>Metrioptera roeseli</i>
Meadow grasshopper	<i>Chorthippus parallelus</i>
Mottled grasshopper	<i>Myrmeleotettix maculatus</i>

V. Dermaptera: Earwigs.*Forficula auricularia**Forficula lesnei***VI. Ephemeroptera: Mayflies.***Caenis macura**Ephemerella ignita**Leptophlebia vespertina***VII. Diptera: True Flies.**

Crane-fly

Tipula maxima

Crane-fly

Chironomus annularis

Crane-fly

Chironomus tentans *

Mosquito

Culex pipiens

Horse-fly

Tabanus bromius

Hover-fly

Syrphus ribesii

Hover-fly

Volucella inanis

Hover-fly

Volucella zonaria

Hover-fly

Sericomyia borealis

Hover-fly

Baccha elongata

Metallic fly

Sciapus platypterus

Blow-fly

Calliphora vomitoria

Blow-fly

*Protocalliphora azurea***VIII. Neuroptera: Lacewings, Alderflies and Snake Flies.**

Lacewing

Chrysopa septempunctata

Giant lacewing

Chrysopa flava *

Alderfly

*Raphidia notata***IX. Trichoptera: Caddis Flies.***Philopotamus montanus**Limnephilus lunatus**Hydropsyche ornatula**Hydroptila sparsa**Molanna angustata***X. Hymenoptera: Bees, Wasps, Ants.**

Common Wasp

Vespula vulgaris

Tree Wasp

Dolichovespula sylvestris

German Wasp

Vespula germanica

Cuckoo Wasp

Vespula austriaca

Digger Wasp

Pemphredon lugubris

Hornet

Vespa crabro

Honey Bee

Apis mellifera

Buff-tailed Bumble Bee

Bombus terrestris

Bumble Bee

Bombus pascuorum (agrorum)

Bumble Bee

Bombus lucorum

Cuckoo Bee

Psithyrus rupestris

Cuckoo Bee

Psithyrus vestalis

Ichneumon Fly

Netelea testacea *

Ichneumon Fly

Rhyssa persuasoria

Ant

Formica rufa

THE BUTTERFLIES OF WALTHAMSTOW MARSHES

The following 17 species of Butterfly all breed regularly in the area. The occasional passing Holly Blue and migrant Clouded Yellow have also been observed. 300 years ago, the Swallowtail Butterfly bred here, a species now protected in Wicken Fen and the Norfolk Broads only.

Wall Brown	Frequent in short grassland, on paths, and, in early morning sunshine, basking on railway bridge walls. Caterpillars eat grasses.
Meadow Brown	Common in tall pasture and dry grassland. Caterpillars eat grasses.
Small Heath	Common in short grassland and along paths. Caterpillars eat grasses.
Red Admiral	Occasional on Thistle and Michaelmas Daisy flowers. Caterpillars eat nettles.
Peacock	Precisely as above.
Small Tortoiseshell	As above again, but much commoner, especially in late Summer.
Painted Lady	Occasional. Caterpillars eat Thistles.
Comma	Occasional. Caterpillars eat Wild Hop.
Common Blue	Quite common in dry grassland. Caterpillars eat Clovers and Trefoils.
Small Copper	Quite common. Caterpillars eat Sheep's Sorrel only.
Large White	Common. Caterpillars in the wild eat Horse-radish, and Turnip, rather than cabbage,
Small White	Common. Caterpillars eat Turnip and Hedge Mustard.
Green-veined White	Very common. A more rural species than the last two. Same food plants.
Orange Tip	Scarce. Possibly dependant entirely on the small Jack-by-the-Hedge colony alongside the marina for the survival of its caterpillars.
Small Skipper	Quite frequent in tall grassland. Caterpillars eat Yorkshire Fog and Timothy Grasses.
Essex Skipper	This is the speciality of the area, and its main joy during midsummer, when the butterflies are numerous on Thistle, Knapweed, and other Composite flowers. Discovered in Britain only in 1890, this is basically a Continental species which occurs here on the extreme north-edge of its entire world range. It is found in East Anglia and the South-East of England only. The Walthamstow colony is strong, but very isolated, and the nearest to Central London, so is particularly worthy of preservation. Foodplant is Couch Grass in relatively dry grassland which Comfrees and Hogweeds have not too much encroached into.
Large Skipper	Quite frequent in slightly coarser vegetation than the last. Flies 3-4 weeks earlier than the other two Skippers. Foodplant Cock's-Foot Grass.

The Butterfly Habits and Seasons at Walthamstow

Granted favourable weather conditions, butterflies have been observed on the wing during every month from February to November. In early Spring, the Small Tortoiseshells awake from hibernation, followed in April by the emergence of the Whites. May is a good month for Orange Tips, with Walls, Small Coppers, and Common Blues enjoying their first generation in the shorter grassland. The Whites increase in June, with the beginning of Large Skippers and first-generation Small Tortoiseshells. July and early August provide the climax of the butterfly year, with a continuation of the above reinforced by large numbers of Meadow Browns, and Essex Skippers.

On sunny days, parts of the Marshes may swarm with these species mixtures, dramatically contradicting popular current belief that butterflies in general are on the verge of extinction in Britain! The grassland species steadily decline from mid-August onwards, and the remainder of the Autumn sees the Whites and the Vanessids alone patronising the Cruciferae and the Compositae respectively (Vanessids are Small Tortoiseshell, Red Admiral, Peacock, Comma, Painted Lady, and are our most colourful British group of butterflies).

The Vital Importance of the Walthamstow Grassland

This importance is clearly proven by the numbers of butterflies whose caterpillars are shown above to depend on it absolutely for their food. Grass-feeders are unable to eat any other plants. Moreover, these grass-feeders remain on the Marshes as adult butterflies, and they would be totally exterminated by a digging operation which destroyed those particular species of grass, for my "Notes on the Habitats" describe how disturbed ground changes the flora. By contrast, the Vanessa butterflies depend on Nettles, Thistles and Wild Hop, as shown above. In these cases, the adult butterflies do not restrict themselves to the Marshes. They are strong flyers, and they distribute themselves widely over all the surrounding areas, to beautify the Composite and Sedum flowers of our gardens and parks in midsummer.

It has to be understood that these flowers *themselves* cannot support these butterfly species; they only refresh the adults. The caterpillar foodplants are clearly species of plants which could not be allowed to occupy gardens and parks to any significant degree. Therefore the plentiful supply of them on the Marshes represents a vital foodplant reserve, which, if destroyed would see the end of nearly all the colourful butterflies throughout an extensive expanse of East London.

THE MOTHS OF WALTHAMSTOW MARSHES

Like the butterflies, the English names of the larger moths are now so well standardised in South's work, "Butterflies of the British Isles" and "Moths of the British Isles" that, for the purposes of this report, it is felt that they will entirely suffice on their own.

Lime Hawk	Occasional. Lime trees are few in this area.
Popular Hawk	Occasional. Mostly on the row of poplars (<i>Populus x canadensis</i>) on the south boundary of our area. Also on the scattered Willows.
Eyed Hawk	Occasional. Not yet observed in the recent Sallow scrub, but probably occurring there by now.
Elephant Hawk	Quite frequent, mostly observed as larvae, which are very large and impressive on Rosebay Willowherb in drier grassland, in August and early September. The apparently senseless mowing of the valuable grassland along the east side of the south field has reduced this species to a fraction of its former strength, and it is very much hoped that the grass and Rose-Bay of this patch will be allowed to grow again.
Puss Moth	Quite frequent, mostly as eggs or larvae on Sallows, Willows, and Poplars. The cocoons of this species make a remarkable educational exhibit.
Swallow Prominent	Rare on Poplars. A London speciality.
Buff-Tip	Common. Another classic educational species of self-protective gregarious larvae, which are conspicuous on (stripped) deciduous trees in midsummer. The moths themselves exhibit remarkable camouflage.
Vapourer	Common. Another educational species, whose wingless females and spectacular assembling behaviour of the males are both well known.
Yellow-Tail	Scarce.
White Satin	Local. Ancient literature gives Lea Bridge Road as a classic locality for this species, which is more of a London speciality than anywhere else in Britain. Larvae are occasionally seen on Poplars near Lea Bridge Road, and elsewhere in the area during late Spring.
Lackey	Scarce. Probably more plentiful further north in the Lea Valley.
White Ermine	Common. Larvae frequent on low plants in Autumn.
Buff Ermine	Common. Larvae with the above in Autumn.
Muslin Moth	Occasional. Larvae more often seen than the Moth.
Ruby Tiger	Occasional. Larvae of similar habits to the last.
Garden Tiger	Common. Young larvae emerge from hibernation in Spring, and feed up quickly to become "Woolly Bears" by late June/early July. They feed on most low plants. Very beautiful, brightly-coloured moths.
Cinnabar	Very common. The bright red and black moths (not to be confused with Burnets) fly lazily by day over rough grassland in June. The conspicuous black and yellow zebra-striped larvae are abundant on Common Ragwort in August, and admirably exhibit the phenomenon of "Warning Colouration" to predators.
Sycamore	A London speciality, quite common in the area.
Popular Grey	Also a London speciality. Common on Poplars and Willows.
Grey Dagger	The larvae are remarkably pretty, feeding on Lime and Hawthorn.
Dark Dagger	Rare, but the moth is exceedingly difficult to separate from the last.
Knotgrass Moth	Common. It is a frequent sight to observe the coloured larvae on low vegetation in Autumn, or to see the "foam" of parasitic wasp cocoons heaped upon their shrivelled skin remains.

Marbled Beauty	Very common in the Clapton and South Tottenham areas, which means that the Marshes must represent the only area where their larvae could effectively breed in order to support these numbers.* * This situation applies to very many, and probably to most, of the moth species encountered in the urban regions on all sides of the Walthamstow site. The urban impoverishment of these harmless and interesting and often attractive insects would be incalculable if this area's vital foodplant reserve were destroyed. Predatory birds in turn would then obviously suffer from this great loss of insect prey.
From this point on, I shall not repeat these details for each species listed. A few further species will be accompanied by notes as to their status and features at Walthamstow, and then the majority that remain will simply be listed without additional comment.	
Tawny Shears	Rare. Larvae feed within Bladder Campion capsules. Much commoner examples of these Campion-capsule-feeders include the Lychnis and Campion moths themselves. An interesting group, altogether.
Frosted Orange	Rare, but persistent. Larvae bore into Composite stems.
Wainscot Moth	Various Wainscot Moths depend upon Reed-grasses in marshes for their survival. The larvae bore into the stems to feed, and the moths are thatch-coloured for reed-bed camouflage. The Common and Smoky Wainscots are generally common, but the Walthamstow specialities in this group are the Small Dotted Buff, the Small Wainscot, the Shoulder-striped Wainscot, the Large Wainscot, and above all, the Bulrush Wainscot, whose very large larvae feed within the stems of Reed Mace (<i>Typha latifolia</i>) in fair numbers each August. The occurrence of Wainscot Moths in marshes and fens could well be an indication of antiquity.
Dunbar Moth	Larvae quite common on deciduous foliage in May/June. They have no objection to obtaining their foliage in predigested form from within their brethren... a notorious cannibal!
Brown Spot Pinion	Common. The larvae are numerous on Meadowsweet foliage in June.
Silver Y	Day-flying migrant moths common or abundant in late Summer.
Herald	One of the most beautiful Nactuid moths. Larvae on Poplars. Occasional.
Red Underwing	The largest and most spectacular of our resident moths, a speciality of London and particularly the Lea Valley (much scarcer or absent elsewhere in Britain). Quite common at Walthamstow and Clapton. The larvae feed on Poplars and Willows in early Summer, and the adults sit on the tree trunks and nearby fences in August, where their camouflage is quite effective. A very alert species even when resting by day. The brilliant hind-wing red is flashed when disturbed.
Leopard Moth	Very rare.
Red-belted Clearwing	Rare. Larvae feed beneath Hawthorn bark in early Summer.
Ghost Swift	Variable in numbers at Walthamstow, but I have seen a fair quantity of males quartering the grassland at dusk. A most remarkable sight.
Common Swift	Generally common. Larvae feed on grass roots throughout the Winter.
Six-Spot Burnet	Day-flying moths common and brilliantly coloured in July sunshine.

The following species breed on the Marshes, and, as stated before, would, in many cases, largely or entirely depend on the rich marsh and meadow flora for their survival in this area, and therefore, their occurrence (usually attracted to lights) in the surrounding residential areas, also:

Moths

Turnip Moth	Flame Shoulder	Campion
Heart and Club	Lesser Yellow Underwing	Varied Coronet
Shuttle-Shaped Dart	Large Yellow Underwing	Antler
Heart and Dart	Flame Moth	Straw Underwing
Dark Sword-Grass	Cabbage Moth	Flounced Rustic
Garden Dart	Dot Moth	Deep Brown Dart
Plain Clay	Brightline Brown-Eye	Small Angle Shades
Setaceous Hebrew Character	Broom Moth	Angle Shades
Six-Striped Rustic	Light Brocade	Old Lady
Square-Spot Rustic	Nutmeg Moth	Gothic
Ingrailed Clay	Broad-Barred White	Dingy Shears
Small Square-Spot	Lychnis	Dusky Brocade
Rustic Shoulder-Knot	Wormwood Shark	Wormwood Pug
Small Clouded Brindle	The Shark	White Spotted Pug
Light Arches	Straw Dot	Common Pug
Dark Arches	Burnished Brass	Plain Pug
Common Rustic	Spectacle	Bordered Pug
Tawny Minor	Burnet Companion	Tawny-Speckled Pug
Marbled Minor	Snout	Satyr Pug
Middle-Barred Minor	Fanfoot	Green Pug
Cloaked Minor	Common Emerald	The Fern
Ear Moth	Small Dusty Wave	Magpie Moth
Rosy Rustic	Riband Wave	Common White Wave
Clay Moth	Single Dotted Wave	Common Wave
Brown-line Bright-eye	Lesser Cream Wave	Canary-Shouldered Thorn
Mottled Rustic	Small Bloodvein	Dusky Thorn
Uncertain	Bloodvein	Early Thorn
The Rustic	Shaded Broad-Bar	Purple Thorn
Pale Mottled Willow	Mallow Moth	Lilac Beauty
Brown Rustic	Common Marbled Carpet	Scalloped Hazel
Mouse Moth	The Spinach (Northern)	Feathered Thorn
Hebrew Character	Purple Bar	Scalloped Oak
Red Chestnut	Red Twin-Spot Carpet	Swallowtail Moth
Small Quaker	Dark-Barred Twin-Spot Carpet	Brimstone Moth
Common Quaker	The Spinach	V-Moth
Powdered Quaker	Common Carpet	Latticed Heath
Lunar Underwing	Green Carpet	Early Moth
Yellow-line Quaker	Sandy Carpet	Dotted Border
Red-line Quaker	Yellow Shell	Mottled Umber
The Brick	Dark Spinach	March Moth
Beaded Chestnut	Small White-Wave	Brindled Beauty
Red-Headed Orange	Winter Moth	Oak Beauty
The Sallow	November Moth	Peppered Moth (both forms)
The Chestnut	Autumnal Moth	Waved Umber (both forms)
The Satellite	Lime Speck Pug	Willow Beauty
Early Grey	Toadflax Pug	Mottled Beauty
Clouded Bordered Brindle	Currant Pug	Small Engrailed

THE SMALLER MOTHS

Walthamstow Marshes support a proportionately rich variety of species of those groups of mostly smaller moths known as Microlepidoptera. Some of the Pyralidae, however, are every bit as large and conspicuous as many members of the preceding families, and they often tend to be more frequently encountered by day. Scientific names for the species following are now unavoidable, as the English names are far fewer, and in many cases are not used with the same consistency as above. The names of the Pyralid and Plume Moths are taken from Beirne: *British Pyralid and Plume Moths*, 1952.

Pyralid Moths

<i>Aphomia sociella</i>	(Bee Moth) Occasional.
<i>Crambus perlella</i>	Including the variety <i>warringtonellus</i> . Common. All <i>Crambus</i> species are Grass Moths which abundantly inhabit tall grassland on which they absolutely depend for their survival. Most species also come to lights, in urban streets at night.
<i>Crambus lathoniellus</i> (<i>pratellus</i>)	Occasional.
<i>Crambus hortuellus</i> *	Very common or abundant.
<i>Crambus pascuella</i>	Rare.
<i>Crambus inguinatellus</i> *	Quite common.
<i>Crambus tristellus</i> *	Very common and very variable.
<i>Crambus culmellus</i> *	Usually abundant.
<i>Schoenobius mucronellus</i> *	Rare. A most interesting ancient reed-bed species, demonstrating convergent evolution, in that although quite unrelated to the Wainscot Moths, it has developed a considerable resemblance to them in miniature, in order to survive in the same reed habitat.
<i>Homoeosoma sinuella</i>	Occasional.
<i>Homoeosoma hinaevella</i> *	Occasional.
<i>Nephopteryx semirubella</i>	A distinctive and beautiful species. Very rare.
<i>Myelois cribrella</i>	A most attractive, ermine-like species, whose larvae feed on Thistle heads. Not to be confused with the much smaller Small Ermine (<i>Yponomeuta</i> species) which feed in swarms of speckled larvae in early Summer on Spindle bushes in gardens (the Evergreen Spindle used for hedging).
<i>Endotricha flammealis</i>	Common, very variable, and attractive. This moth displays a most extraordinary and unique resting posture.
<i>Aglossa pinguinalis</i>	(The Large Tabby) Scarce and irregular. Not typical of here.
<i>Hypsopygia costalis</i>	(The Gold Fringe) Most attractive. Occasional.
<i>Scoparia ambigualis</i>	Very common, especially on walls and deciduous tree trunks. Perhaps other species of this very difficult genus also occur hereabouts.
<i>Nymphula nymphaeata</i>	(China Mark Moth) Local and scarce, but still at Coppermill. The larvae actually live under water, feeding on Pondweeds.
<i>Cataglyphis lemnae</i>	(Duckweed China Mark Moth) Local and scarce. Also at Coppermill, and also with aquatic larvae, which feed on <i>Lemna</i> spp.
<i>Pleuroptya (Sylepta) ruralis</i>	(Mother of Pearl Moth) Our largest Pyralid. Very common and conspicuous on the Marshes, on Nettles, where the green larvae feed, and wriggle actively, between folded leaves.
<i>Nomophila noctuella</i>	(Rush Veneer Moth) An occasional migrant from South Europe.
<i>Evergestis forficalis</i>	(Garden Pebble) Common.

Scientific names followed by an asterisk (*) are queries, being the nearest equivalent I could find in the taxon dictionaries of Recorder 2002.
Mike Trier, 2007

Smaller Moths

<i>Eurrhypara hortulata</i>	(Small Magpie) Very common, or abundant. Most attractive little speckled moth. The larvae feed on Stinging Nettles in much the same manner as the Mother of Pearl, but later in the season. They hibernate under tree bark. Moths in July.
<i>Pyrausta nivalis</i>	Quite common in low vegetation.
<i>Pyrausta olivalis</i>	As above.
<i>Pyrausta crocealis</i>	As above.
<i>Pyrausta lutealis</i>	As above but more numerous in most years.
<i>Pyrausta coronata</i>	Quite common and very distinctive. Usually disturbed out of Elder bushes in July.
<i>Pyrausta nubilalis</i>	One of our most interesting Pyralid moths, almost unknown 100 years ago, and now very common at Walthamstow. This is an immigrant which has thoroughly established itself in only a few parts of Essex. Frequently disturbed from Michaelmas Daisy stands in July.
<i>Pyrausta purpuralis</i>	A tiny and exquisitely beautiful relative of the last six species. Larvae feed on Water Mint.

Plume Moths

<i>Platyptilia gonodactyla</i>	Quite common.
<i>Platyptilia pallidactyla</i>	Usually plentiful wherever Yarrow grows on the Marshes.
<i>Alucita pentadactyla</i>	This is an unmistakable and most beautiful pure white Plume Moth. Very common, especially in association with Bindweed, which the larvae feed on.
<i>Pterophorus monodactylus</i>	An abundant little Plume Moth, looking just like the letter "T" when at rest on windows, etc., to which it is often attracted at night. A hibernating species whose larvae also feed on Bindweeds (both <i>Convolvulus</i> and <i>Calystegia</i>).

Other Microlepidoptera

I would estimate between 70 and 100 further species of small moths occurring on the Walthamstow Marshes, in the Tortricidae and Tineidae families. A number have been identified, but more study is required before a systematic list can be given.

Brian Wurzell.

APPENDIX

THE FLORA OF WALTHAMSTOW MARSHES: FIRST SUPPLEMENT, JANUARY 1981

The original plant list for this important alluvial site was published in the first edition of this book in September 1979. Further systematic surveys early in 1980 (plus two omissions in the original text) now add ten interesting new species and hybrids to the list. Therefore, 21 years of field observations now bring the total to over 350.

No site's native flora can be considered thoroughly documented until every single square metre of terrain be closely examined at least once a month throughout the year. The 1980 surveys revealed rather dramatically that certain ecologically important plants on the Marshes had been incorrectly identified, due to lack of critical dissection at exactly the right season, even though some of these had clearly been present and probably widespread on the site for well over a century. This is certainly true of the *Carex* and *Equisetum* species and hybrids.

The *Carex* populations, in particular, being ancient, are complex and variable, and still require comprehensive monthly study between May and August. In addition, *Aster*, *Arctium*, and *Symphytum* have not yet been exhaustively analysed to assess introduced or spontaneous hybridity; the infra-specific repertoire of *Bromus*, *Festuca*, and *Agrostis* would doubtless still repay attention: and the *Taraxacum* species are quite unknown (they could well include water-meadow originals). *Salix* has been satisfactorily covered and the 1979 records are accurate.

Ten new plant records for Walthamstow Marshes in 1980

1 *Equisetum x litorale* : found to be the commonest Horsetail in all three meadows, particularly towards their railway and reservoir boundaries, where the bank constructions, 120 to 140 years ago, would have brought the parents into contact for the first time. This invasive hybrid tends to give way to *E. palustre* in the more peaty, and much older, *Caricetum* swamps further away from the boundary fences. It is new to Essex (not in Jermyn, 1974), unknown in Middlesex (see Kent, 1975) and not recorded for a large area from North London right through Central England (Perring & Walters, 1968). The last work gives it in only 47 10-km squares in England, Scotland, and Wales (*E. limosum x arvense*).

2 *Equisetum limosum* : a relict railway dyke aquatic, presumably a co-dominant constituent of the open water railway ditches of the last century, but now breathing its very last, with *E. arvense*, *E. x litorale*, and *E. palustre* in a shallow, damp, stony, two-square-metre hollow in the Triangle only.

3 *Carex acuta* : locally abundant and very fine in the wetter, older, parts of all three meadows, but does not grow by the Coppermill Stream. Its tall, slender, dark green foliage in dense stands, forms distinct zones with the next.

4 *Carex x subgracilis* (*C. acuta x acutiformis*) : this, not 'slender *C. acutiformis*' is now known to be the principal pasture sedge on the body of the Marshes. Its identity has now been confirmed both at Leicester University and at the British Museum, Natural History, in London. Its semi-glaucous rhizomatous stands extend widely over waterlogged, damp, and even rather dry ground, including railway banks. The stands are either pure, or co-dominant with *C. acuta*, *C. disticha*, *Glyceria maxima*, and other native species. Being largely, or totally, sterile, this plant's widespread occurrence on four sides of three railways indicates considerable antiquity, since this distribution could only have been achieved vegetatively before the railways had been built, in the middle of the last century. It could have arisen from a single cross-pollination many centuries ago, when the main drainage channel was open water with both parent species fringing it together, and when there was also open mud available for the hybrid seed to germinate. True *C. acutiformis* nowadays only appears to fringe the Coppermill Stream (it also grows in abundance around most of the Walthamstow Reservoirs); its terrestrial survival elsewhere on the Marshes now requires careful investigation. The other parent, *C. acuta*, is much more a plant of primary fen pasture, and is rarely or never found to recolonise secondary marsh or lakeside.

The hybrid is very drought resistant, even competing with *Agrostis* and *Agropyron*; its foliage in December strikingly combines the parents' totally different Winter appearances, to create a scenic effect probably unique in Europe, if not anywhere in the world. The leaves are, in that season, wide, fresh,

glaucous bronzy green and upright below (features of *C. acutiformis*), narrowing abruptly in the middle to an upper half which is very narrow linear, elongated, dead, pale straw-brown, and spreading-pendulous (features of *C. acuta* which dies to the ground rapidly in late Autumn). However, the progressive die-back of pure *C. acutiformis* foliage reduces this visual distinctiveness somewhat by February.

Confirmed *C. x subgracilis* is recorded from only three or four other British localities (Stace 1975). It is new to Essex and to the entire London area.

5 *Elodea nuttallii* : now plentiful in the River Lea and the Coppermill Stream. When did this replace *E. canadensis*?

6 *Alisma plantago-aquatica* : omitted in error from main list 1979. By Coppermill Stream, scarce and precarious.

7 *Alisma lanceolatum* : omitted in error from main list 1979. In and around Bomb Crater Pond (South Marsh), only. Long known here, and nowhere else in the Lea Valley (?). It disappeared from 1977 to 1979, due to dumping of rubbish, but one plant re-appeared in 1980 and grew large.

8 *Heracleum mantegazzianum x sphondylium* : deliberately sought and one fine plant found on the South Marsh where the parents have been known to grow together for some years.

9 *Cardamine pratensis* : two very welcome clumps of this beautiful water-meadow species were found to be surviving near one of the railways in the Triangle only.

10 *Rumex sanguineus* var *viridis* : only recorded with uncertainty in 1979, but a small colony of two or three plants were positively identified on the North Marsh in October 1979. An unusual occurrence for this typically woodland Dock, but quite distinctive from *R. conglomeratus* here. No hybrids.

Welcome re-discoveries or newly-found increases of range

Achillea ptarmica : one clump only of this was known by the Coppermill Stream from 1961 to 1965 and then 'lost'. The same plant, now vigorous, was rediscovered in October 1979.

Sagittaria sagittifolia : one plant detected for the first time in the Coppermill Stream in June 1980. It is normally invisible here, being continually decapitated by canoeists. The River Lea plants, by the boating club and under High Bridge, have probably survived similar onslaughts for many decades, and thrive still, probably never flowering.

Lemna polyrhiza : fairly numerous in company with *L. minor*, *gibba* and *trisulca*, in Coppermill Stream, and River Lea. Extinct in Bomb Crater Pond, where first noted in this area.

Rumex palustris : several large plants found by Coppermill Stream, and also on open mud in drainage channel on North Marsh.

Ophioglossum vulgatum : a fine ancient meadow species considered extinct here by 1977, when just a few plants first found in 1975 were all dumped on with rubble. However, an intensive search in June 1980 revealed about 15 thinly scattered plants in thick grass on the North Marsh, near Coppermill Bridge. Also, several hundred small to moderate plants, some fruiting, showed fresh through recently-burnt *Caricetum*, all over the drier parts of the South Marsh. They must have been there for hundreds of years, yet only recorded at "Lea Bridge, 1845" (Kent and Lousley, 1951, p.331). They are normally quite concealed by predominant, tall, *Carex disticha*. Although this species is recorded in relatively numerous 10-km squares in Perring and Walters, 1962, it is a local and decreasing species whose survival in an urban area is of outstanding interest.

Colutea arborescens : a new shrub has appeared on the North Marsh, far from the railway.

Carex disticha : found to be plentiful, sometimes dominant, on important parts of both North and South Marshes. It was recorded in 1979, but its quantity much under-appreciated.

Miscellaneous observations 1980

Rumex x lousleyi (*R. cristatus x obtusifolius*) : one of the only two colonies known in the world, and the only one in Essex (the other one in Middlesex), is now regularly cut to the ground by the LVRPA and did not flower in 1980. The infra-specific *R. obtusifolius* hybrid swarm is steadily declining.

Phragmites communis : stands were relatively stunted in 1980 due to excessively dry Spring.

Salix caprea x atrocinerea : is apparently dying (one tree only).

Salix purpurea : in the Lea Valley is apparently now restricted to small Broxbourne and Coppermill colonies. It seems no longer able to reproduce itself sexually, nor to recolonise secondary habitats, and should therefore be considered an endangered species.

Not seen in 1980

Veronica beccabunga, *Eupatorium cannabinum*, and *Berula erecta* may finally have succumbed to *Glyceria* invasion by the Coppermill Stream. This grass requires strict management.

Lysimachia vulgaris has not been re-found by the railway bordering the North Marsh.

Alopecurus geniculatus : is losing ground to *Agropyron repens*; symptomatic of habitat drying.

Ten notable absences from Walthamstow Marshes never recorded there; still worth seeking?

Ranunculus flammula, *Zannichellia palustris*, *Groenlandia densa*, *Potamogeton trichoides*, *Lychnis flos-cuculi*, *Thalictrum flavum*, *Caltha palustris*, *Bromus commutatus*, *Polygonum minus*, and although this last was seen once only in 1961, *Carex pseudocyperus*.

References

- Jermyn, 1974 *Flora of Essex* (Essex Naturalists Trust)
 Kent, 1975 : *The Historical Flora of Middlesex* (The Ray Society, London)
 Kent & Lousley, 1951 : A Hand List of the Plants of the London Area (*The London Naturalist*)
 Perring & Walters, 1962 : *Atlas of the British Flora* (BSBI)
 Perring & Walters, 1968 : *Critical Supplement to the Atlas of the British Flora* (BSBI)
 Stace, 1975 : *Hybridization and the Flora of the British Isles* (Academic Press)

Brian Wurzell. March 1981.

Walthamstow Marshes: the 1970s Survey by Save the Marshes Campaign

Reproduced by Mike Trier, 2007, with the kind permission of John Nash, Save the Marshes Campaign

Copyright © Mike Trier, 2007

Geological map © J. D. Nash & D. J. Gibbins, 1981