

Presidential Address 1970

BOTANICAL CONSERVATION IN BRITAIN, PAST, PRESENT AND FUTURE

E. MILNE-REDHEAD

Nineteen-seventy is European Conservation Year and it seems to me fitting that my Address today should have conservation as its theme.

The B.S.B.I. has a long history. It evolved from the Botanical Society and Exchange Club of the British Isles (conveniently abbreviated to B.E.C.) at a Special General Meeting in October 1947. The B.E.C. somewhat similarly evolved from the Botanical Exchange Club of the Thirsk Natural History Society, a body which, in spite of its name, had a national coverage. The B.E.C. came into existence in 1858 and, at the age of eight, lost its parent body, the Thirsk Natural History Society, and started on its independent career, moving its headquarters to London, and for 2 years only adding London to its name. Twelve years later it openly stated it represented the British Isles, and in 1910 added the word 'Society' to its title.

It is interesting to recall that, when the Club started, J. G. Baker, later to become Keeper of the Herbarium & Library here at Kew, was the B.E.C.'s 'Curator of Flowering Plants and Ferns', and H. C. Watson, so well known for his Vice-county system and whose herbarium is at Kew, was an active member.

Conservation was an unknown word to botanists of those early days. In the first report published in 1859 there is a list of desiderata from which herbarium specimens 'varying in number from 10 to 50, according to degree of rarity would be acceptable'. This list includes *Ranunculus ophioglossifolius*, *Draba aizoides*, *Linnaea borealis*, *Phyteuma spicatum*, *Spiranthes aestivalis*, *Cephalanthera rubra*, *Epipogium aphyllum*, *Cypripedium calceolus* and *Polygonatum verticillatum*, all I think being uncritical plants the collection of which served no particular scientific purpose. It was of course the age of the private herbarium. Travelling was difficult and amateur botanists, unable to get easily to consult the national or university herbaria, built up their own reference collections by making use of the exchange facilities offered by the Club. Unfortunately, as is not uncommon with collectors, the undesirable factor of rivalry and one-up-manship crept in. Certain botanists felt they had to possess a rarity which their rival had not got. So the demand for rare plants grew and the numbers of some of them undoubtedly suffered considerably from over collecting during this period. In the Kew Herbarium alone there are 29 specimens of *Spiranthes aestivalis* from British localities (excluding the Channel Islands) and *Polygonatum verticillatum* is represented by no fewer than 12 British specimens. These figures are likely to be considerably larger in the Herbarium of the Natural History Museum, which is on the whole richer in British plants.

Even in these early days the recording of plants was considered important and over the years the B.E.C.'s emphasis has changed very gradually from collecting and exchanging to recording and studying. When the name B.S.B.I. was adopted in 1947 the word 'exchange' was deliberately dropped from the title,

but the exchanging activities continued on a very restricted scale largely dealing with critical groups, until 1954, when the Society accepted the Council's suggestion that the Exchange Section be temporarily suspended. So it has remained until this day, and it seems unlikely that it will ever be revived. At that time the Distribution Maps Scheme was at its height, and records for the *Atlas* were pouring in from Members, so the fading out of the exchange facilities were noticed by very few.

The Society's first official active steps in Conservation were taken in 1948 when a Special Committee consisting of the Officers (Mr J. S. L. Gilmour, Miss M. S. Campbell, Mr J. E. Lousley, Dr E. F. Warburg, Dr J. G. Dony) together with Mr A. J. Wilmott was appointed to deal with all matters connected with threats to the British Flora. The following year Mr A. H. G. Alston replaced Mr Wilmott. This Threats Committee had been preceded by the Society being represented at certain important Public Enquiries, namely by Mr N. D. Simpson on Purbeck and Mr G. W. Temperley on Ross Links whilst Mr J. D. Grose had prevented possible damage to *Cirsium tuberosum* in Wiltshire by his tactful approaches to the government departments concerned.

This Threats Committee had plenty of work to do, and in 1950 it changed its name to the Conservation Committee, Mr Lousley becoming its first Secretary.

In March 1949, the Nature Conservancy was set up, following advice given to the government by the Wild Life Special Committee in 1947. It was, and I quote, 'to provide scientific advice on the conservation and control of the natural flora and fauna of Great Britain; to establish, maintain and manage nature reserves in Great Britain, including the maintenance of physical features of scientific interest and to organise and develop the scientific services related thereto.'

One of the first urgent tasks confronting the newly formed Nature Conservancy, apart from establishing National Nature Reserves, was a duty placed on them by Section 23 of the National Parks and Access to the Countryside Act, 1949, to notify to the local planning authority concerned any area of land, not for the time being managed as a Nature Reserve, which was considered to be of special interest by reason of its flora, fauna or geological or physiographical features. These sites were to be known as Sites of Special Scientific Interest (S.S.S.I.'s)

The Nature Conservancy had, as its Director-General, Captain Cyril Diver, hitherto professionally Clerk of the House of Commons, but well known to naturalists for his pioneer survey work on the ecology of Studland Heath in Dorset. It occupied offices in Victoria Street, Westminster, whilst Scotland was managed from an office established in Edinburgh. It was in these somewhat dismal London surroundings that the first Liaison Meeting with the B.S.B.I.'s Conservation Committee took place in November 1950. These Meetings, which were held at six-monthly intervals, soon proved to be of great value to all concerned. The Conservancy was able to gain direct help in botanical matters from B.S.B.I. Members, and the Society's representatives at the Liaison Meetings were able to call the Conservancy's attention at a high level to threats to important habitats, thus supporting what local representatives were trying to achieve at county or regional level.

The staff of the Nature Conservancy was relatively small in these early years, and much time was taken in organisation, administrative matters and office work. As a result the Conservancy was only too pleased to call upon the help

of B.S.B.I. Members who volunteered to give advice on suitable areas to be set up as botanically important S.S.S.I.'s. This co-operation worked extremely well as I know from personal experience, for I spent several days with a member of the Conservancy's staff in areas of Gloucestershire I know well, indicating sites which I thought to be worthy of protection. It was gratifying later on to learn that most of the sites had been notified under Section 23 of the National Parks and Access to the Countryside Act, 1949.

At this time the nature conservation trust movement had not got under way, and only three counties had established Naturalists' Trusts, namely Norfolk (1926), Yorkshire (1946) and Lincolnshire (1948), so the B.S.B.I. formed a most useful function in active conservation of important habitats. No one will suggest that the original list of S.S.S.I.'s was without omissions but I feel sure that the omissions would have been much more numerous and much more serious had the great store of habitat information contained in the membership of our Society not been made available at this crucial period in the Conservancy's history.

The Conservation Committee has used its influence from time to time to impress on the Conservancy the importance of a number of botanically valuable sites. The 1956 threat to Upper Teesdale above Cauldron Snout was strongly objected to, and alternative sites near Dine Holm Scar and Cronkley Farm were, in consequence, to be surveyed. In the same year the danger of quarrying to the limestone cliffs and associated turf of Berry Head, South Devon, was stressed, and ultimately the Society was represented at a Public Enquiry in 1959 by Dr M. C. F. Proctor, which resulted in the rejection of the application for further quarrying. The Committee pressed (unsuccessfully) for the establishment of a nature reserve on part of the area of Dungeness remaining after the construction of the power station, and objected (successfully) to a caravan site being set up at Mochras dunes in Merioneth. In 1960 the Committee sent in a memorandum to the Ministry of Agriculture Research Study Group on the use (or should I say misuse?) of toxic chemicals in agriculture.

In spite of the 1956/7 threat to Upper Teesdale having been removed the Committee remained worried about the lack of permanent protection to Upper Teesdale and at a liaison meeting with the Nature Conservancy in 1962 again urged them to set up a National Nature Reserve in this highly important botanical site. In May 1963 the Nature Conservancy declared a N.N.R. covering 6500 acres on the Yorkshire side of the Tees in Upper Teesdale, but the Durham side including Widdybank Fell and Cow Green was still left without protection, a factor which adversely affected the B.S.B.I.'s case to prevent the Cow Green reservoir being built. But the unsuccessful fight put up by the Teesdale Defence Committee, set up in February 1965, resulting in three debates in Parliament, the raising of nearly £25,000 by public appeal and the final donation of £100,000 by Imperial Chemical Industries for research in Upper Teesdale, is a story which must be told elsewhere.

With the advent of a nation-wide coverage by nature conservation trusts, the need for the Committee's liaison meetings with the Conservancy had declined, and in 1968 a Conservation Liaison Committee was set up by the S.P.N.R. on which the B.S.B.I. Conservation Committee was represented by three of its members, who would raise matters of national botanical importance with the Conservancy, as had been done at the former B.S.B.I. liaison meetings. It was understood, however, that the B.S.B.I. retained the right to approach the

Director-General of the Conservancy or his Deputy at any time should a sufficiently important and urgent botanical matter arise.

So I feel it is safe to say that the B.S.B.I. is very conservation minded and is playing an important part in the now very active conservation movement. I am happy to represent the Society on the Council for Nature and I am one of the three representatives of that Council who sit on the Committee for Environmental Conservation, conveniently abbreviated CoEnCo, on which the bodies interested in nature conservation, amenity and recreation in the countryside get together to understand each others points of view and to advise the Government on matters of policy relating to the countryside. So even on this high-level committee of wide coverage the importance of botany – of trees, of vegetation and of the habitats of individual plant species – is not allowed to be overlooked.

To mark European Conservation Year the B.S.B.I. has produced for its members a 'Code of Conduct' which I hope will have a beneficial effect on their attitude to their activities in the countryside. It has been well accepted and I hope it may be widely used by botany and biology teachers and leaders of field meetings outside the Society. I think we can safely say that the attitude 'there was only one so of course I took it' is a thing of the past.

And now I will turn to what other bodies have done over the years to assist with plant conservation.

Before the B.S.B.I. (or rather the B.E.C. itself) took a leading part in conservation, other bodies had started working on this vital matter. In 1924 the British Correlating Committee for the Protection of Nature was founded with Herbert Smith as Secretary; a year later* Sir Maurice Abbott-Anderson founded Flora's League; the S.P.N.R. proposed a Society for the Protection and Preservation of Wild Flowers, and sent out a leaflet to all County Councils pressing for bye-law enactment. In 1927 the Council for the Preservation of Rural England (now with the word Preservation happily replaced by Protection) took the lead so far as plant protection was concerned.

It studied the educational aspect of the problem and concerned itself with the bye-law position resulting in the approval of a new bye-law by the Home Office later that year, and again in 1933. In 1930 the Society for the Protection of Wild Flowers and Plants was formed and carried out propaganda in schools. In 1931 the C.P.R.E. formed the Wild Plant Conservation Board (with Herbert Smith as Chairman and Herbert Griffin as Secretary) as an integral part of its organization 'for the purpose of advising on matters of policy and counselling in reference to activities connected with the conservation of wild plants'. Its object was, and I quote, 'to focus the best and most instructed opinion, scientific and otherwise, on the problem, and thereby to provide well-informed and authoritative information on the whole subject'. Unfortunately it appears to have achieved very little. It had a private bill drafted which never gained support.

The list of bodies represented upon the W.P.C.B. is, however, a formidable one and the reasons why the Board seems to have had so little impact can only be explained by the general feeling of apathy reigning during the thirties. I think it is of interest to record the 28 bodies concerned, almost a miniature Council for Nature! They are in alphabetical order:

* 1925 is the date given by Mr J. E. Lousley (*Rep. botl Soc. Exch. Club Br. Isl.*, 12: 18 (1939)), whilst Sir Maurice Abbott-Anderson (*Rep. botl Soc. Exch. Club Br. Isl.*, 9: 209 (1930)) states that he founded Flora's League 'last June'. Maybe Sir Maurice's paper had been awaiting publication for some time!

Alpine Garden Society	National Trust
Association for the Preservation of Rural Scotland	Northern Naturalists' Union
Botanical Society & Exchange Club of the British Isles	Roads Beautifying Association
British Association for the Advancement of Science	Royal Botanic Gardens, Kew
British Ecological Society	Royal Horticultural Society
British Empire Naturalists' Association	School Nature Study Union
Commons, Open Spaces & Footpaths Preservation Society	Selborne Society
Council for the Preservation of Rural Wales	Society for the Promotion of Nature Reserves
Flora's League	Society for the Protection of Wild Flowers & Plants
Green Cross Society	South-Eastern Union of Scientific Societies
Lincoln Naturalists' Union	South-Western Naturalists' Union
Linnean Society of London	Trustees of the British Museum (Natural History)
Men of the Trees	Watson Botanical Exchange Club
	Wild Flower Society
	Yorkshire Naturalists' Union

The Board produced in 1931 (with a second edition in 1937) an excellent little booklet explaining the urgent need (even then) for some more active plant protection due to the increasing population and a growing industrialization destroying wildlife around our towns, the loss of damp habitats due to drainage and the general lowering of the permanent water-table to mention a few reasons all of which apply even more strongly today. During this period agricultural methods were relatively stable, herbicides were unknown and there was no ploughing up of pastures for re-seeding with rye-grass and clover. After discussing the rôle that teachers could play in achieving the objectives of the Board the leaflet states 'The preservation of our wild plants may be undertaken in three different ways: by legislation, by education, and by the establishment of nature reserves and sanctuaries'. The leaflet stresses the need for botanical material for use in schools to be cultivated for that purpose and not gathered from the wild, an admirable method which had by then been adopted by the London Education Authority but which other local authorities have been slow to follow. The British Wild Plant Nurseries, 6 The Strand, Derby, is quoted as an establishment which provided seeds free of charge under the auspices of the W.P.C.B. I doubt if these Nurseries survived the second world war.

The W.P.C.B. also compiled (with the help of Mr H. W. Pugsley) schedules of plants needing protection county by county, continued to press for bye-law adoption and even gave evidence at Royal Commissions. It is sad that all this effort had so little effect on the practical conservation of plants. I seem to remember that on the Council of the B.E.C. in the thirties the Club's representative on the W.P.C.B. again and again had nothing to report, but it vigorously protested about the uprooting of *Lloydia serotina* on Snowdon in 1935! Most of its activities came to a halt in 1939, but the Board continued in name until 1950.

The British Ecological Society, which has never been particularly active in conservation matters, published a Report in 1943 entitled Nature Conserva-

tion and Nature Reserves, a valuable document in which the considered opinions of ecologists on the principals of conservation are expressed.

Forerunners in the establishment of nature reserves were the Selborne Society and the Society for the Promotion of Nature Reserves.* At one time it was thought that all that was needed to preserve a rare plant was to put a fence round it to keep people and grazing animals out. Two outstanding examples of this were reserves set up by the S.P.N.R., one at Dancer's End, Hertfordshire (1942) to preserve *Gentianella germanica* and the other at Badgeworth, East Gloucestershire (1933) to preserve *Ranunculus ophioglossifolius*. Neither reserve originally had a management plan, and both nearly failed in doing what they set out to do. Active management has now succeeded in safeguarding the populations of *Gentianella* and the *Ranunculus*. The S.P.N.R. was also responsible for setting up the Mickfield Meadow reserve in East Suffolk where a fine colony of the Snake's Head Fritillary (*Fritillaria meleagris*) has been preserved. Had this not been a reserve in 1939 it is highly probable that it might have succumbed to the plough during the war years, a fate of many other similar fritillary meadows. Here again lack of grazing resulted in scrub development which at one time was threatening the population of fritillaries but conservation management has now restored the meadow to the former satisfactory condition. But the reserve at Perivale on the outskirts of Ealing was established by the Selborne Society in memory of Gilbert White as early as 1904. This was not a reserve to preserve a particular uncommon species, but an area known as Perivale Wood, mainly an oakwood with a carpet of bluebells and an adjacent meadow, preserved largely as a sanctuary for birds. Now it is an island of country surrounded by factories and houses, an area where many common and beautiful wild flowers can be seen growing naturally and one which has more recently proved of great educational value.

Whilst talking of management of nature reserves, one must mention the Council for Nature's Conservation Corps, set up in 1959, which has employed young volunteers from many walks of life to carry out active conservation tasks throughout the country. It has made a tremendous contribution to the cause, and recently it has separated from the Council for Nature, being managed now by an independent charitable trust, The British Trust for Conservation Volunteers. But many of the smaller management tasks are now handled locally by the County Trusts many of which have their own Conservation Corps.

The National Trust and the Royal Society for the Protection of Birds have both contributed considerably to the protection of the flora in this country, although it has not been the main consideration directing their policies.

But by far the greatest impact on plant conservation has undoubtedly been due to the county nature conservation trusts which now cover the whole of England and Wales, whilst the Scottish Wildlife Trust acts similarly throughout Scotland. The number of reserves managed for their botanical interest by Trusts is today very considerable, and is, I am glad to say, steadily growing.

In the conservation of a rare or local plant one is often in doubt whether to treat the location of the site with absolute secrecy or to let the landowner know that he has a rare plant on his land. The fine locality for the Lizard Orchid (*Himantoglossum hircinum*) in Bedfordshire was destroyed by the farmer

* Incidentally Dr G. Claridge Druce, whose devoted stewardship kept the B.E.C. going during the first thirty years of this century, left half his estate, nearly £20,000, to the S.P.N.R.

clearing scrub unaware of the presence of the orchid, whilst a few years later another farmer in Oxfordshire deliberately ploughed up a useless corner of a field knowing it to contain a population of the Monkey Orchid (*Orchis simia*)! So what is one to do?! All such cases should be judged on their merits and generalizations should be avoided. I usually prefer to take the landowner into my confidence and hope that he will behave responsibly whilst at the same time one can discourage visits to the plant as much as possible by botanists and particularly the less responsible botanical photographers who are apt to do considerable damage to the site by exposing the subject to better view.

Possibly the most famous example of failure adequately to conserve a rare plant is the case of *Cypripedium calceolus* in Yorkshire. The location of the famous site was a *great* secret, yet some dozens of botanists knew of it. An unfortunate article in the national press some few years ago gave clues to the botanical detectives resulting in the discovery of the site by people who otherwise would not have found it. So as the years went by, *Cypripedium* in this famous locality got fewer and fewer, yet it was still too secret for steps towards its conservation to be considered by the Yorkshire Naturalists' Trust, the very body which should have been in the forefront of its protection. This somewhat farcical situation came to a head last year when, after alarming rumours and correspondence with a number of botanists concerned, the B.S.B.I. Conservation Committee urged the Nature Conservancy to call a site meeting of all the interested bodies. This was a most successful manouvre and, following a visit to the locality and an excellent lunch in the local pub, an amicable meeting was held at which a policy was agreed. I will not go into the details now, but I would like to say that recent developments suggest that the policy adopted stands a chance of proving successful.

Conservation of rare plants is one matter, conservation of common yet attractive plants is another. I believe the overall population of such plants as primroses (*Primula vulgaris*) and cowslips (*P. veris*) in England is today a mere fraction of what it was fifty years ago. Forestry and agricultural practices have so changed the face of England that thousands of acres of favourable habitats have gone. These two species have suffered greatly. The cowslip fields have been ploughed up and turned into arable or else resown as leys with grasses and clover. The replanting of deciduous woodland with conifers has enormously reduced the habitat for primroses. Both species grew in hedgerows and roadside verges. The widespread destruction of hedges and the spraying of roadside verges has reduced the populations in these habitats. The railway banks were one of the last refuges for these delightful plants, but now that railways have been so drastically reduced, many banks have lost their statutory protection, fences have gone and the plants, if not overgrown by scrub, have to survive attacks from the public. When the railways were being built last century these and other plants migrated on to the banks with comparative ease from the nearby fields and hedgerows. Now with the construction of motorways the equally suitable banks cannot be colonized so easily, as these plants have gone from many of the fields, whilst hedges are few and far between. It is, in my opinion, important to get these, and other suitable plants established on motorway banks and it is up to the B.S.B.I. members to urge their County Trust to do this artificially. Machinery for doing this has been agreed on between S.P.N.R. and the Ministry of Transport, and some introductions have been made, but a lot more could be done in that direction.

One of the greatest threats to primroses is the mass picking and digging up by the town dwellers who visit the countryside in spring in ever increasing numbers. One has to go a long way from Kew now to see a good show, the one exception being the bank of the electrified Southern Region railway at Surbiton where the public cannot get at the plants! Education is surely the cure for this trouble, but the enlightened press will have to treat the subject more seriously than hitherto if the wayside flowers are to be left for others to enjoy.

In 1963 the theme for the Society's biennial Conference was 'The Conservation of the British Flora', and a very useful series of papers was read and discussed at Durham, culminating in a resolution which I put to the Conference, namely 'That this Conference resolves that a working party be set up, composed of the B.S.B.I., the S.P.N.R. Naturalists' Trusts' Committee and the Council for Nature, to consider certain urgent educational and legal problems concerning the conservation of the British flora'. This was seconded by Dr Margaret Bradshaw and carried unanimously.

As a result of this the Wild Plant Protection Working Party (W.P.P.W.P.) was set up and a lot of hard work was put into the collection of plant conservation information from this and other countries. Mrs Gigi Crompton acted as secretary and driving force was supplied by Dr Max Walters and Mr Hector Wilks. Eventually with the help of Mr R. S. W. Pollard, a draft Wild Plant Protection Bill was produced. W.P.P.W.P. prepared an interim report in 1965, which was presented as evidence to the Countryside in 1970 Study Group No. 5 dealing with legislation. The Study Group, on which I sat, agreed whole-heartedly with W.P.P.W.P.'s conclusions that there should be legislation to protect wild plants on the basis of three categories: national rarities, species forbidden to be offered for sale, species protected in special areas. The Countryside in 1970 Conference on 12th November 1965 accepted the report of the Study Group and recommended that it should be sent to the Ministers concerned. However such legislation was omitted from the White Paper dealing with the amendments to the National Parks and Access to the Countryside Act, so it was accordingly decided to go ahead independently to present a private member's Bill to Parliament.

In November 1967 it was learned that Mr Peter Mills, M.P., had drawn 24th place in the parliamentary ballot for private members' bills and was willing to introduce the Wild Plant Protection Bill. To cut a long story short the Bill was duly presented, was treated frivolously by the B.B.C. and the Press and failed to get a second reading. Today the Bill has been redrafted, with welcome financial assistance from the World Wildlife Fund, taking into consideration certain clauses in the recent Theft Act and W.P.P.W.P. will be meeting shortly to consider the next move. Perhaps in European Conservation Year the need to have such a measure in the statute books may be appreciated more than it was two years ago. Members could help the cause very considerably by explaining the aims to their Members of Parliament and by emphasising the need for legislation to protect plants by writing letters and articles to their local press.

And what to the future! I see no reason why any more native plants should become extinct. It is probably safe to say that we are now more conscious of the need for conservation than we have ever been. And we are gaining new weapons to help us in the fight. Here at Kew we have set up seed stores under controlled conditions and it is hoped to bank seed of rare and threatened species, so as to keep them alive for we hope fifteen to twenty years with the possibility

of re-introducing and establishing the species into suitable wild localities or at least growing it from time to time in botanic gardens or for scientific study. I think the time is coming when we must set about making suitable habitats – to replace those that have been destroyed. I feel that we have the technical know-how and that small-scale attempts should be made in botanic gardens such as Kew. The failure of Sir Edward Salisbury to establish artificially an area of chalk grassland at Kew should not deter further attempts at that kind of exercise. It is the kind of experimental work I would like to see being undertaken at Kew and if properly explained to the public could, I feel sure, form a very interesting feature of the Gardens.

There is an undoubted need for statutory protection for both our rarest and some of our common plants; there is an even greater need to educate the public, making the most of the wonderful media at our disposal. We must somehow make it possible for the public to see and appreciate some of our botanical treasures rather than keep them hidden. The R.S.P.B. has set us excellent examples in their Osprey and Snowy Owl publicity. Why should we not have people queuing on a bank holiday to pay their money to see a fine display of monkey orchid or spring gentian? These are the thoughts I would like to leave with you today.