

A BRIEF
IN SUPPORT OF CONTINUANCE OF THE CARLETON ARBORETUM
AS A STATE GAME REFUGE

HISTORY

It was shortly after 1920 that the idea of a "Carleton Arboretum" first started being discussed by college and by Rice County people who were interested in the study of natural history and the preservation of wildlife in this section of the State of Minnesota. By 1926 definite plans for the establishment of an arboretum had been drawn up by enthusiastic members of the Carleton faculty. At that time the view northeastward from the Carleton Observatory presented an eroded weed-grown pasture through which wandered a small creek. Beyond the pasture the Cannon River carried its then dirty and contaminated waters around a city dump. The riverbank itself boasted a flourishing hobo camp.

However, by 1930 assistance had been obtained from the Minnesota Department of Forestry and also from the chief horticulturist in charge of plant introductions in the U. S. Department of Agriculture. After a large clean-up campaign had been inaugurated and was well underway, the business of planting new trees and shrubs began. As work progressed and new species and varieties of woody plants began to find their way into the Arboretum, encouragement was received from many sources including the University of Minnesota, where members of the Department of Botany expressed judgement that the site was practically ideal for the purpose of establishing a great arboretum and wildlife refuge. Gustave Swanson of the University stated that as an outdoor laboratory presenting opportunities for the study of birds it would be unparalleled. He estimated that a Carleton ornithology class could see as many birds on its own campus as the class at the University might see by driving several hundred miles during the spring quarter.

In the years which have followed the early days of the Arboretum, hundreds of thousands of trees and shrubs have been introduced to provide shelter and cover for wildlife. From perhaps 200 species of woody plants in 1920, the "Arb" developed to about 300 species by 1930 and to almost 500 species today.

To understand this growth one should have in mind the great natural assets of this area. The Northfield region is uniquely located in a zone of transition from the eastern hardwood forests to the western treeless prairies. A diversity of land contour and of soil types presents the conditions desired for a tree and shrub collection of great heterogeneous variety. There are low grassy plains, lowlands and dense woods along the river, flood-plain islands and promontories of sand and of silt; along the bluff are rock ledges; there are clay loam upland slopes and plateaus as well as a rare area of original prairie untouched by plow. There is also a marsh area known as Cattail Swamp which is particularly interesting to biology students since the accompanying bird and mammal life is unique in this vicinity. Also of interest is an acid peat bog. Along Carleton Creek there is a planting of many varieties of willows, while in another section of the Arboretum there is a large stand of black walnut which is said to be the most northerly known natural stand in the country.

Altogether, in the 360 acres of the Arboretum almost any kind of soil and any kind of exposure may be found. These natural conditions along with remoteness from large metropolitan areas and correlation with a stable institution have insured both the permanence and the recognition necessary for an arboretum of national significance. Now well-known both in this country and abroad, the

Carleton Arboretum is one of the few permanent arboretums in America. It may be found listed in such standard publications as O. S. Pettingill's "A Guide to Bird Finding" and Morrison and Herz' "Where to Find Birds in Minnesota". It also has been mentioned in several articles by local authorities such as Orwin A. Rustad whose contributions making reference to the Arboretum have been published in the "Flicker" and also in the annual report of the National Audubon Society.

PURPOSE

The purposes for which the Carleton Arboretum is maintained are:

To serve as a sanctuary and an ideal environment for the increase and preservation of birds, animals, trees, shrubs, and wildflowers.

To provide an experimental ground for the scientific study of trees, shrubs, and wildlife in their natural habitat.

To introduce, acclimatize, and breed new species and varieties for hardiness.

To develop new varieties by hybridization and selection.

To provide a bureau of standards at which correct plant designation and nomenclature may be determined.

To plant areas affording scope to experiments in re-forestation (although keeping in mind the main object of planting -- to provide additional cover for wildlife).

RESUME OF ACCOMPLISHMENT

The program to provide cover for birds and small animals has in the last thirty years resulted in the planting of over 200,000 deciduous trees, more than 75,000 evergreens, and also more than 200,000 wildflowers including mainly those native to the State of Minnesota such as the Moccasin or Ladyslipper.

Two nursery plots now contain over 8,000 specimens and well over 500 species and varieties of woody plants most of which have been introduced into the Arboretum proper. There are several special collections including a lilac group consisting of over 600 plants and nearly 80 varieties. There is also a willow park where numerous varieties of willows have been planted; many of these are now mature trees.

In keeping with the idea of the Arboretum as a natural history museum, six miles of footpaths and nature trail and seven miles of bridle paths have been laid out bridging the Cannon River in three places, in addition to which two wayside kiosks have been built for the purpose of posting museum material on subjects of forestry, animal and bird, or insect life, etc.

As an experiment in "self-guiding" along a marked nature trail, the Carleton Natural History Club has from time to time issued a nature trail bulletin outlining changing conditions and points of interest along this 3½ mile marked trail. A copy of the nature bulletin is included with this summary, and while this is not one of the latest issues, it is interesting in that it contains a spring listing of some of the more than 150 bird varieties which have been recorded in the Carleton Arboretum.

Two factors undoubtedly account for this exceptionally large number of bird species. One is the dense cover which has been developed to improve upon the great variety of favorable environments for both resident and migratory species. Shelter belts of spruce and other trees have been planted to add to the protection of the bird sanctuary. Natural conditions have been augmented with water areas such as Lyman Lakes which were developed by impounding the spring-fed waters of Carleton Creek.

A second factor accounting for the large avifauna is the feeding stations and other devices for attracting birds that have been located on the campus and in the Arboretum. Efforts are continually being made to retain winter birds by means of these feeding stations.

The introduction of new varieties of trees, shrubs, and plants and the selecting and developing of strains that gradually become acclimated in this part of Minnesota continues on a large scale. The Carleton Arboretum is listed as a "Collaborator" of the Bureau of Introductions and many foreign materials have been received for trial as well as materials from other sections of the United States. In recent years the U.S. Forestry Service has been particularly interested in such specimens as our Japanese Elm and Amerchino Elm as possible substitutions for the American Elm which is being devastated by the Dutch Elm disease. The Carleton Arboretum is today a clearing house for results of trial of new species in this State and in general a center of plant knowledge both for the State and nationally.

The wildlife cover in the Arboretum has benefited not only the bird population but also small animals of which nearly 50 species may be found in the area. This includes raccoons, badgers, beavers, deer, and such smaller forms as ground and tree squirrels, chipmunks, pocket gophers, woodchucks, wood and field mice, muskrats, jack rabbits, moles, and shrews. The now-clean waters of the Cannon River as well as the numerous streams and inland lakes and ponds support a local fish fauna of about 35 species. There are also known to be at least 12 species of amphibians and 16 species of reptiles commonly to be found in this area.

Each year a number of surveys are made in the Arboretum to determine the frequency of observation of both animal and bird species. In this connection a local authority, Mr. Orwin Rustad of Faribault, has conducted an 11-year survey, from 1951 through 1961 in the Rice County area. His scatter-gram diagrams showing a composite for the years 1951-58 indicate that by far the majority of birds seen on these surveys was recorded in the Carleton College Arboretum. As a matter of interest, a copy of one of these composites is attached.

The establishment and expansion of the Carleton Arboretum represents a large investment for the College. Over a period of years almost \$50,000 was expended

in developing the Lyman Lakes and Carleton Creek area alone. In addition, it is estimated that of the roughly \$390,000 Carleton has spent on campus grounds and Arboretum development, more than \$50,000 has been channeled into the improvement and maintenance of Arboretum areas other than Lyman Lakes. The total expenditure, therefore, ranges over \$100,000. There is no question in the mind of College authorities that this has been a wise and worthwhile investment not only for the College itself but also for the general public from all parts of the State to which the Arboretum is open the year around.

FUTURE PLANS

The Arboretum at Carleton is founded on the basis of a secure income for all time as guaranteed by the College as a permanent institution of learning. The College intends to enlarge upon and improve the value of the Arboretum as a living museum for study of natural history and as an ideal sanctuary environment for birds and animals.

Of focal importance to future plans for the Arboretum is its maintenance as a State Game Refuge with all of the protection and prestige which this designation implies. Since the Carleton Arboretum was founded over thirty years ago, a primary goal in its operation and maintenance has been the preservation and restoration of a natural habitat for wildlife in the State of Minnesota. The Arboretum is also an outdoor museum open to the public of the State and recognition of the Arboretum as a game sanctuary by state authorities is viewed by the College to be of great importance in furthering the effective administration of this area.

Thousands of dollars continue to be spent each year for improvement of the Arboretum and the campus grounds which are contained within the area. In recent years there has not been a distinct separation between "campus" and "arboretum" in connection with the charging of funds for over-all area maintenance. However, it is not at all misleading to say that a sizeable sum of money each year is directly channeled into maintenance of the basic Arboretum areas which are away from the main complex of College buildings. In addition to maintenance of the Lyman Lakes and Carleton Creek area, there are nature trails, bridle paths, bridges, wayside kiosks, bird feeding stations, and other devices to be repaired, replaced, or added to each year. The area, since open to the public, is subject to litter and considerable expense is involved in coping with this problem.

In addition to the maintenance expense there are reforestation projects under way and thousands of trees and shrubs are planted each year to add to the wildlife shelter belt and other Arb areas of wildlife cover. Fortunately, many young trees are now available at little expense from the Forestry Division of this State, and the cost of introduction of new species is borne by the College but usually through the academic areas involved (biology, zoology, botany, and geology) rather than by the grounds maintenance department. The cost, while large, is gladly assumed by the College since it is considered to be an extremely worthwhile expenditure.

Even though the annual expenditure of funds in the Arboretum is considerable, the potential for increasing the value of this area is greater than the funds which are readily available. Arboretum expenses are now being paid from the current operating funds of the College. It is felt that other sources should be developed to supplement the money obtained from regular College income. One obvious source would be gifts to create an endowment for the Arboretum, and it is altogether possible that individuals not interested in contributing to other college programs might be attracted to the idea of contributing to a living museum such as the Carleton Arboretum area. It would be our hope to find such individuals in the years immediately ahead.

To date, one of the most practical suggestions for obtaining funds for perpetuating the Arboretum is that the College might apply for a grant from some such organization as the Lewis W. and Maud Hill Family Foundation. Grants from this same source have been obtained by Carleton for other worthy purposes in the past, and there would seem to be no reason why the Foundation might not wish to support the right kind of development project in the Carleton Arboretum.

Since it is felt that effective administration of the Carleton College Arboretum is tied very closely to its continuance as a State Game Refuge, the College wishes to go on record with a statement pledging cooperation to the State Department of Conservation authorities in assisting and, where possible, even taking over some of the troublesome areas of Arboretum control. The College would be willing to work under the direction of the State Game Wardens in posting and repainting, as necessary, all "State Game Refuge" signs in the Arboretum.

At the present time the generally well-fed condition of animals in the Arboretum would indicate that none of the species are overly-abundant; however, if in the opinion of State authorities any of the species should become too abundant in the future, the College would be willing to discuss any means of reducing these numbers which would be consistent with the safety of the students and members of the public who might be in or around this area.

College authorities have (a) stated their willingness to take all necessary steps to remind students and public alike of the importance of the Arboretum as a wildlife sanctuary and unique area for observation of birds and animals in their natural habitat; (b) indicated their agreement to the necessity of signing and processing complaints against those who might perpetrate serious offenses against State laws and regulations in the Arboretum; (c) registered their enthusiasm for the idea of seeking the advice and consultation of game and refuge experts in connection with the College's plans for the future of the Arboretum as an ideal area for the preservation and restoration of State wildlife.