

1964

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William H. Marshall

University of Minnesota, St. Paul

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ZOOLOGY

Cedar Creek Natural History Area, 1963

WILLIAM H. MARSHALL

University of Minnesota, St. Paul

This paper is to inform members of the Minnesota Academy of Science and other citizens of the state as to the present status of the Cedar Creek Natural History Area. It is necessary for several reasons: first, as an opportunity to fully acquaint you with the contributions of the late Dr. Arthur N. Wilcox and Dean T. H. Fenske, and second, because we are entering a new phase in the evolution of the project.

Let us review the project and its objectives briefly. It is an undertaking of many persons and organizations, scientists and non-scientists; teachers and natural history enthusiasts; colleges and the University in *short—the Academy*. It is an area that is devoted to the *preservation of a unique series of habitats in the Anoka Sand Plain and dedicated to scientific and educational pursuits* by interested people not only from the Twin Cities metropolitan area some 30 miles to the south but also throughout the state. It has merited support from major foundations—The Max C. Fleischman Foundation of Nevada; The Louis W. and Maud Hill Foundation of St. Paul and the National Science Foundation. It has come of age since its establishment 23 years ago. Now is the time to make sure it continues to mature and to reiterate that the Minnesota Academy of Science has an important part to play in that process.

I wish also to emphasize the timeliness of the project. Whereas, in 1940 the area was rather remote and not liable to major human pressures now it is being surrounded by the rapidly expanding housing projects. Certainly with the further development of freeways this will continue. The foresight of Dr. W. S. Cooper, Mrs. Cora Corniea, and others was indeed fortunate for us.

Cedar Creek has developed as the result of personal dedication and service by many individuals. Chief of these was Dr. A. N. Wilcox who passed away at his desk on the morning of February 26, 1963. Professor Wilcox was a devoted servant of the Academy and the project before and during his tenure as Director from 1954 to 1962. His contributions of time, energy, and thought were tre-

mendous during this period. Fortunately, they were recognized by the dedication of a plaque in the Cedar Creek Laboratory on October 21, 1962 which was witnessed by some 200 people. This plaque reads: "*In appreciation of long and dedicated service to the development of the Cedar Creek Natural History Area for the use and enjoyment of scholars, inscribed to Arthur N. Wilcox, Director, 1954-1962 by the Minnesota Academy of Science and the University of Minnesota.*" These words express succinctly our realization of his contributions and accomplishments.

Dean Emeritus Theodore C. Blegen of the University is another person who, throughout this long period of development, continually looked after and promoted the interests and ideals of the Academy. Although known as an Historian, Dean Blegen had at one time been a biology teacher and fully realized the depth and significance of this project to field biologists.

While undoubtedly most Academy members know of the efforts of these two men I wish to draw your attention to two others. The late Dean T. H. Fenske assumed responsibility for the many details of maintenance in the area in 1960. Dean Fenske was an expert at managing and arranging projects for the University throughout the state. He contributed in many ways to the well-being of the project. Also Stanley J. Wenberg, Vice President for Educational Relations and Development of the University turned his vigorous attention and abilities toward the project on numerous occasions.

Many other people have made contributions as advisors, promoters, donors and helpers in countless ways. Dr. Donald B. Lawrence, Professor of Botany, has been an outstanding example. Truly this project has been a broadly supported one.

I would like to sketch the machinery for conducting Cedar Creek Natural History affairs to you. The central unit is the Advisory Committee which has at least three persons appointed by the President of the Academy, as members. This group, chaired by Dr. A. C. Hodson has

met many times over the years to consider, discuss, and advise the Director. There are three sub-committees as follows:

Technical Sub-Committee: Advises regarding the scientific aspects including botany, zoology, geology, meteorology and water resources, and reviews applications for use of the area.

Management Sub-Committee: Advises regarding physical operations involving land and buildings, including plans for acquisition of new land, rental of land not needed for research or teaching, disposition of old buildings and plans for new buildings, location and maintenance of roads, trails, fences, gates and firebreaks.

Promotion and Fund Raising Sub-Committee: Prepares lists of potential sources of funds, aids in preparing annual budget, and recommends methods of acquiring funds.

The committee is appointed by and reports to Dr. Bryce Crawford, Dean of the Graduate School, University of Minnesota. Dean Crawford, who has given real and substantial support to the project, delegates authority to the Director as regards programs, planning, and promoting the project. Responsibility for the facilities rests with the Dean of the Institute of Agriculture, Forestry and Home Economics working with the Director. This structure, channeling administrative functions through the Director has worked effectively and assures a broad base for operation of the project.

The above presents a brief picture of the machinery for operations. Now let us look at where we presently stand.

Currently, approximately 4400 acres of land have been acquired—chiefly with funds provided by the Max C. Fleischman Foundation. There is urgent need to purchase about 600 acres of land to round out boundaries and fill in gaps. These lands have just been appraised and we hope acquisition will be completed soon.

The laboratory with an apartment, dormitory space, and meeting room facilities is complete and in daily use. Recently an addition to the garage for a specific research project has been made and a considerable number of tools obtained for use in the shop.

A series of aerial photos, a superb aerial mosaic map, and large scale maps showing roads, topography, upland and lowland cover types, in great detail are available. A complete meteorological station will soon be completed. These were provided by a grant from the National Science Foundation.

So much for the physical and administrative aspects of the project. What have been its uses?

A review of the log book, which visitors are asked to sign, shows that there were at least 700 visitors in 1961 and 600 in 1962. Persons exploring the area have totaled about 100 each year and have come from many parts of the country. Groups or classes from Augsburg College, Carleton College, Gustavus Adolphus College, Macalester College, St. Paul Science Museum, University of Minnesota and St. Thomas College have visited one or more times each year for a total of between 250 and 400 visitors. Individuals carrying out research have made between 200

and 300 visits each year. These totals are undoubtedly low but give an estimate of the magnitude and type of use.

The available records show that there have been at least twenty research projects carried on in the area. These have been concerned with botanical, zoological, geological and even outer space problems. Currently studies of properties of the ionosphere, responses of animals to environmental changes by use of radio telemetry, behavior of ruffed grouse and thirteen lined ground squirrels, moisture content of aspen bark, fossil plant pigments and productivity of aquatic environments, and solar radiation in differing habitats are being carried out. A listing of known projects and publications is appended to this report.

In addition to these major studies, students in classes in plant ecology and wildlife techniques are carrying out individual projects in the area. Each will no doubt contribute to our knowledge.

The purpose of Cedar Creek is to preserve and to study. Appended are copies of the visitor regulations and of the application for research use. I hope that every member of the Academy will consider this as an opportunity to utilize the area constructively.

Now for a brief look into the future. We have problems to face. Our relations with the citizens of Anoka and Isanti Counties need improvement. Purchase of lands for public ownership have had effects on their economy. We believe this problem is being solved. Also members of the Academy need to know more of the project and research workers should be encouraged. This paper will contribute to such knowledge.

Secondly, we must continue to preserve the area from unnatural pressures. The custodian, Alvar Peterson, is doing an excellent job. Also we must be sure that the landscape and habitats are maintained. The Anoka Sand Plain habitat was, in part, a product of disturbance. Some disturbance will be necessary in the future. For this reason, we are maintaining some farming operations, and it may be necessary to use fire in a cautious but realistic fashion. These questions and others will come up before the Advisory Committee for consideration and planning. You may be assured that the Cedar Creek Natural History Area will be a project of the Academy and of the state and that the study and understanding of fundamental ecological problems will always be uppermost in the varied program for the future.

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Outline of format to be used in preparing 15 copies for review by subcommittees. Please follow exactly using space as needed.

APPLICATION FOR RESEARCH USE OF THE CEDAR CREEK NATURAL HISTORY AREA

Name of Applicant _____

Project No. _____

Date of Approval _____

- I. Subject of proposed research (Please suggest in a few words one or more short headings which the Director could use as a title of your project.)
- II. Name and position of applicant
- III. Date of initiation and probable duration of project
- IV. Nature and importance of project (Scientific and Scholarly Value within its own Field; Practical Significance)
- V. Present status of knowledge on this subject: A Brief Résumé
- VI. Methods of investigation (a topic outline)
- VII. Plans for cooperation with others
- VIII. Plans for publication of the results of this research
- IX. From what source (s) are the funds to be obtained for carrying on the project? Please indicate amount. Do you need additional funds? If so, please indicate amounts under the following headings: assistance, supplies, research, equipment, travel, other.
- X. Detailed Statements:
 - Time schedule
 - Facilities Needed
 - Residence, dormitory, laboratory space, warehouse or machine storage space, shop facilities, equipment.
 - Proposed Uses of the Natural Area
 - Communities and organisms to be studied and anticipated types of use, whether for observation, collection, or experimentation.
 - Personnel who will be working actively in the field. Please supply names and addresses so that a permit can be issued.
- XI. Has the applicant carried on studies in the Cedar Creek Natural History Area in the past?

Project Title	Project Number	Year
_____	_____	_____
_____	_____	_____
_____	_____	_____

Signed _____

Date _____

CEDAR CREEK NATURAL HISTORY AREA VISITOR REGULATIONS

(Revision of April 15, 1963)

PURPOSE OF THE AREA

The Cedar Creek Natural History Area is a tract of approximately 4000 acres in northern Anoka and southern Isanti Counties, established as a living museum by the Minnesota Academy of Science and the University of Minnesota. It is land chosen for its relatively undisturbed condition, and set aside for the study of wild plants and animals and their natural environments. Some fields existing within the boundaries will continue to be farmed by local residents. Most of the fields have been abandoned and many are being allowed to revert to a natural state while a study of the process is being made. A few will be plowed periodically and abandoned so as to provide a regular series to illustrate the nature and rate of succession to forest conditions. The influence of fire as an environmental factor affecting maintenance of certain forest types and the relations between forest and prairie is also to be examined.

Studies made in the reserve are basic scientific ones, whereby fundamental knowledge may be gained. Already the area has a world-wide reputation among scientists for the excellence and importance of the findings made within it. The reservation is not an experiment station for solving applied problems of forestry, agriculture, or game management, but it is anticipated that much of the basic knowledge gained here may be found to have practical value in the future.

Visitors are welcome in the area. However, since many human activities tend to be destructive of natural conditions, and of study projects, actual use of the area must be restricted to persons with serious natural history interests, and all visitors must agree to abide by the regulations presented herein.

The land and laboratory building have been acquired through gifts from private individuals and foundations, without expenditure of public funds. The area is to be preserved perpetually as an example of primitive Minnesota landscape for the benefit and interest of our own generation and those who may follow us.

The one-story modern laboratory building which serves as the local administrative center is located about two hundred yards south of Anoka County Road No. 24, two miles east of Cooper's Corner, which is on Minnesota Highway 65, 19 miles north of its junction with U.S. Highway 10. Visitors are cautioned that car wheels should be kept on firm surfaces to avoid becoming stuck in sand or muck.

Persons intending recreational amusements such as games and picnics are directed to nearby public parks. (See bulletin board).

ADMINISTRATION OF THE AREA

The area is administered by the Dean of the Graduate School of the University through a Director appointed by him. The Director is aided by an Advisory Committee with representatives from the Minnesota Academy of Science and from the natural science departments of the University. Three subcommittees: 1) Technical, 2) Management, and 3) Finance, consider special operational problems.

There is a local custodian, Mr. Alvar Peterson, who is a deputized member of the University Police Force and is responsible for protection of the area and its facilities. Mr. Peterson may be found at the laboratory building (Phone Area Code 112 434-5131) or at his home which is one mile east of the laboratory on County Road 24. Unauthorized activities and violations of visitor regulations on the area should be reported to him immediately.

USES OF THE AREA

Use of the area ordinarily falls into one of three general types.

1) *Exploratory*—A teacher or research worker becoming acquainted with facilities, landscape, flora, and fauna for possible future demonstration or study.

2) *Class Visits*—A teacher bringing a group for demonstration of biological or other features.

3) *Research*—An individual studying a specific problem, which he proposes well in advance to the Director, and carries out according to an approved plan.

PERMIT AND ENTRY PROCEDURES

A permit card must be obtained by those wishing to utilize the facilities of the area. Ordinarily a separate permit will be issued for each individual or group leader, and is to be shown upon request as evidence of official authorization to visit the area. An annually renewable permit is available to *qualified individuals*, who may then conduct guest visitors to the area in small groups without additional permission.

Application—Please apply in advance in writing to the Director, Dr. William H. Marshall, 300 Coffey Hall, University of Minnesota, St. Paul 1, Minnesota, or in emergency by phone (647-3513) followed by letter, for a permit to enter the area, indicating objective and time of proposed visit and number of persons involved. A permit card will be issued promptly specifying the purpose of the visit and the portions of the area on which field work may be carried out. Visitors arriving at the Laboratory before learning of the need to obtain permission from the Director may apply directly to the Custodian.

Entry—On entering the area check in at the Laboratory building, sign the register and read special notices regarding the day's conditions on the bulletin board. A map showing location of trails, areas of special interest and zones of use will also be found there.

Exploratory Use Permit—Limited collecting is allowed for purposes of identification and later recognition, in areas zoned for this purpose, within 100 yards of roads, as indicated in the *General Regulations* below. Maps, soil analyses, meteorological data, check lists of species known to occur in the area, and bibliography of articles written about the area may be obtained from the Custodian. Aerial photomosaic and stereopair photos, large scale contour maps and a limited library are available for study in the laboratory.

Class visit permit—Please note that some parts of the area are not open to class visits. The leader of the party is to brief the class, in advance, by reading to them the *General Regulations* set forth below. The leader should sign the register and indicate the number of individuals in the party. He should also obtain an extra map at the Laboratory, and mark on it the approximate route followed and stops made, sign it and leave it in the laboratory mail box (or send by mail addressed to

Custodian, Cedar Creek Natural History Area, Bethel, Minnesota). Laboratory space may be requested, and dormitory facilities for 12 men and 4 women are available by reservation at a nominal fee.

Research permit—Obtain from the Director a copy of the "Research Proposal Request", and submit a proposal to him. After review by a committee and approval in writing, follow the plan of research as approved unless changes are mandatory. The Director should be advised, in advance, of any subsequent major proposed changes. Laboratory and dormitory facilities, guest apartment at the Laboratory and outlying buildings are available by reservation. A list of apparatus and instruments available for general use will be provided on request.

GENERAL REGULATIONS

1. Access is restricted to *marked* roads, trails, or wooden walkways unless other specific permission has been granted, except that most areas within one hundred (100) yards of roads are zoned for free access to persons or classes having permission to use the area. In these free access areas each person should take a separate route to avoid excessive trampling of vegetation and soil. Camping or driving vehicles off roads are not allowed without special permission. Pets must be on leash.

2. Unauthorized trespass, disturbance, or destruction of any kind cannot be tolerated. Any natural feature such as logs, bark, or moss tufts moved for inspection should be replaced in their original positions. Leaning dead trees are to be left standing until felled by natural causes. Limited collecting is permitted of single annually regenerated plant parts such as leaves, small roots, stalks of grasses, flowers, and individuals of large populations as of micro-organisms or insects, along the 100-yard roadside strips zoned for this purpose. Any other sampling requires specific permission.

3. Lunching is permitted anywhere provided all refuse is taken away, and deposited in receptacles at the Laboratory, or preferably taken home. The refuse burner may be ignited only by the Custodian.

Smoking out of doors is not permitted at times of high fire danger as posted on the bulletin board. At other times smoking is to be carried out with extreme caution and spent tobacco, butts, and matches are to be pocketed.

4. Introduction of plants or animals is not permitted.

5. It is requested that any vertebrate animal found dead be reported to the Custodian, indicating exact location.

Signed: WILLIAM H. MARSHALL, *Director*