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THE DEVELOPMENT OF THE CEDAR CREEK FOREST NATURAL HISTORY AREA

ARTHUR N. WILCOX

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The Cedar Creek Forest, located in Anoka and Isanti Counties, Minnesota, is a natural history area established for scientific and educational purposes. Its preservation through the joint efforts of the Minnesota Academy of Science and the University of Minnesota, with the aid of many public-spirited citizens, is a noteworthy achievement. Since the inception of this project in 1940, approximately 600 acres of relatively wild land of exceptional ecological interest and within 30 miles of the University and several other colleges have been acquired. Research facilities, including a headquarters cabin and excellent aerial photographs and maps, have been developed. The area has come into use for research studies by faculty members and graduate students and for observation by classes from four colleges in the state and from several departments of the University of Minnesota. This report on the development to date and the present use of the project is made in accordance with a recommendation in the 1949 report of the Committee for the Preservation of Natural Conditions as adopted at the annual meeting of the Minnesota Academy of Science. A map of the general area accompanies this report.

Cedar Creek Forest is apparently a southern relict outpost of the Canadian type of forest and the only example of that forest located so close to Minneapolis and St. Paul and to the colleges and universities in that region. Here on the hills and slopes are found all three kinds of pine that are native to Minnesota as well as old prostrate junipers and many species of hardwood trees. Tamarack, white cedar, and black spruce are abundant in the swamps. The white pine, white cedar, and black spruce occur in dense stands. Birds and mammals of the northern forest inhabit the area. The ruffed grouse and the Canada spruce grouse are found here and this is the southernmost place in Minnesota where the Canada jay can be seen regularly. Even the rare arctic three-toed woodpecker has been watched here. Deer are numerous and beavers have recently been active along the creek. The survival of this refuge may have been due in part to its separation from the main body of the forest and in part to its isolation by swamp land from encroachment and fire. Now that it is being preserved, the area should increase in value with the passing years.

Soon after the appointment of the Committee on the Preservation of Natural Conditions in 1937, its attention was called to the desirability of a portion of this area by Dr. William S. Cooper, who

had become acquainted with the area after discovering it from the air. The preservation of this portion, known as Cedar Creek Bog, including a small lake, bog, and wooded swamp, was recommended in the committee's first report, published in the 1938 *Proceedings*. During the following year a closer study of the region revealed the advisability of setting aside a larger area than was first proposed, not only to include additional features of forest, meadowland, and stream, but also to provide a reasonable range for the preservation of the wild life that was so abundant. In 1939 the Academy approved the committee's recommendation that special efforts be made to preserve at least 800 and possibly up to 1600 acres. This would include a hilly region nearly surrounded by lower land, with two small lakes and more than a mile of a constantly flowing creek bordered in part by open meadows. Aside from this meadow and two clearings of crop land, the area was principally covered with timber. It was recognized that the area to be preserved should be compact and have easily defined boundaries.

DEEDED TO UNIVERSITY

The purposes for which this land was desired seemed to justify and require a tax-free status. Careful consideration of several possibilities led to the conclusion that the University of Minnesota would be the most suitable public agency to preserve this area and administer it wisely for its intended uses. In the spring of 1940, therefore, President Guy Stanton Ford of the University was approached concerning the possibility that the University would accept and preserve the land if the Academy could obtain gifts from private sources to make the acquisition possible. On April 12, 1940, the Regents of the University of Minnesota gave the proposal favorable consideration.

There were then two principal tasks to be undertaken, the negotiation of a formal agreement with the University and the acquisition of a sufficient nucleus of land to assure the success of the project. Both of these tasks were furthered by the generous help of Mr. Charles Keyes, of Minneapolis, who contributed his services as counsel. In the course of the drafting of the agreement by Mr. Keyes, the chairman of the committee frequently consulted the officers and trustees of the Academy as well as other members of the committee, and Mr. Fred B. Snyder, Chairman of the Board of Regents. On December 11, 1942, the agreement between the Academy and the University was executed, providing for the conveyance of the lands and the establishment and administration of the Cedar Creek Forest, as it was officially designated. A copy of this agreement is in the files of the Academy. It provided, in summary, that certain lands had been or would be transferred to the Regents, who, in turn, would keep and preserve them as far as possible in the

natural condition as a refuge for the indigenous plant and animal life; would administer the area so as to encourage its wise use for scientific and educational purposes, particularly for natural history studies; would permit the Academy to cooperate in fostering and carrying out such studies; and under reasonable regulations would keep the area accessible to qualified persons, such access and use not being limited to persons having an official connection with the University. The University also agreed to set up a committee representing various fields of natural history to have the care and supervision of the Forest and its uses. In this connection it was the desire of the Academy that the administration of the Forest should represent a broad point of view rather than that of any single interested department.

The first forty-acre tract was bought with funds raised by subscription from about 25 members of the Academy. Donations were then obtained from many interested persons, from several societies, and from one charitable foundation. Donations of money ranged in amounts from \$5 to \$1600 and of land from 40 to 130 acres. The Academy and its committee are grateful to the donors for these generous contributions and to a number of persons, including several presidents of the Academy, for their active help in obtaining these gifts.

The lands already deeded to the University have a total area of 580 acres.¹ Of these, 80 acres, designated as Tracts 25 and 32 on the accompanying map, were deeded directly to the University by Dr. and Mrs. A. D. Corniea; and 50 acres, including Tract 14 and additional land east to the highway, by Mr. and Mrs. Glenn A. Carpenter, both gifts with life-estate reservations. Several tracts were also designated as memorials: Tract 40, of 40 acres, as a memorial to Frank E. Swanson (a boulder near the southeast corner bears a bronze tablet); Tract 26, of 40 acres, as a memorial to Mr. Charles Bunn of St. Paul through gifts from his daughter, Miss Helen Bunn; and Tracts 31, 38, 45, and south to the highway, 130 acres, given by Dr. and Mrs. Donald Lawrence as a living memorial to Dr. Lawrence's father, William Charleton Lawrence, who was a resident of Portland, Oregon.

ADMINISTRATION

In May, 1945, President Walter C. Coffey appointed Prof. A. N. Wilcox, Chairman, Prof. E. C. Abbe, Prof. D. E. Minnich, and Dean T. C. Blegen, *ex-officio*, to serve as a committee to administer the Cedar Creek Forest. It was his judgment that the administration ought to be under the Dean of the Graduate School, and for that reason Dean Blegen was asked to serve as an *ex-officio* member of the committee.

The following year President J. L. Morrill invited the Academy

¹ Increased to 620 acres just before the publication of this volume.

to select an advisory committee of three to advise the University committee in the administration of the Forest and its uses. It was decided by the Academy that the members of this committee would serve first for one, two, and three-year terms respectively, and thereafter for three-year terms, one to expire each year; and that in view of University representation on the Administrative Committee, the Advisory Committee should not, save under unusual circumstances and then for limited periods of time, include members of the University staff. The first committee, approved April 19, 1947, consisted of Prof. O. T. Walter, of Macalester College, chairman and member for the three-year term; Prof. Harvey Stork, of Carleton College, for the two-year term; and the Rev. Dr. Adelard Thuente, of St. John's University, for the one-year term. Since the appointment of this committee, the two committees have followed the practise of meeting together to consider matters relating to the Forest and its uses.

The administration of a natural history area so as to encourage its wise use for scientific and educational purposes and to conserve and if possible develop its natural values can not be done simply through the imposition of rules, regulations, or standardized procedures, but requires the careful weighing and consideration of many factors, some of which may be conflicting. Such administration must seek to minimize both the loss or depletion of plants and animals through fire, hunting, collecting, or other disturbance and also the undesirable alterations arising from overpopulation, invasion, or the introduction of exotics. Although the Forest is, in general, intended primarily for observation rather than experimentation, it is recognized that carefully controlled experimentation and collecting are essential to some research uses. Furthermore, although access by the public or by hunters or collectors would tend to deplete the Forest of many of its natural values, access for authorized use and for protection, such as fire control, needs to be assured. The proximity of this area to a large center of population poses special problems.

REGULATIONS

The definition of a few regulations has been considered necessary. Persons wishing to use or visit the area are required to obtain permits in advance. Permit cards are issued by the chairman of the committee to individuals for their own use or to the teachers or leaders who are responsible for classes or other groups. In the case of specific visits for observation only, the permits may be obtained either from the chairman or from the Museum of Natural History. Collecting is prohibited except when approved in advance and noted on the permit card. Users are to take all advisable precautions against fire, defacement, and disturbance, including the dis-

turbance of persons who hold life-estate reservations in portions of the area.

Research projects or other activities which involve collecting, experimentation, or other disturbance of natural conditions are to be carried out only after application to and approval by the committee. Whenever possible the original maps and records of surveys and research studies shall be filed with the committee for preservation in the library of the Museum of Natural History. Copies of research reports or at least five reprints of each printed publication shall be filed with the committee for the same purpose. This library has been designated as the official repository for records concerning the Forest.

These regulations are not intended to discourage legitimate uses of the Forest. They are a mechanism to aid in controlling its uses and to provide needed information. The purposes of such information include the development of knowledge and data concerning the natural history of the Forest and a record of the scientific and educational activities for aid in obtaining financial support.

FACILITIES FOR RESEARCH

A beginning has been made in providing facilities for research in the area in that the two most urgent needs have been satisfied,—the preparation of maps and the establishment of a headquarters cabin for the storage of equipment and the temporary housing of workers.

One of the first acts of the combined committees was to make arrangements for a request to the Graduate School of the University for a grant of \$400 for an aerial survey, which was then carried out under the direction of Prof. Donald B. Lawrence. The Forest and its surrounding area, about two by three miles, was photographed on June 19, 1947. The 48 photographs were made on a scale of approximately 12 inches to one mile, and in a manner which permits stereoscopic viewing. From these photographs a large mosaic map was prepared. The mosaic map and a set of contact prints can be consulted at the Museum of Natural History. The negatives and the index map are still in the care of Dr. Lawrence.

Later, under another grant, the committee had the mosaic map copied and employed an experienced cartographer to draw in the legend, scale, and a grid showing the approximate boundaries of all 40-acre tracts in the general area, regardless of whether they were included in the acquired lands. These tracts were consecutively numbered to facilitate easy reference without the detailed legal descriptions. The county engineers and surveyors were consulted in the preparation of this map. Nevertheless, due to the lack of proper monuments at section corners, to poorly defined boundaries, and to distortions in the mosaic, these grid lines must be recognized as

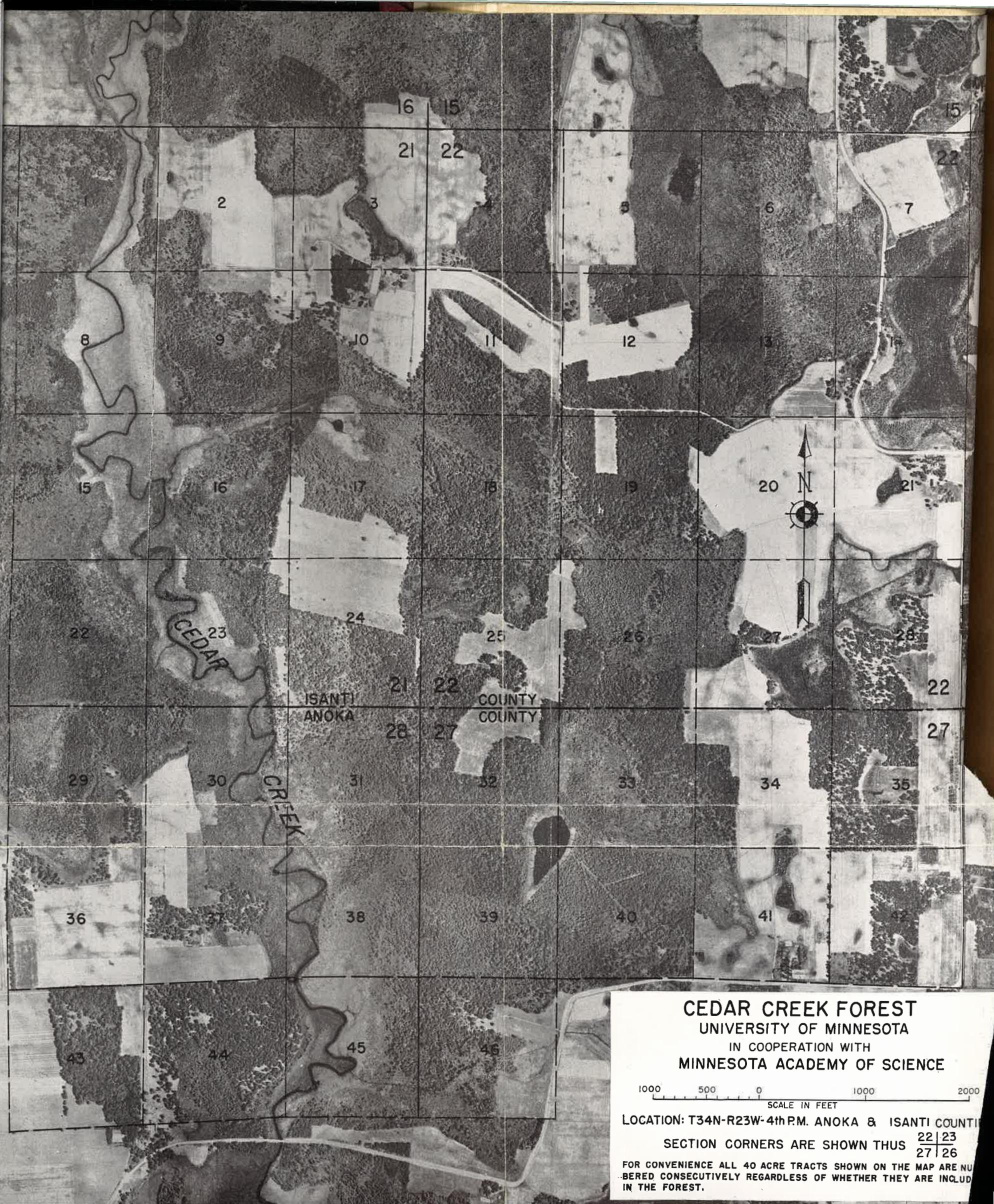
only approximating the legal boundaries. A half-tone plate was then made for printing copies at a scale of 6 inches to 1 mile. These are intended as working maps for persons visiting the area and for field use in recording distributions when the scale is adequate. This is the map which accompanies this report.

In June, 1947, a cabin was provided to serve as headquarters and shelter for persons working in the area and as a storage place for equipment and tools. A foreman's shed was obtained from the Rosemount Research Center, and by means of a grant from the Graduate School was reconditioned, moved to Cedar Creek Forest, and established near the southeast corner of Tract 40. The following spring, through an additional grant from the Graduate School and gifts from the Inventory Department, the cabin was simply furnished, provided with the most essential tools, and materials were purchased for driving a well. The cabin is now equipped so that two persons can use it for overnight stays in winter or summer.

FUTURE DEVELOPMENT

In its first decade this project has been carried through its most uncertain and probably most difficult period of development and is already, on a modest scale, beginning to serve its intended purposes of research and education. The development has not been completed, however. Approximately 1200 acres of land, half of which have been acquired, should be included to provide the needed variety of ecological conditions and to permit the desired control of boundaries and water rights. The establishment of a modest annual budget is desirable to provide funds for administration, maintenance, the improvement of safety, and the acquisition of some field equipment. Special support from outside sources may be expected for a fundamental program of research which should, at an early date, include the development of the history of each tract and the carrying out of surveys to record the current status of plant and animal distributions, soil types, and so forth. This program would require a number of years for its completion.

Cedar Creek Forest presents a rare combination of convenient accessibility, relatively undisturbed natural conditions, and exceptional ecological interest. Its continued development for the purposes and along the lines which have been set forth should provide an unrivalled laboratory for many types of natural history studies and result in the enrichment of understanding of some of the important resources of Minnesota.



CEDAR CREEK FOREST
 UNIVERSITY OF MINNESOTA
 IN COOPERATION WITH
 MINNESOTA ACADEMY OF SCIENCE



LOCATION: T34N-R23W-4th P.M. ANOKA & ISANTI COUNTIES

SECTION CORNERS ARE SHOWN THUS

22	23
27	26

FOR CONVENIENCE ALL 40 ACRE TRACTS SHOWN ON THE MAP ARE NUMBERED CONSECUTIVELY REGARDLESS OF WHETHER THEY ARE INCLUDED IN THE FOREST.