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Bulletin No. 32: The Connecticut College Arboretum - Its Sixth Decade and a Detailed History of the Land

Richard H. Goodwin
Connecticut College

Glenn D. Dreyer
Connecticut College

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The Connecticut College Arboretum

**Its Sixth Decade and a
Detailed History of the Land**

Bulletin No. 32



The Connecticut College Arboretum • New London, Connecticut



View up the Laurel Walk to the main entrance shortly after the Arboretum's establishment in 1931. Tract 1. (J. MacDonald)

Front cover: Woodland trail on Mamacoke Island Natural Area in winter 1989. Tract 13. (M. Braunstein)

**THE
CONNECTICUT COLLEGE
ARBORETUM**

**Its Sixth Decade
and a Detailed History of the Land**



Richard H. Goodwin

edited by

**Glenn D. Dreyer
and
Susan E. Olmstead**

THE CONNECTICUT COLLEGE ARBORETUM

Bulletin No. 32

March 1991

NOTICE TO LIBRARIANS

This is the 32nd volume of a series of bulletins published by the Connecticut College Arboretum, formerly named the Connecticut Arboretum. Bulletins 1-30 were published as Connecticut Arboretum Bulletins.

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THE CONNECTICUT COLLEGE ARBORETUM ASSOCIATION

Membership is open to individuals and organizations interested in supporting the Arboretum and its programs. Members receive Arboretum publications and notice of lectures, tours and other events.

Membership Categories

Patron	\$1,000
Sponsor (Business)	200
Supporting	100
Family	50
Organization (Non-Profit)	35
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Checks should be made payable to Connecticut College and sent to The Arboretum, Box 5511 Conn. College, 270 Mohegan Ave., New London, CT 06320-4196.

FOREWORD

The Connecticut College Arboretum has a rich and unique history, part of which is explained in this publication. We began to tell our story nearly ten years ago in Bulletin No. 28, *The Connecticut College Arboretum, Its First Fifty Years*. Written jointly by the past three Arboretum Directors, George Avery, Richard Goodwin and William Niering, it highlighted the establishment and early growth of the Arboretum, the development of the plant collections, the education and community service programs and our increasingly strong conservation and research agendas. Richard Goodwin was the guiding light behind Bulletin No. 28, and he is the sole author of this latest work.

The first part of this bulletin continues the Arboretum's institutional history from 1982 through 1990. Some important changes took place over this time, including the articulation of a mission statement, the appointment of the first full-time director, and the construction of our own maintenance facility along Gallows Lane near Buck Lodge. Many noteworthy research projects and educational programs were established or continued. But to me, the most significant contribution in this volume is the second part, a detailed history, tract by tract, of our Arboretum land.

Land preservation is an important and noble pursuit, and Dick Goodwin has been a leader not only in Connecticut but also at the national level as a former president of the Nature Conservancy. The Connecticut College Arboretum is a living testimonial to his vision of setting aside examples of the natural world for people to learn from and enjoy in perpetuity. This bulletin exemplifies his commitment to moving beyond preservation to protection and education. The detailed descriptions and annotations of each of the thirty tracts of Arboretum land will allow us to easily find deeds, locate boundaries and trace the history of land use from the time of European colonization to the present. For historians, there is a wealth of land ownership information (Dick tells me a future publication will contain more of that story in a different format). For scientists and their students, the research history of each tract is also available. I know of no other college which can assemble such a sizeable list of research reports, theses and publications on field work conducted within walking distance of the classroom. Clearly this is an unusual and valuable academic asset.

Celebrating our sixty years of institutional and geographic growth also celebrates the commitment of persons like Dick Goodwin, many other College staff members, and our devoted alumni and friends who all share the vision of the Arboretum as a place of beauty and science.

Glenn D. Dreyer
Director

ACKNOWLEDGMENTS

This bulletin represents the fruit of forty-five years of my involvement with the growth of the Connecticut College Arboretum. During this period I have enjoyed the support of a large number of people. I wish especially to acknowledge the help of my colleague, William A. Niering, who served as Assistant to the Director from 1952-1965, after which he succeeded me as Director, and of Glenn D. Dreyer, the present Director. They have patiently reviewed repeated revisions of the manuscript and have provided much information regarding events that have taken place and research that has been carried out in the Arboretum. Dr. Robert A. Askins has also been helpful in giving me the papers and data of his students. For assistance in finding my way through the early land records I am indebted to the surveyor, Robert L. Bucher, who has exhaustively researched these documents. I also want to thank Susan Olmstead for her meticulous editorial work in preparing the manuscript for publication and Glenn Dreyer for providing most of the photographs. And lastly I am grateful to my wife, Esther, for her encouragement and tolerance of the clutter of files that have now left our house for the College Archives.

Richard H. Goodwin

THE CONNECTICUT COLLEGE ARBORETUM

Mission Statement

January 1, 1990

The Connecticut College Arboretum is owned by Connecticut College and operated for the benefit of the college and the community. The Arboretum functions in support of the college's mission by helping to prepare men and women for a lifetime of learning about and interacting with the natural world. The mission of the Connecticut College Arboretum is:

- **Teaching**—To provide an outdoor laboratory for use by faculty and students in Botany, Zoology, Biology, Human Ecology and other departments. In both teaching and research, the Arboretum is a unique and valuable academic resource and support facility.
- **Research**—To support and conduct research in a broad range of topics including ecology, field biology, conservation and natural history. Arboretum research emphasizes long-term studies.
- **Conservation**—To provide stewardship of college lands by protecting, sustaining and enhancing biological diversity of large tracts of open space. The Arboretum also provides leadership statewide and beyond in conservation matters.
- **Collections**—To maintain, develop and interpret well-documented plant collections for teaching, research, public education and enjoyment.
- **Recreation**—To provide a place where people from the college and the community may enjoy passive recreation and where they may come to learn, reflect and renew themselves through contact with the natural world. The Arboretum enhances the quality of life for the college and the citizens of Southeastern Connecticut.
- **Public Education**—To provide programs and publications about conservation, horticulture, gardening, botany and natural history which enhance people's understanding of the natural world and foster an understanding of the Arboretum's mission.

THE CONNECTICUT COLLEGE ARBORETUM

Mission Statement

January 1, 1999



Left to right: Glenn D. Dreyer, Arboretum Director from 1988 to present; William A. Niering, Arboretum Director from 1965 to 1988, Arboretum Research Director from 1988 to present, and *The Katharine Blunt Professor* of Botany at Connecticut College; Sally L. Taylor, Arboretum Education Coordinator and Professor Emeritus of Botany at Connecticut College. (P. Horton)

THE CONNECTICUT COLLEGE ARBORETUM ITS SIXTH DECADE

This bulletin is the second installment of the history of the Connecticut College Arboretum. The first was prepared to celebrate the 50th anniversary of the founding of the institution in 1931 and appeared as Bulletin No. 28 in 1982.

ADMINISTRATIVE DEVELOPMENTS

The decade of the 1980s was an eventful one for the Arboretum. In 1988 Dr. William A. Niering, who had served as director for twenty-three years on a part-time basis, relinquished this post to become Director of Research. He was replaced by Glenn D. Dreyer, the Arboretum's Assistant to the Director since 1983, a position Dreyer assumed upon receiving his masters degree in botany at Connecticut College. Dreyer became the Arboretum's first full-time director.

At the time of the change of directors, the Arboretum's name also changed. Known as the Connecticut Arboretum at Connecticut College, the institution started out in 1931 as something of a waif. Much of its financial support came from unrelated sources—charitable contributions from philanthropic friends and organizations around the state. Notable among these supporters were Rosamond Danielson of Danielson, Edna Edgerton of Stamford, Helen Binney Kitchel of Greenwich, Katharine Matthies of Seymour, and the New London Garden Club. The Arboretum had one "aunt" in particular: Mrs. Frances S. Williams of Glastonbury was one of the College's founding trustees and an ardent supporter of the venture, especially when it came to adding new properties to the College estate.

As the Arboretum grew in size and reputation and became increasingly important as an educational resource, its College "family" came to appreciate it more and more. For example, when the Dean of the Faculty, Philip H. Jordan, Jr., left the College to become President of Kenyon College, he invited the retired director of the Arboretum to come to Gambier, Ohio, to meet with his trustees, administration and faculty to promote the preservation and educational use of Kenyon's natural environment, the way the Arboretum had been doing so successfully at Connecticut College.

As time went on the Arboretum gained a growing and generous constituency among the alumni. The Trustees and Administration of the College were becoming justifiably proud of the Arboretum. At their behest the name was changed to the Connecticut College Arboretum,¹ thus making it clear that the Arboretum is wholly owned and operated by the College and is not a state institution.

In May of 1988 a party was given in honor of Craig O. Vine to celebrate his

twentieth year of service to the Arboretum. He continues as the Arboretum's horticulturist, assisted by Jacklyn M. Haines, who joined the staff in 1988.

In 1989 the Arboretum received a gift of \$49,000 from the Norcross Wildlife Foundation to construct a building in the plant collection area to house Arboretum equipment and vehicles and provide much needed storage space. Located off Gallows Lane along the driveway to Buck Lodge, the two story, log cabin style structure complements the Arboretum's naturalistic landscaping and will greatly increase the efficiency of the maintenance operation.



Built in 1990 near Gallows Lane and Buck Lodge, this garage houses Arboretum maintenance equipment. Tract 1. (G. Dreyer)

In 1990 the Arboretum Director assumed responsibility for care of the Caroline Black Garden, a teaching garden established in 1921 by Botany Professor Caroline Black. Sloping down from Mohegan Avenue across from the College's Main Entrance, this five-acre display of ornamental trees and shrubs had been maintained and improved by the Arboretum staff since the Arboretum's genesis in 1931, but always under the direction of various Botany Professors.

The Caroline Black Garden. *Left:* Looking west ca. 1930 across the small, bedrock pond at the bottom of the garden, across the south lawn and Mohegan Avenue to Fanning Hall. *Right:* Looking east in 1990 from the Vinal Cottage driveway across the two small northern lawns. (C.C. Archives and G. Dreyer)



Under the direction of Connecticut College President Claire Gaudiani ('66) the College community entered a year of strategic planning in September 1988; William Niering and Glenn Dreyer served as two of eleven team leaders for this project. During the planning process the Arboretum administration, in consultation with the Botany and Zoology faculty, developed an official Mission Statement for the Arboretum (p. vii). The purpose of the Statement is to indicate how the Arboretum serves the College's mission, and to delineate six functional areas in which the Arboretum operates—teaching, research, conservation, collections, recreation and public education. The Arboretum Mission statement was officially adopted in January of 1990.²

LAND ACQUISITIONS

Three new tracts of land were added to the Arboretum holdings in the 1980s. Their locations are shown on the map on page 40. One of these (Tract 29) is of particular importance because it protects not only the southern boundary of the original, cultivated portion of the Arboretum with its Lake and Outdoor Theatre, but also the Bolleswood Natural Area.

In 1983 the remaining undeveloped twenty-two acres of the Comstock farm, the northern portion of which had been acquired by gift in 1927, came on the market. The College was able to purchase the property for \$90,000.³ A fund drive raised over half the purchase price from friends of the Arboretum, and the northern twelve acres (Tract 29) were added to the Arboretum and named *The William A. Niering Tract* in honor of its third Director.⁴ The 173 contributors to this addition are listed on page 59. This land had been abandoned from agriculture for about sixty years and had been used by College classes as a place to study old field succession even before its acquisition. Most of the land has now reverted to thicket and young forest.

The other two tracts are located along the western boundary of that portion of the Bolleswood Natural Area lying north of Gallows Lane. They serve as excellent buffers to the Natural Area. The southernmost 2.9-acre piece (Tract 28) was a gift in 1983 from the late Martha B. Anderson of Old Lyme.⁵ It is now a woodland dominated by oaks. Further to the north, west of the *Hirschfeld Tract* (Tract 18), is the 10.3-acre *Applewood Tract* (Tract 30), a gift in 1988 from Theodore Olynciw, the developer of the adjacent Applewood subdivision.⁶ Much of the western section of the parcel was levelled with fill from nearby construction projects and is currently dominated by grasses and forbs. The eastern portion is forested.

In 1990 the Trustees named Tract 26 the *Sally L. Taylor Tract* to honor retiring Professor of Botany and Director of the Program in Human Ecology Sally Taylor.⁷ For a number of years she served the Arboretum as Associate for Community Projects and devoted much energy toward developing the ornamental plantings on the campus, in the Caroline Black Botanic Garden, and especially in the Nancy Moss Fine azalea collection in the Arboretum. The Trustees wished to recognize her many contributions to the College.

THE PLANT COLLECTIONS

The Arboretum suffered two devastating impacts during the decade. The first was Hurricane Gloria, which struck southern Connecticut on September 27, 1985. Two hundred and fifty-two trees had to be removed from the woody plant collection area of the Arboretum and another nineteen from the Caroline Black Botanic Garden. Fortunately the Arboretum was eligible to receive funds through the Federal Emergency Management Agency to help defray the expense of the clean-up.

The second problem was a lethal infestation of the red pines by the red pine scale (*Matsucoccus resinosae*) first noticed in 1984. The grove southeast of the Pond, as well as plantings around the Outdoor Theatre and along Williams Street and the Laurel Walk, had to be removed. The trees were cut down and chipped in 1987 at a cost of \$12,000, and the mountain of chips was used to mulch plant collections and surface shaded paths. Dead pines still stand adjacent to the Bolleswood Natural Area north of the Pond.

The loss of the grove created a vacuum that would be magnificently filled by the family of an alumna, Lillian Dauby Gries ('27), who established a memorial in her memory in the form of a native conifer planting to occupy the entire space. Landscape architect Sara Manwell Bradford ('63), a former botany major, drew up a plan which included a circular stone overlook and a boardwalk across the small wetland separating the memorial from the Edgerton Wildflower Garden. A public dedication ceremony took place on June 2, 1989, to celebrate the completion of the construction and the plantings, which initially included thirty-four species and forty-eight varieties of conifers and native shrubs.

Two additional memorials are now in place. One is a special mountain laurel planting dedicated in 1985 to the memory of Josephine Hooker Shain, wife of Charles E. Shain, President Emeritus of Connecticut College. Located south of the main entrance near Williams Street, it includes some lovely cultivated varieties of mountain laurel (*Kalmia latifolia*), many developed at the Connecticut Agricultural Experiment Station by Dr. Richard Jaynes. Some have deep pink flowers, others unusual markings of the corollas. In 1989 Suzanne Klagsbrun established a memorial to her brother, Daniel Klagsbrun ('86). This Memorial Garden in the legume collection is located directly behind the Outdoor Theatre. The conceptual design, also by Sara Bradford, highlights a natural assemblage of large boulders, and includes a rustic stone bench next to an existing stone wall.

The Pond, earlier referred to as the Lake, was originally formed in 1928 by clearing and flooding a red maple swamp. During the ensuing fifty years the proliferation of waterlilies and other emergent vegetation completely covered the surface, converting the pond into an incipient marsh. It was drained during the winter of 1982-83 in the hope that freezing the exposed rhizomes would kill the waterlilies, thereby restoring an expanse of open water. This procedure did produce some openings, but was only partially successful. It was repeated

The Connecticut College Arboretum



Left: Red Pine Plantation east of the Arboretum Pond in healthy condition during the mid 1970s. Tract 3b. (E. Lang)
Above: Red Pine Plantation in 1986 after removal had begun of scale insect-damaged trees. View is from the south end of the plantation looking across the north end of the Arboretum Pond to the Outdoor Theatre. (G. Dreyer)

Right: Former Red Pine Plantation completely cleared by the summer of 1987, from the same location as above right photo. (G. Dreyer) *Below:* The Lillian Dauby Gries ('27) Memorial Native Conifer Collection in 1990, on the site of the former Red Pine Plantation. View is from the same location as previous photos, looking from the patio over the dwarf conifer bed, across the wildflower meadow and the Pond to the Outdoor Theatre. (G. Dreyer)





Stone bench, young rhododendrons and hay-scented fern in the Daniel Klagsbrun ('86) Memorial Garden, behind the Outdoor Theatre. Tract 1. (G. Dreyer)

in 1986 and the basin kept drained until the following fall. As funds were not available to dredge out the muddy bottom, its exposure during the growing season permitted the establishment of a dense stand of broad-leaved cattails (*Typha latifolia*). By the autumn of 1990 plans had been developed to dredge the northern portion of the pond bottom adjacent to the Outdoor Theatre and Laurel Walk Landing. A pond restoration specialist, John Deering of Bethel, Connecticut, volunteered his expertise to ensure minimum adverse impact. A fund-raising campaign is planned.

A worrisome development has been the advent of the hemlock woolly adelgid (*Adelges tsugae*), an Asiatic insect first reported in Connecticut in 1986. It has had a devastating impact on the native hemlocks along the Connecticut River and is now present in the Arboretum. The hemlocks around the Outdoor Theatre are being commercially sprayed with horticultural oil; it remains to be seen what will happen in the untreated Bolleswood Natural Area.

The memorial plantings already described represent a significant step in the renovation of the plant collections, a program that is being vigorously pursued. The Arboretum records, previously stored on file cards and in notebooks, have been transferred to a computerized database (BG-BASE, created by Kerry Walter of the Center for Plant Conservation, Jamaica Plain, Massachusetts). This database now contains detailed information on 950 individual plant specimens located within the twenty-acre collection. It can be updated and added to as the collections grow, and it will eventually include an inventory of the Caroline Black Garden and the woody plants on the College campus. A revised check list of woody plants in the Arboretum collection and a list of missing species have been published.⁸

RESEARCH

The long-range studies in the Bolleswood Natural Area initiated in 1952 have continued. The transects surveyed and mapped at that time⁹ have been resurveyed at ten-year intervals, providing thirty years of documented vegetation changes. An analysis of these changes during the first two decades has been published,¹⁰ and an undergraduate has studied the record over the thirty-year time span in the section initially mapped as abandoned fields and now a young post-agricultural forest.¹¹ The massive amounts of accumulated data are being computerized to facilitate access and analysis. Dr. Thomas G. Siccamo of the Yale School of Forestry and Environmental Studies is collaborating with Director Dreyer and Dr. Niering on this project.

The breeding bird censuses, which commenced in the Bolleswood Natural Area in 1953, have been continued under the guidance of Dr. Robert A. Askins.¹² Margaret J. Philbrick ('83), one of his students, has described the changes that have taken place in the bird populations and the effect of vegetation structure on the composition of their communities.¹³

Dr. Askins and his students have also been investigating the relationship between the diversity of species of birds that prefer to breed deep in the forest and the size of the forest tracts they inhabit. The Bolleswood has served as one of their Connecticut study sites. They have observed that the smaller the tract the more pronounced the loss of these species,¹⁴ a finding that has been documented for other portions of the eastern United States.¹⁵ A similar study has been carried out on small mammals.¹⁶

Bulletin No. 31, authored by Dr. Askins,¹⁷ describes the various studies that have been conducted on the birds in the Connecticut College Arboretum and the changes that have taken place in their populations during the past 35 years. It also presents an annotated list of the 218 species that have been observed at the Arboretum. This replaces an earlier one published thirty-two years ago.¹⁸

The fauna of the Arboretum has been providing a resource for quite a variety of studies. These include the reproduction and survival of freshwater sponges in the Pond;¹⁹ three studies on the foraging behavior of bumblebees;²⁰ variation in the acid tolerance of wood frogs and the inheritance of this trait, a matter of relevance to the survival of this species in view of the acid rain which is now falling in Connecticut;²¹ variations in skin pattern in the spotted salamander;²² social behavior and communication in birds;²³ the effect of Mute Swans on over-wintering and resident ducks in the Thames River;²⁴ the avian dispersal of oriental bittersweet;²⁵ and the impact of browsing by white-tailed deer on forest regeneration.²⁶ A permanent plot study was initiated in July 1989 to examine the effect of hemlock adelgid infestation on the vegetation of hemlock dominated areas of the Bolleswood natural area.

Wetlands continue to be a subject of concern. Resurvey of a permanent microrelief transect on the Mamacoke tidal marsh indicates that most of this

marsh has maintained its elevation relative to the slowly rising sea level. This does not seem to be the case, however, on the Cottrell Marsh in Mystic, Connecticut, a natural area owned by The Nature Conservancy, as shown by a study carried out by Richard Munson ('89) under the direction of Drs. Niering and Warren. The development of another tidal marsh, the Pataganset in East Lyme, Connecticut, has been the site of an exhaustive investigation by Richard A. Orson,²⁷ which documents the growth of the peat deposits with the rise in sea level. It is anticipated that the rise in sea level will accelerate as a consequence of global warming. Thus the response of our coastal ecosystems to this change is of increasing concern.

The restoration in Stonington, Connecticut, of an impounded salt marsh located in the Barn Island Wildlife Management Area has been described by Sinicrope, Hine, Warren and Niering (1990). Thirty-two years after this tidal wetland had been diked it was converted to a dense stand of cattails (*Typha angustifolia*). The installation of large culverts, commencing in 1978, restored tidal flushing of the marsh, and within ten years the cattails were largely replaced by typical salt marsh vegetation.

Timothy Evans ('88) has made an analysis of the vegetation and soils of the various wetlands found within the Arboretum.²⁸

Biology major Coralie Clement ('91) using a portable infrared gas analyzer to measure the rate of photosynthesis of an Oriental bittersweet vine in the Arboretum during fall 1990 field work for her Senior Honors Thesis. Tract 3. (G. Dreyer)



The staff of the Arboretum has continued research on various methods of vegetation management. Director Dreyer has tested the efficacy of a number of herbicides in the control of Oriental bittersweet, sassafras and other woody weeds,²⁹ and he, Dr. Niering and Professor Taylor have reported on sound approaches to the management of vegetation along powerline rights-of-way and in other situations.³⁰ One technique involves the establishment of shrub-dominated vegetation, which is very resistant to invasion by high-growing trees. One example, a nannyberry (*Viburnum lentago*) thicket in Greenwich, Connecticut, has been under observation for thirty years.³¹

The role of fire in vegetation management has been under investigation at the Arboretum since 1967. After twenty years of prescribed burning, fields of little bluestem (*Andropogon scoparius*) are more vigorous than unburned control plots and resemble the formerly extensive prairies that were

found on the Hempstead Plains of Long Island. Trees have been suppressed and various forbs have increased in abundance. One of these, a nitrogen fixer, is wild indigo (*Baptisia tinctoria*).³²

An interesting investigation of the flowering physiology of skunk cabbage (*Symplocarpus foetidus*) is being carried out by Assistant Professor Mary Jane Morse. When this plant blooms in late winter, it produces a burst of heat energy that raises the temperature within the spadix by as much as ten to fifteen degrees centigrade. Funded by an \$18,000 grant, Dr. Morse is trying to determine how the lengthening photoperiod triggers this dramatic shift in metabolism. Some of her plant material comes from a red maple swamp in the Arboretum.

Several reports relating to the flora have been published. One describes the differences in reproductive potential between native and Oriental bittersweet vines. The Oriental has a higher pollen viability and rate of seed germination, which partially explains why this aggressive exotic species, *Celastrus orbiculatus*, has now almost completely displaced the native *C. scandens*.³³ Several reports list some of the species of woody plants that have become spontaneously naturalized in the Arboretum.³⁴ Another describes some native shrubs suitable for landscaping in New England.³⁵

A significant new development is a formal agreement between Connecticut College and The Nature Conservancy of Connecticut for College use of the Conservancy's 438-acre Burnham Brook Preserve in East Haddam, Connecticut. The arrangement provides for use of the Preserve by faculty and students for research and teaching. All activity will be administered by the Arboretum through a Science Advisory Committee.³⁶ This natural area, which has already been used by Connecticut College students and faculty, provides habitats that are less subject to urban pressures than those in the Arboretum.

EDUCATION, COMMUNITY SERVICE AND PUBLIC SUPPORT

The Arboretum has been getting increasing use as an educational facility. In particular, it functions as a resource in advanced field courses in botany and zoology and for independent study projects.

Its educational use both by the College and the community has been enhanced by the labelling of tree and shrub specimens—a major ongoing effort on the part of the staff—and by three new brochures, *Caroline Black Garden, A Self-Guided Tour of the Connecticut College Arboretum*, and *A Guide to Campus Trees*.

The Arboretum's reputation has been growing. In 1987 it hosted a delegation from Nanjing University in the People's Republic of China and a group from the International Congress of Ecology meetings held in Syracuse, New York. In 1989 the New England Section of the Botanical Society of America and the New England Botanical Club both held field meetings here. In 1990 the



Professor William A. Niering (right) teaching the Fall 1989 Systematic Botany class in the Nancy Moss Fine Native Azalea Garden. Tract 1. (G. Dreyer)

Northeast Regional Meeting of the American Association of Botanical Gardens and Arboreta brought many public garden administrators to the College.

With a full-time Director the Arboretum has been able to expand its program of activities, which now include field trips, workshops, courses, and lectures. It has cosponsored three symposia with the Program in Human Ecology, funded by the Andrew W. Mellon Foundation.³⁷ In June 1990 the Arboretum hosted a Freshwater Wetlands Conference, "Critical Wetland Issues for the 1990s," which attracted a state-wide audience of over 150 individuals.

During the Spring 1990 semester two anthropology students constructed a Native American wigwam in a meadow at the southeast corner of the George S. Avery Tract. Tract 6. (G. Dreyer)



The membership of the Connecticut College Arboretum Association is vital not only as a source of financial support, but also as a reservoir of volunteers. Members receive notices of events, reduced registration fees and free issues of the Connecticut College Arboretum Bulletin as they are published. There are now 420 members in the Arboretum Association.

At the 50th meeting of the Connecticut Arboretum

Association in 1981 the Director announced the opening of a fund drive to augment the Arboretum's endowments, which at that time totalled \$235,527. Since then special gifts have increased these funds to \$595,692. Major contributions responsible for this growth include a bequest in memory of our former horticulturist, John Stengel, a gift toward a Director's discretionary fund from Dr. and Mrs. Richard H. Goodwin, a gift from the family of Lillian Dauby Gries ('27) for maintenance of her memorial, and an endowment fund in honor of Ann C. Wheeler ('34) from the Sylvan Nursery of Westport, Massachusetts.

PUBLICATIONS

The Arboretum has published three more bulletins during the decade. Dr. John C. Cooke is the author of Bulletin No. 29, a useful guide to the identification of some of the common mushrooms of New England.³⁸ A handsome handbook on native shrubs for landscaping, Bulletin No. 30, was produced by Professor Sally L. Taylor, Mr. Dreyer and Dr. Niering,³⁹ and Bulletin No. 31 on the birds of the Connecticut College Arboretum by Dr. Robert Askins¹⁷ replaces an earlier one published thirty-two years ago. Bulletins are listed on page 85. The Director, inspired by his role as curator of the Arboretum's plant collections, has authored a book, *Connecticut's Notable Trees*,⁴⁰ which describes the largest specimens of the various species growing in the State. A number of trees in the Arboretum, in the Caroline Black Botanic Garden and on the College campus have been found to be of state and regional significance. This book can be obtained from the Arboretum office.



Aerial photograph of the Connecticut College Arboretum, the Campus, and surrounding portions of New London and Waterford in March 1965. (State of Connecticut)

THE TRACTS OF THE CONNECTICUT COLLEGE ARBORETUM

DOCUMENTATION OF THEIR HISTORY AND USE

The purpose of this section is to provide detailed information regarding each tract of land that has become part of the Connecticut College Arboretum. Additional contiguous properties giving the Arboretum buffer protection are also included. Some of these, notably the State Wildlife Sanctuary and the West Farms Land Trust Conservation Restriction, entail stewardship responsibilities on the part of the Arboretum staff.

For each tract there is an initial statement of the way in which the land was acquired and how it became designated as part of the Arboretum, including references to deeds, administrative actions and the wording of legal restrictions. This is followed by a brief description of the condition of the land and its boundaries at the time of acquisition by the College. Then follows an account of subsequent developments and stewardship. Sources of maps, photographs and reports of faculty and student research are cited. A concluding section outlines the history of ownership of each tract from the time of colonial settlement, as documented in the land records.

Additional scientific data pertinent to the entire area are available. These include descriptions of the vegetation types,⁴¹ a flora,⁴² a study of the vegetation and soils of the wetlands,²⁸ and two bulletins on the birds.^{17 18} Listings of the woody plants in the collections on Tracts 1, 2 and 3 have also been published.⁴³

This record should prove useful not only to those responsible for managing this unique assemblage of properties, but also to those who may in the future use them in their research.

TRACT 1 THE BRANCH TRACT

This 21.6-acre piece of land was a portion of the John R. Bolles farm lying to the west of Williams Street and within the city limits of New London. Purchased by the College from Mr. Bolles' daughter, Mary Lydia Bolles Branch, on September 15, 1911,⁴⁴ it was part of the original Arboretum established by the Trustees in 1931.⁴⁵

This section of the farm was still under cultivation in 1911. The deed provided for reimbursement to James M. Metcalf for loss of crops. The southern boundary of the property is marked by the remains of a stone wall built in 1838,⁴⁶ lying just south of the Laurel Walk and continuing westward across the Pond. It is clearly visible in an aerial view published in 1980.⁴⁷ The tract is bounded on the east by Williams Street and on the north by Gallows Lane

and the Waterford town line.

In the twenty-year interval between the date of purchase and the founding of the Arboretum, dense brier thickets grew up in the abandoned fields and tree-of-heaven became established in several places. In 1928 a red maple wetland on the southern edge, along with additional land to the south, was cleared. Dams constructed on Tract 3b flooded the area to form the Pond, originally referred to as the Lake.

The Pond gradually became eutrophic, and by the late 1970s its surface was nearly covered by waterlilies (primarily *Nymphaea odorata*). It was drained during the winter of 1982-83 in an attempt to eliminate this species by freezing the rhizomes. This procedure was only partially successful. The Pond was re drained in the fall of 1986 and not refilled until the fall of 1987. The muddy bottom, exposed during the growing season, permitted the establishment of a dense stand of broad-leaved cattails (*Typha latifolia*). Much of the Pond has now become a cattail marsh.



The Arboretum Pond. *Left:* In summer 1937 looking toward the east from near the Pond's northwest corner. The Outdoor Theatre steps are to the left. *Right:* In summer 1990 from the Outdoor Theatre looking toward the southeast and the Lillian D. Gries ('27) Memorial Conifer Collection. Tracts 1 and 3b. (G. Dreyer)

Since 1931 this tract has received more intensive maintenance than any other part of the Arboretum. A nursery was immediately established at the foot of the slope west of Williams Street,⁴⁸ the northern portion of which is still being used for this purpose. The Washington Entrance, the Laurel Walk and the Outdoor Theatre were constructed, and a system of paths and plantings of native trees and shrubs were laid out according to plans drawn up by the landscape architect A.F. Brinckerhoff.⁴⁹ Bulletin No. 6⁵⁰ documented the locations of these original plantings, and Bulletin No. 16⁵¹ was published to guide the visitor through this section. This has been replaced by a pamphlet, *A Self-Guided Tour of the Connecticut College Arboretum*, printed in 1988. Buck Lodge was constructed in 1937 and, in the northeastern section, a picnic area protected by a stone retaining wall went in at about the same time. A chain-link fence was erected along Gallows Lane between 1948 and 1951 and



The Outdoor Theatre.

Above: Shortly after construction in 1933, the mature pine tree, which became the Arboretum logo, was a major feature. (C.C. Archives)

Right: President Oakes Ames addresses seniors and guests during the Baccalaureate ceremony in May 1985. Tracts 1 and 3b. (G. Dreyer)



finished in 1988; a wrought-iron fence along most of the Williams Street frontage in 1973. In 1950 a stone bench was placed at the rear of the Outdoor Theatre by the Federated Garden Clubs of Connecticut in memory of its former president, Prudence Demarest. Commencing in 1956, a small area northeast of the Outdoor Theatre was landscaped and maintained with herbicides for about twenty years.⁵² North of the Theatre the Daniel Klagsbrun Memorial planting was laid out in 1989. In the early 1970s a drainage field was constructed on the slope below Williams Street to accommodate some of the run-off from the west side of the Campus and to increase the supply of ground water feeding the Lake. Just south of the drainage field a collection of native azaleas was laid out in 1980 in memory of Nancy Moss Fine ('51). A garage was constructed near Gallows Lane in 1990. Photographs of the Tract have been published.⁵³

In 1952 the Trustees designated the western portion of this tract lying beyond the Pond as part of the Bolleswood Natural Area.⁵⁴ Research projects carried out in this section are summarized under Tract 2. A study of the intraspecific feeding differences in bumblebees has been carried out along the Laurel Walk and around the Pond.⁵⁵

The John R. Bolles farm was part of a much larger tract that became property of the Town of New London on May 13, 1703, by an Act of the Connecticut Assembly, and was designated as a portion of the Inner Commons. It was deeded to John Bolles in 1733, when he was fifty-six years old,⁵⁶ and was probably worked right away by his eighth son, Joshua, who was eighteen at the time. Joshua inherited the farm in 1767. Elijah Bolles, Joshua's sixth son, was deeded portions of his father's farm in 1793⁵⁷ and inherited the balance in 1800, when he was forty-six. Elijah and his younger brother, Hezekiah, married two Rogers sisters, so when Elijah died without issue in 1836, it is not surprising to find his farm being left to Hezekiah's three boys. John R. Bolles was the youngest nephew. He acquired the portion of the farm that included the tract under discussion in 1838 when he was twenty-eight.⁵⁷ The following year John R. married Mary Hempstead, great-great-granddaughter of Joshua Hempstead, author of the famous Hempstead Diary, and took up residence in Hempstead House, now an historic landmark in downtown New London. Thus John's section of the farm on Bolles Hill was tilled by tenants for the next seventy-two years, until its purchase by the College in 1911.

TRACT 2 THE BOLLESWOOD

This 16.5-acre tract was the westernmost portion of the John R. Bolles farm now lying in the Town of Waterford, contiguous to Tract 1. It was given to the College by Mr. Bolles' granddaughter, the poetess Anna Hempstead Branch, on September 15, 1911.⁵⁸ Miss Branch had acquired the property from her mother the previous day.⁵⁹ The deed of gift stipulates that the tract be established ". . . as a park for the use and engagement of said College and their friends . . .," and that it be known as Bolleswood in honor of the donor's grandfather. This tract was part of the original Arboretum established by the Trustees in 1931.⁴⁵

The tract is bounded on the north by Gallows Lane, on the west by ledges and on the southeast by the Waterford town line. The eastern portions were cleared land and were abandoned from cultivation after acquisition by the College. The northern and western portions are rough and ledgy and were covered with a relatively mature hemlock-hardwoods forest. The older hemlocks had become established in the forest around 1768,⁶⁰ and it is probable that this area has never been cleared for agriculture. A glacial erratic is perched on the eastern ledge overlooking Gallows Lane, and another much larger one may be found on the ledge above the ravine. Between these ledges lies a pocket occupied by the southern half of the Red Maple Swamp, which is bisected by Gallows Lane. Originally a small lake left by the glacier, it is now completely filled in with peat to a depth of twenty-four feet. The Bolleswood was famed for the beauty of its hemlock grove, which was a popular picnic spot in the years prior to the founding of the Arboretum. A photograph in the Arboretum files taken in the 1890s shows cattle lying beneath the hemlocks at the edge of the ravine—evidence that the woodland was pastured at least until the turn of the century.

In the twenty-year interval between acquisition and the founding of the Arboretum, the cleared land developed dense brier thickets. Three quarries provided stone for some of the early College buildings. One of these has subsequently been used as a picnic area. Protection of the trees and shrubs in the Bolleswood from vandalism and fire was an early concern of the Trustees,⁶¹ and during this period chestnut trees killed by the chestnut blight were salvaged.

The southern portion of the open land was planted with walnuts and hickories between 1931 and 1937; the northern with various species of pines. Within the hemlock forest, near the edge of the ravine, a small clearing was used as an outdoor chapel. A stone fireplace, constructed at its northern end, was removed shortly after the establishment of the Bolleswood Natural Area. The hurricane of 1938 left the Bolleswood a shambles. One hundred and twelve large trees were destroyed, including most of the old hemlocks, some of which were about 170 years old. The growth of these trees, as revealed by tree-ring analysis, was related to environmental factors.⁶⁰ In the cleanup operation tree trunks were dropped to the ground, and many near the



Cows grazing under the Bolleswood Hemlocks on ledges east of the ravine in the early 1900s. Tract 2. (C.C. Archives)



Left: Bolleswood Hemlocks after the 1938 hurricane looking east at the ravine edge from near the stream. *Below:* Regrown Bolleswood Natural Area Hemlock Forest in 1989 looking west at the ledges east of the ravine. Tract 2. (C.C. Archives and G. Dreyer)



edge of the ledges were rolled into the ravine. At one location at the base of a cliff the pile of logs was at least twenty feet high six years after the storm. Some small hemlocks were planted in 1939 and 1940 to replace those blown down. A brush fire burned a small section of these woods near the ledges in the spring of 1944. The Gallows Lane frontage was fenced between 1952 and 1953, with the exception of the Red Maple Swamp, and fencing of this section was completed in 1988.

The naturally wooded northern and western portions of the tract were designated a part of the Bolleswood Natural Area in 1952,⁵⁴ with the management objective of maintaining the plant and animal communities as nearly as possible in an undisturbed state. Long-range ecological studies were immediately initiated in the southern section of this natural area, which now includes parts of Tracts 1, 2, 3b, 4 and 11. Four parallel east-west transects, 400 feet apart, were established and permanently marked at fifty-foot intervals.⁹ The eastern portions of Transects I, II and III are on this Tract. The vegetation, soils,⁶² topography and other natural features were mapped in great detail for a width of twenty feet along these lines, commencing in 1952, and information on the vegetation has been up-dated and studied by students at ten year intervals.⁶³

Nineteen breeding bird censuses, the first one in 1953, have also been conducted in the woodlands and old fields of this portion of the Bolleswood Natural Area, following the procedure established by the National Audubon Society,⁶⁴ and analyses of these data have been made.⁶⁵ In addition, three winter bird population studies have been conducted.⁶⁶ Investigations have been made of the effect of vegetation structure on the composition of forest bird communities, of the breeding success of Red-eyed Vireos and of foraging efficiency in large and small flocks of Black-capped Chickadees.^{13 67} The Bolleswood Natural Area has been used as one of the sites for a study of the relationship between the size of isolated forest tracts and the composition of forest bird¹⁴ and small mammal populations.¹⁶

Other investigations include a palynological analysis of the peat in the Red Maple Swamp⁶⁸ and a study of its vegetation and soils,²⁸ a survey of the forest floor for recent evidence of change,⁶⁹ and studies of vegetation development on ledges and outcrops,⁷⁰ of laurel reproduction on wind-throw mounds,⁷¹ and of populations of small mammals and sheet-web spiders and their behavior.⁷² Photographs of the area have been published.⁷³

Early Arboretum bulletins suggest that this property may have been a portion of the tract purchased by the original settler, Thomas Bolles, in 1693 from the Mohegan Sachem, Owaneco, son of Uncas, for "four yards of duffels."⁷⁴ The original receipt for this interesting transaction is on permanent deposit in the Connecticut College Library. A careful review of the land records (see Tract 1) fails to confirm the supposition that this was the particular piece of land in question.

TRACT 3 THE COMSTOCK TRACTS

The northern portion of the Comstock farm was acquired by the College in two installments. The first 3.8 acres (Tract 3a) was purchased on November 12, 1926, for \$9,900 from Frank A. Comstock.⁷⁵ The second 21.8 acres (Tract 3b) was given to the College by Mr. Comstock on November 29 of the following year.⁷⁶

In 1933 the southeastern corner of Tract 3a (0.36 acres) was sold to Professor Carola L. Ernst of the French Department,⁷⁷ who built a house on the lot. After Miss Ernst's death title changed twice⁷⁸ before this property was repurchased by the College in 1969,⁷⁹ at which time it was converted into the President's residence.

The balance of Tract 3a and all of Tract 3b were included as part of the original Arboretum when it was established by the Trustees in 1931.⁴⁵ Tract 3 is bounded on the east by Williams Street, on the north by the stone wall separating Tracts 1 and 3 and on the west by the ledges. The southern boundary was surveyed in 1936,⁸⁰ and chain-link fencing was erected two feet within the boundary line between 1954 and 1955. Tracts 3a and 3b are separated by a stone wall.

When the fencing of the Williams Street boundary was being completed in 1973, the fence around the President's house was set back within the Arboretum in order to improve the aesthetics of the residence. This setback was 96.5 feet deep along the western boundary of the lot and 34.5 feet on the northern boundary. A letter of understanding regarding the jurisdiction of the land outside the fence is on file.⁸¹

At the time of acquisition, Tract 3a was open farmland sloping down to a stone wall, the northern end of which is above the edge of the red maple wetland. Tract 3b was open pasture, red maple wetlands, a shallow bog and rough ledgy woodlands to the west. A quarry in the ledge west of the bog probably provided stone for some of the College buildings. Near the edge of the ravine a glacial erratic rests on a large, sloping bedrock exposure.⁸²

In the short interval between acquisition and the founding of the Arboretum, two septic tanks were constructed on Tract 3a to service a dormitory on the west side of the campus. These were soon abandoned, but the cement caps are still in evidence near the foot of the slope, about ninety feet south of the Laurel Walk.

On Tract 3b a red pine plantation to the south and east of the Lake was planted in 1927 by members of the local chapter of the Isaac Walton League, under the direction of Dr. Arthur W. Graves. The following year the site of the Pond was cleared and dams constructed.

Subsequent to the founding of the Arboretum, the western portion of Tract 3a was converted into a nursery, the northern end of which, after fifty-seven years of use, is now being renovated. Later, most of this section was developed according to the Brinckerhoff plans. Bulletin No. 6⁵⁰ documented the locations of the original plantings. Bulletin No. 16⁵¹ guided the visitor through this portion. It has been replaced by a pamphlet, *A Self-Guided Tour of the Connecticut College Arboretum*.

In 1956 the southeastern edge of Tract 3b was established as the Edgerton Wildflower Garden in memory of Mrs. Malcolm J. Edgerton, one of the earliest members of the Connecticut Arboretum Advisory Committee, and an endowment for its maintenance was given by the Board of the Federated Garden Clubs of Connecticut. Later, a southern extension of this garden was dedicated to Mr. John Stengel, the Arboretum horticulturist, who died in 1975. The development of these areas continues. In 1984 a planting of mountain laurel cultivars was established in the eastern portion of Tract 3a in memory of Josephine Hooker Shain, wife of Charles E. Shain, the College's sixth president. The shrubs in the initial planting were obtained as a gift from Dr. Richard A. Jaynes of the Connecticut Agricultural Experiment Station.

In the early 1980s the red pine grove on Tract 3b became lethally infested with the red pine scale (*Matsucoccus resinosa*). It was cut down and chipped in 1987. This area has been relandscaped with native conifers according to a plan drawn up by Sarah Manwell Bradford ('63) of Albert Veri and Associates and is dedicated to the memory of Lillian Dauby Gries ('27).

The area to the west of the Pond was designated as part of the Bolleswood Natural Area in 1952.⁵⁴ In the spring of 1958 a severe wildfire swept in from the south, burning portions of the upland to the east and west of the wooded swamp southwest of the Pond. The fire also entered the western and southern edges of the red pine plantation. In 1973 another small fire occurred west of this burn at the eastern edge of the ravine. This one extended from the powerline northeastward toward the trail leading from the Pond to the ravine.

The Arboretum's recently acquired tractor dwarfed by the enormous wood-chip pile created by the removal of the Red Pine Plantation on Tract 3b in May 1987. The chips, used on Arboretum and College trails and as mulch on planting beds, were all used within two years. Tract 1. (G. Dreyer)



The locations of the areas affected by these fires have been mapped.⁸³ The research being carried out in the Bolleswood Natural Area has been described elsewhere.⁸⁴ Transect IV of the long-range ecological study begins in the Pond and passes westward through the bog and over the ledges to the Ravine.⁹ Studies of vegetation development on rock outcrops,⁸⁵ on the vegetation of the bog⁸⁶ and on the vegetation and soils of the various wetlands²⁶ have been made in this part of the Natural Area. The Pond has been the site of a number of investigations on aquatic organisms.⁸⁷ A study of the pollination of jewel weed was carried out in the red maple wetland at the eastern edge of Tract 3b.⁸⁸ Photographs of these tracts have been published.⁸⁹

Most of this land was originally part of the Inner Commons of New London and had the same ownership history as the previous two tracts up through 1838. However, there was apparently a triangular 3.5-acre tract on the western edge of the farm, lying just south of the ledges, that was acquired by the Bolles family from John Colfax in 1743.⁹⁰ In 1838 Joshua Bolles, an older brother of John R. Bolles, acquired this property.⁹¹ He was an editor and publisher, although he lived on the farm until his death in 1855. His widow continued to reside there until 1885, when she and her son sold the farm to Ezra T. Comstock.⁹² Frank A. Comstock inherited the property from his father.⁹³

TRACT 4 THE RAVINE TRACT

This 15.7-acre tract was purchased from Lucio and Sebastiano Ribaldo for \$3,232 by forty donors⁹⁴ and quit-claimed to the College on March 22, 1937,⁹⁵ as an addition to the Arboretum.⁹⁶ The deed was signed by all the donors. The property had been previously encumbered by a power line easement.⁹⁷

The Tract is bounded on the north by Gallows Lane, on the south by a stone wall, on the east by high vertical ledges (Tracts 2 and 3b) and on the west by an east-facing slope crowned by rocky outcrops. The ravine is traversed by a south-flowing intermittent stream. At the time of acquisition the northern section was very open but being invaded by early post-agricultural forest;⁹⁸ the southern portion supported more mature lower-slope hardwoods. Early yellow violets (*Viola rotundifolia*) were reported as growing here in the early part of this century.⁹⁹ Dense brier thickets occurred along the northwestern border, and there is an alluvial, wooded wetland at the mouth of the ravine near the southern boundary. A cleared power line right-of-way crosses the southwestern corner.

Shortly after acquisition a barbed-wire fence was erected along the western boundary to exclude cattle pastured by the Ribaldos. Given protection from grazing, the moist ravine rapidly reverted to forest. The wire was removed in 1954, after the acquisition of Tract 11. Between 1946 and 1950, in the section of the ravine just south of Gallows Lane, several truck-loads of black birch about two to six inches in diameter were sold to the Merrill Company for extraction of oil-of-wintergreen at its Yantic plant. A few specimens of

Canadian yew (*Taxus canadensis*) were introduced on the floor of the ravine at about this time, but they soon disappeared, probably due to deer browse.

In 1952 the portion of this tract lying north of the power line was designated part of the Bolleswood Natural Area.⁵⁴ Since then, no human disturbances have been permitted, except for those related to the long-range ecological studies that were initiated.⁸⁴ However, wildfires, probably of human origin, swept the southwestern section near the power line in the spring of 1954 and the southeastern corner in May 1973. The riparian vegetation and soils have been studied.²⁸

A Right-of-Way Demonstration Area was established under the power line in 1953, and the vegetation has been managed by the selective use of herbicides in cooperation with the power company.¹⁰⁰

This tract has been surveyed,¹⁰¹ and photographs of the area have been published.¹⁰²

The Ravine Tract and Tract 11, which was acquired by the College fourteen years later, comprised a substantial portion of the Ribaudo property lying east of Bloomingdale Road. The Ribaudos purchased it in 1919 from the heirs of Philip G. Bindloss,¹⁰³ who evidently had a lively concern for maintaining the quality of their father's farm. A lease dated 1911 spelled out a number of conditions required of the tenant: no waste; the house and fences to be maintained; fields to be kept clear of brush and small stones; all hay, cornstalks and fodder to be used as feed on the farm; all manure to be spread on the farm; no wood to be sold; and the fruit trees to be properly trimmed and sprayed.¹⁰⁴ Mr. Bindloss had a presence here for fifty-seven years, having acquired the eastern section of the farm in three separate pieces, the northern twenty-four acres, known as the Adams Lot, in 1854,¹⁰⁵ a central strip of five acres in 1887,¹⁰⁶ and a southern twenty-five acres in 1860.¹⁰⁷

The Adams Lot gained its name from the Rev. Eliphalet Adams, who was ordained as minister to the New London Church in 1707, where he served for nearly forty-four years. Mr. Adams apparently had great powers of endurance as a preacher, for his standard Sunday practice was to preach all day.¹⁰⁸ In 1733 the Proprietors of New London assigned to him this twenty-four-acre section of the Inner Commons.¹⁰⁹ Five years later title to the property returned to the Proprietors¹¹⁰ and was subsequently conveyed to Mr. Adams' wife, Lydia. When she died in 1749, her oldest son, William, a Yale graduate and minister, inherited the lot. He sold it five years later to his brother Pygan.¹¹¹ Pygan was a Captain and merchant and shortly thereafter became a deacon of the Church.¹¹² Twenty-one years later, in 1775, Pygan found himself in financial difficulties and lost the property through a series of court actions,¹¹³ thus ending forty-two years of ownership by the Adams family. The land was next acquired by Captain Thomas Harding.¹¹⁴ He and his family owned the lot for the next sixty-four years.¹¹⁵ William Bolles, the brother of John R. Bolles, who then owned the adjoining property to the east, bought the land from the Hardings¹¹⁶ and held it for fifteen years. He sold it to Bindloss in 1854.

The central strip had been purchased by Charles Reid in 1784 from the Latimer family,¹¹⁷ which had originally acquired the land from the Commons. Two generations of Reids held title to this land for over a century,¹¹⁸ before it was bought by the Bindloss family.

The southern twenty-five-acre section had a complex succession of ownership. It was the northern end of what was referred to as the Colfax pasture. It later became part of the estate of Captain Daniel Deshon, who built Deshon House, now owned by the Lyman-Allyn Museum.¹¹⁹

TRACT 5 THE BENHAM AVENUE EXTENSION

This 10.3-acre tract was purchased by thirty-four friends of the Arboretum from the Savings Bank of New London for \$3,500¹²⁰ and conveyed to the College with stringent legal restrictions on November 2, 1942.¹²¹ It is bounded on the east by Mohegan Avenue, on the south by Benham Avenue, on the west by Williams Street and on the north by a stone wall. The tract has been mapped,¹²² and photographs of the area have been published¹²³ and recorded.¹²⁴



The Benham Avenue Extension in the late 1940s shortly after the planting of various conifers. View is north to Route 32. Tract 5. (R. Goodwin)

either by girdling or by stem treatment with herbicide. It was found that vigorous cherry trees would regenerate bark across a six-inch girdle in the spring of the year.

The process of vegetation development in the unplanted portion of this tract

At the time of acquisition the land was an abandoned field in the early stages of invasion by catbrier, black cherry and red maple. In 1945 and 1946 the old field was planted to white pine, hemlock and a few European larch. A strip across the eastern half was left to natural old field development. In 1947 a brush fire, started by the Fire Department in the adjacent lot, jumped the stone wall and destroyed the newly planted saplings in the southeastern corner. This section was subsequently replanted. In the 1950s some of the competing hardwoods, especially black cherry, were killed

has been studied,¹²⁴ and a shrub stability research plot was established in a catbrier thicket along the northern edge of the property in 1968.¹²⁵

This tract was a small piece of the central 104-acre section of the Mamacock Farm, which belonged to the Rogers family for 198 years. Numerous other Arboretum tracts (Tracts 6, 7, 8, 9, 12, 13, 19, 21, 22, 27) were also part of this large farm, which straddled the Norwich-New London Turnpike, now known as Williams Street, and included all the land between the Turnpike and the Thames River.

The initial grant was to Deane Winthrop, brother of John Winthrop, in 1647.¹²⁶ Mr. Winthrop soon left the new settlement and returned to Boston. The Rev. Richard Blinman, the first minister at New London, became the second owner.¹²⁷ He held the property for five years and then deeded it in 1658 to James Rogers, the wealthy baker who operated John Winthrop's Mill.¹²⁸ James gave the land to his son, John, the founder of the religious sect known as the Rogerenes.¹²⁹ John's estranged wife, Elizabeth Griswold Rogers, owned it from 1670 to 1687,¹³⁰ after which title returned to her husband.¹³¹ The central section of the farm was handed down through four generations of John Rogers,¹³² and John Rogers IV finally conveyed it to his fourth cousin, Zebediah Bolles, in 1804.¹³³ Zebediah's daughters, Diana Williams and Margaret Hurlburt, who inherited the property, sold it to Emily Coit in 1856,¹³⁴ thus ending the chain of ownership in the Rogers family. An Irishman, Patrick Fitzgerald, purchased the land from the heirs of Emily Coit in 1897,¹³⁵ and the Savings Bank of New London acquired the property from his estate in 1940.¹³⁶ The College had an opportunity to purchase the entire 30-acre portion of the farm lying between Williams Street and Mohegan Avenue for \$10,000 in 1942, but was not in a financial position to take this action.

TRACT 6 THE GEORGE S. AVERY TRACT

This 33.2-acre tract was purchased from the Savings Bank of New London on September 30, 1944, for \$5,000.¹³⁷ Sixty-five percent of the purchase price had been contributed by friends of Dr. George S. Avery, the Arboretum's first Director, who was leaving to become Director of the Brooklyn Botanic Garden. By Trustee action, this addition to the Arboretum was named in his honor.¹³⁸ A right-of-way across the property to Mamacoke Island¹³⁹ was subsequently extinguished at the time Mamacoke was acquired by the College.¹⁴⁰ The tract is bounded on the west by Mohegan Avenue, on the north and south by stone walls and on the east by a cove and railroad right-of-way. Maps of the area are available¹⁴¹ and photographs published.¹⁴²

Up to the beginning of this century the major human impact on this land had been agricultural. A photograph dating from the early 1900s looking north from Benham Avenue shows a pasture on the highest ground dotted with cedars. At the time of acquisition the flat land in the northwestern corner included about 2.5 acres of grassland, 4 acres of thicket and 1.5 acres that had been scalped



Wooded bedrock outcrops on a slope facing the Thames River on the eastern side of the George S. Avery Tract, 1990. Tract 6. (G. Dreyer)

boundary, described in the will of John Rogers, who died in 1753, as "the cold spring (which runs into cove near the old barn),"¹⁴⁴ still bubbles forth, feeding a small stream that threads an alder thicket and wet meadow before emptying into the cove. The spring had been shaded for a couple of centuries by a great red oak 4.3 feet in diameter, which fell in 1968. Along the steep bank bordering the stream and cove was a beech grove, above which, on a small terrace, was an open meadow. The cove is still under tidal influence through a culvert under the railroad embankment, which was constructed about 1848.¹⁴⁵ Captain Malloy, who operated an oyster boat from his dock at the southern end of Harrison's Landing, tried unsuccessfully to reintroduce oysters into this cove.

of top soil. During World War II the Army installed a gun emplacement on the high ground commanding a view down the Thames River.¹⁴³ The east-facing slopes were early post-agricultural, oak-dominated forest, with large trees on the steeper ledges that had been badly damaged by the 1938 hurricane. About two acres of sandy terrace along the railroad right-of-way was open and disturbed; another acre had been mined for sand and gravel.

A spring on the southern



Professor William A. Niering in a young hardwood stand near the center of the George S. Avery Tract in winter 1979. Tract 6.

Between 1946 and 1950 Mr. and Mrs. Joseph Porter, who ran the College riding program, developed a system of bridle paths through this tract. These were abandoned as bridle trails around 1954, as it had become too hazardous to ride across Mohegan Avenue. The trails have been maintained as foot paths and are used by the College and the Coast Guard Academy in their cross-country running programs. Approximately one acre, situated south of the roadway leading to the former gun emplacement, was planted to white pine about 1949, and a row of them was also planted along Mohegan Avenue. The small triangular field near the head of the cove has been maintained primarily by mowing, no hay having been removed. It was subjected to one prescribed burn in the 1970s.

Observations on old-field succession have been made on the fields at the top of the hill.¹⁴⁶ Ecological investigations, funded by the National Science Foundation, on the effects of prescribed burning have also been carried on here and on experimental woodland plots established on the east-facing slopes and along the trail at the foot of the hill.¹⁴⁷ These have been supplemented by student studies.¹⁴⁸ Other plots have been established at the edges of greenbrier thickets to evaluate the stability of this shrub community.¹²⁵ Over twenty plots where leaf litter has been removed have been established on the wooded slope. The Avery Tract is one of the sites used in studies of the relationship between the size of isolated forest tracts and the composition of forest bird communities¹⁴ and of small mammal populations.¹⁶ The vegetation and soils of the wetland at the head of the cove have been inventoried and mapped.¹⁴⁹ In 1972 the College Anthropology Department initiated an archaeological dig east of the spring, where an old Indian shell midden was in evidence.¹⁵⁰

This tract was the middle piece of the central section of the Mamacock Farm. For an account of its former ownership see Tract 5. The railroad right-of-way along its eastern boundary was conveyed to the New London, Willimantic, and Springfield Railway in 1848.¹⁴⁵

TRACT 7 THE KATHARINE MATTHIES TRACT

This twenty-six-acre tract was purchased by the College for \$12,000 from the four heirs of William H. Benham, Jr. on January 17, 1946.¹⁵¹ Funds for this acquisition were a gift from Katharine Matthies, who was then serving as secretary of the Connecticut Arboretum Association. The Tract, which was allocated to the Arboretum,¹⁵² was named in her honor. The property was subject to a twenty-foot right-of-way running parallel to the railroad embankment that gave the Espinosa lot access to Benham Avenue. This right-of-way was extinguished with the purchase of the Espinosa property (Tract 21) in 1963. The tract, lying on both sides of Benham Avenue, is bounded on the north by the stone walls of Tracts 6 and 21, on the west by stone walls of house lots and of Tract 22, on the south by stone walls and other land of Connecticut College, and on the east by the railroad right-of-way. Maps of some of the boundaries are available¹⁵³ and photographs of the tract have been published.¹⁵⁴



Two views of the Katharine Matthies Tract. *Top:* View from north of Benham Avenue to the northeast ca. 1950. Recently planted pines in foreground, Avery Tract (Tract 6) on hillside to left, Espinosa House and Lot (Tract 21) and Mamacoke Island (Tract 13) in the background. *Bottom:* View north in early spring 1990 from near eastern end of Benham Ave. The Espinosa house is behind the clump of redcedar trees on right. (C.C. Archives and G.Dreyer)

At the time of acquisition the flat river terrace at the foot of the hill was still under cultivation. The remainder of the land was more or less open pasture south of Benham Avenue, and pasture and abandoned orchard to the north of it. The site of a World War II gun emplacement may be found on the hill near the southern border of the tract.

Two and a half centuries of agricultural activity had resulted in erosion of enough top soil from the hillside to nearly bury the stone wall at the bottom of the slope. In 1946 this accumulation was removed from the western edge of the field north of Benham Avenue for use in landscaping the campus. Gladioli were grown in this field by Harry A. Hansen from 1948 to 1950. The southern portion of the field was leased to the Waterford Little League from 1956 to 1978.¹⁵⁵ The northern portion was the site of student studies of old field vegetation dynamics and seasonal changes in soil microorganisms and small mammal populations,¹⁵⁶ and experimental plots to test various

applications of fungus mycelium derived from the Pfizer Inc. operations were established in 1974 in the northeastern corner.¹⁵⁷ The first field south of Benham Avenue, adjacent to the railroad right-of-way, has been used as a College nursery since about 1955 and for organic composting since about 1970. The late Capt. Lawrence Malloy was permitted to use a portion of the second field, south of the stone wall, as a vegetable garden in return for many courtesies. Additional experimental plots testing mycelium applications were set up in this southernmost field in 1974, and an Arboretum nursery has also been maintained there. Higher up the slope to the west several pits may be

found, where young oak trees were removed by College grounds personnel around 1960 for use in the campus plantings.

The hillside north of Benham Avenue, formerly an orchard, was planted to red and white pine in 1948, and commencing in 1953, an area to the west of the trail leading to Mamacoke has been naturalistically landscaped by the selective elimination of trees and shrubs with the use of herbicides.¹⁵⁸ This area was enlarged in 1976 as a student project.¹⁵⁹ Portions of the old pasture and woodland on the slopes to the south of Benham Avenue have been used for ecological investigations on old field succession,¹⁶⁰ on the stability of shrub communities,¹⁶¹ on avian dispersal of Oriental bitter-sweet,¹⁶² on small mammal populations,¹⁶³ on foraging specialization in honeybees¹⁶⁴ and on the effects of prescribed burning.¹⁶⁵ The remaining fields have been kept open by a combination of burning and herbicide procedures.



Controlled Burn Plots, Katharine Matthies Tract south of Benham Avenue, 1990. Above: Professor William A. Niering (right) and Ron Cramer of the Connecticut D.E.P. in April during burn. Left: Students stand in the same place as Dr. Niering five months later to evaluate regrown grassland for laboratory exercise in the General Biology course. Tract 7. (G. Dreyer)

This Tract was part of the southern section of the Mamacock Farm. The early train of ownership was the same as that for Tract 5, but in 1753 the farm was divided into three sections by the will of John Rogers, Jr.¹⁶⁶ His son James inherited the southern third, which was subsequently passed on to his son James Jr.¹⁶⁷ and his grandsons John and Harris. They sold the land to Charles A. Lewis in 1822.¹⁶⁸ William H. Benham bought the farm from Lewis in 1848.¹⁶⁹ He sold a right-of-way to the New London, Willimantic and Springfield Railroad in 1850.¹⁷⁰ Mr. Benham's son acquired the farm in 1890¹⁷¹ and his grandchildren in 1920.¹⁷²

The Benham farm house, which still stands, is located just below Mohegan

Avenue, to the south of Benham Ave. It was built by James Rogers somewhat later than 1787.¹⁷³ An adjacent horse shed and a cow barn across Benham Avenue on the site of the present Rincicotti house burned down sometime during the first third of this century. In the early 1900s the farming operation included a dairy herd of sixteen to eighteen head of cattle and four horses and an orchard of Baldwin and Greening apples. A twenty-acre hayfield lying south of the farm along the River was leased. After the death of Mr. William H. Benham, Jr., around 1914, his son, Lloyd, carried on for a few years, providing milk and other produce to the College, but he soon gave this up to become a full-time employee of the College.¹⁷⁴

TRACT 8 THE GALLOWES LANE EXTENSION

This nineteen-acre tract was purchased on January 18, 1946, from the Grace Calvert Woodworth Estate for \$4,000.¹⁷⁵ Friends of the Arboretum contributed \$927 toward the purchase price, and the land was allocated to the Arboretum.¹⁵² Subsequently there have been several boundary changes relating to a preexisting development at College Court.¹⁷⁶ In December of 1968 two acres on Gallows Lane, just east of the New London City line and bounded to the east by Tract 15, were leased to the Thames Science Center as a site for its new headquarters.¹⁷⁷ Originally for forty years, the lease was extended to 2022 in 1982.¹⁷⁸

The Gallows Lane Extension is bounded to the south by Gallows Lane, to the west by Bolles Road, to the north by a stone wall separating it from Tract 9 and by house lots on College Court, to the east by Williams Street and the lot at the corner of Gallows Lane (Tract 15), which is set off by stone walls. Maps of the area are available.¹⁷⁹



Gallows Lane as it looked in the early 1900s. Tract 8. (C.C. Archives)

This tract had been abandoned from cultivation around the turn of the century. At the time of acquisition most of the eastern half was covered with dense thickets of greenbrier, shrubs and young trees. To the west a red maple wetland gives way to ledgy terrain dominated by white oak forest with an understory of mountain laurel. A former one-acre field on the western boundary was a dense sawbrier patch.

White pines and hemlocks were planted along the eastern half of the Gallows Lane frontage between 1946 and 1949, and a fire lane was gradually cleared in the briers and maintained by mowing to the north of this planting. In 1952 the section west of a line extending from the western end of College Court to a point opposite the Buck Lodge driveway was designated a part of the Bolleswood Natural Area.⁵⁴ The vegetation and soils of the wetland in this section have been studied.²⁸ At the eastern corner of Gallows Lane a stand of *Ailanthus* was eliminated in the 1950s and replaced by an underplanting of hemlock.

The headquarters for the Thames Science Center was constructed in 1970 for about \$150,000 within the former fire lane,¹⁸⁰ and the grounds around the Center were landscaped by Arboretum staff. This facility was doubled in size and the original structure renovated in 1985 at a cost of approximately \$1,000,000, and a small storage shed for bird feed and an expanded parking lot were also constructed. A nature trail was developed in the adjacent natural area by the Center's staff, and an interpretive guide to the trail was printed.¹⁸¹

Originally a piece of the Inner Commons, this farm was originally laid out to Richard Smith in 1733.¹⁸² He sold it to John Bolles the following year.¹⁸³ Bolles sold it to John Rogers, Jr. in 1735,¹⁸⁴ and Rogers deeded back a small triangular piece of the southwestern corner, now on the west side of Bolles Road where it enters Gallows Lane¹⁸⁵ (see Tract 10). The farm remained in the possession of the Rogers family for five generations. As the southern portion of the Mamacock Farm, it was bequeathed to John's son, James, in 1753.¹⁶⁶ James' great-granddaughter, Sarah Havens, inherited it¹⁸⁶ and, in 1852, sold it to William Bolles.¹⁸⁷ Jeremiah C. Calvert bought the land from Mr. Bolles' heirs in 1871.¹⁸⁸ Title passed to his son, John Calvert, in 1882,¹⁸⁹ and to his granddaughter, Grace Calvert Woodworth, in 1912.¹⁹⁰

TRACT 9 THE FRANCES S. WILLIAMS TRACT

This nineteen-acre tract, including a barn, was purchased from Marion Faraci on September 29, 1950, for \$7,500.¹⁹¹ It had been under option for over two years, the \$3,000 required to secure the original option¹⁹² and its extension¹⁹³ having been contributed by friends of the Arboretum. The intent of the donors, that the land be held as an addition to the Arboretum, is stated in the assignment of the option to the College.¹⁹⁴ The tract was named in honor of Mrs. Francis Scudder Williams, a Trustee of the College and generous supporter of the Arboretum.¹⁹⁵



Bolles Road in fall 1990 looking north near the intersection of Tracts 9 and 19 on right and 10 and 20 on left. (G. Dreyer)

cultivation as a garden, and a small vineyard grew on the hill behind the house lot retained by Mr. Faraci. A little stream flows northward across the property to the west of the barn. The land rising to a rocky crest at the northwestern corner was covered with laurel thickets and crossed by a telephone cable, which ran from there diagonally southeastward across the farm.

In 1951 a roadway was constructed from Williams Street to the barn, the barn was renovated for use by the College riding program, and two riding rings were constructed. The riding program was terminated in 1983. A utility shed was also built just behind the gas pipeline substation. The pipeline was laid about 1953, and the right-of-way was regraded as a roadway by arrangement with the Company.

The seventeen-acre portion of the farm lying west of the gas pipeline substation, the College utility shed, the barn and the house lot sold to the Smalleys in 1972 are being managed as part of the Arboretum. A planting of spruce was made near the western section of the southern boundary and of white and red pines in the western hayfield about 1951. The section lying west of a line projected north from the western end of College Court and west of the telephone cable was added to the Bolleswood Natural Area in 1952.⁵⁴

Mr. Faraci reserved the right to use a garden plot.¹⁹² This was extinguished in 1964.¹⁹⁶ The land had also been encumbered in 1939 by an easement for a telephone cable,¹⁹⁷ which was removed during the 1970s. In 1952 a gas pipeline easement was sold to the Algonquin Gas Transmission Co.¹⁹⁸

The tract is bounded to the south by a stone wall separating it from house lots on College Court and from Tract 8, to the west by Bolles Road, to the north by the stone wall of Tract 19, to the east by Mr. Faraci's house lot (Tract 9a), by Williams Street and by two lots at the southeast corner, the northern one now occupied by the Algonquin Gas Transmission Company substation.

At the time of acquisition about two acres of hay were still being mowed on the western section of the farm, one acre was under

This farm was originally part of the Inner Commons, acquired by John Rogers, Jr. in 1733.¹⁹⁹ It remained in the possession of his descendants for five more generations. It was devised to his son James in 1753¹⁶⁶ and passed by inheritance to James' great-granddaughter-in-law, Sarah Rogers, in 1844. In 1850 her daughter Julia, who married Orlando H. Hempstead, inherited all of it, with the exception of a 0.7-acre lot in the southeastern corner.¹⁸⁶ Their children, Elizabeth and Ezra, sold the farm to Marion Faraci in 1917.²⁰⁰ Before the College acquired the property, Mr. Faraci sold off a lot in the southeast corner,²⁰¹ which later became the gas pipeline substation.²⁰²

When Mr. Faraci sold the farm, he retained the farmhouse and lot. These were purchased by the College on August 4, 1972.²⁰³ The house and a portion of the land that went with it (Tract 9a) were sold that same year to David A. Smalley, then Assistant Professor of Art, and his wife, Elizabeth.²⁰⁴ The College held an option to repurchase.²⁰⁵ This property has been mapped.²⁰⁶ The remainder of the land retained was added to the Williams Tract. The Smalleys renovated the house, which was subsequently purchased by W. James and Abigail B. MacDonald.²⁰⁷

TRACT 10 THE MONROE TRACT

On January 9, 1950, this 15.7-acre tract was purchased by the Arboretum Director, on behalf of himself and thirty other contributors, from Carlton S. and Maxine Monroe, both employees of the College, for \$1,400. The land was immediately deeded to the College.²⁰⁸ The indenture from the Monroes specifies that the land shall be used as Arboretum.²⁰⁹ These terms were accepted by the Trustees.²¹⁰

Lower Bolles Road from near Gallows Lane in fall 1990. View north with the Monroe Tract to left and Gallows Lane Extension on right. Tracts 10 and 8. (G. Dreyer)

This ledgy, forested tract is bounded to the south by Gallows Lane and the Monroe house lot (Tract 10a), to the east by Bolles Road, to the north and west by stone walls and ledges that separate it from Tract 20 and Tract 14. Small wetlands, one of which is the northern portion of the Red Maple Swamp on Gallows Lane, are nestled between the ledges. They feed the stream which winds through the property before emptying into the ravine (Tract 4). The portion of the Red Maple Swamp on this tract had been cleared of trees shortly prior to 1948. It supports a dense stand of



winterberry (*Ilex verticillata*), highbush blueberry (*Vaccinium corymbosum*) and other shrubs. Another wooded swamp further north surrounds a rocky island covered with chestnut oak (*Quercus prinus*). The forest on the intervening upland is dominated by oaks with a dense understory of mountain laurel. A glacial erratic is perched on the crest of the ledge between the Red Maple Swamp and Bolles Road. The tract has been mapped.²¹¹

In 1952 this tract was designated part of the Bolleswood Natural Area.⁵⁴ The vegetation, soils and palynology of the peat of the northern swamp have been studied,²¹² and the ages of mountain laurel shrubs at the edge of this wetland and at the top of the ledge to the east of it have been determined.²¹³ The tract was also one of four sites selected for an analysis of the lichen flora on the trunks of white oak trees in a study correlating species composition and density with sources of air pollution.²¹⁴

The Monroe house and 1.3-acre lot (Tract 10a) were purchased from the Monroes on February 28, 1956, for \$8,500.²¹⁵ Thirty-five percent of the purchase price was provided through the generosity of the friends of the Arboretum. The lot is embedded in the middle of the Bolleswood Natural Area, the yard being bounded on the south by Gallows Lane, on the east by the Red Maple Swamp, and on the north by a high rocky outcrop. A delightful flat area west of the house was shaded by fruit trees. The house was remodelled and enlarged for Connecticut College staff and is now serving as a residence for the Director of the Arboretum, who maintains the grounds. The peripheral land, probably close to an acre, has become a part of the Natural Area. A wire fence was erected just north of the chicken coop to demark the boundary. A large amount of rubbish was removed from the slope behind the house during an all campus clean-up in the 1950s, but more remains.

The Monroe Tract was originally part of the Inner Commons that became property of the Town of New London on May 13, 1703, by an Act to the Connecticut Assembly. It was a portion of a forty-acre tract deeded to John Bolles in 1733/34.²¹⁶ Two years later he acquired a small triangular piece at the southeastern corner from John Rogers, Jr.¹⁸⁵ In 1740 Bolles gave the eastern half of the tract to his son Isaiah.²¹⁷ Isaiah died in 1789, and the following year his son Joseph sold the lot to Daniel Deshon, along with other property which he had inherited from his father lying on both sides of Williams Street and referred to as the Frink or Quaker Hill Farm.²¹⁸ Thus this land continued to be a woodlot disjunct from the farm. Deshon and his heirs owned it until 1831, when it was purchased by John Congdon.²¹⁹ It remained in possession of the Congdon family until 1885,²²⁰ when it was conveyed through Peleg Williams²²¹ to Jeremiah C. Calvert,²²² who bought it for \$200. At that time Calvert owned Tract 8 lying immediately to the east. His daughter, Grace Calvert Woodworth, acquired the land in 1912²²³ and sold it in 1923 to Andrew F. Smith,²²⁴ who may have been the one to build the house on the property. The property changed hands three times during the next nineteen years,²²⁵ before it was purchased by the Monroes in 1948.²²⁶

TRACT 11 THE RIBAUDO TRACT

This 29.2-acre tract comprised the remainder of the Ribaud family farmland lying to the west of the Ravine (Tract 4), with the exception of a 250-foot deep strip fronting on Bloomingdale Road. The property was bought from the Ribaud family on August 28, 1951.²²⁷ Ninety percent of the \$5,000 purchase price was contributed by friends of the Arboretum. An option, secured by the Director as trustee for the thirty-nine contributors,²²⁸ was assigned to the College. The assignment lists all the donors and sets forth the intent of the gift,²²⁹ which was accepted by the Trustees.²³⁰ The property was subject to a powerline easement across the southern portion.⁹⁷ A twenty-foot wide right-of-way running parallel to the southern edge of the power line right-of-way gives access to Bloomingdale Road.

The Tract is bounded on the north by Gallows Lane, on the east by Tract 4, on the south by a stone wall and on the west by a line running parallel to and 250 feet east of Bloomingdale Road. The northern part of the western boundary was surveyed in 1961 in order to position the fence accurately around the Natural Area, especially as there is a section where the line follows a stone wall rather than the 250-foot set-back.²³¹

The power-line survey shows the location of some of the stone walls within the property.²³² Photographs of the tract have been published.²³³

At the time of acquisition the abandoned farm land included about seven acres of fields, thirteen acres of thickets and brier patches, one acre denuded of top soil, six acres of post-agricultural woodland, two acres of red maple wetlands and a small granite quarry. Some of the fields were dominated by perennials, especially goldenrods; the thickets by catbrier, bayberry and sumac. In 1953 or 1954 a wildfire swept the open fields. They were swept again in the late 1950s, at which time some of the trees on the western edge of the adjacent



Leaves and saplings of a beech stand on an east facing slope above the ravine near the Ribaud Tract, 1989. Tract 11. (M. Braunstein)

wooded wetland were killed. The moist, exposed subsoil in the southernmost of the two excavated areas supported some interesting wetland plants, including bog clubmoss (*Lycopodium inundatum*), round-leaved sundew (*Drosera rotundifolia*), and rose pogonia (*Pogonia ophioglossoides*).

In 1952 all of the tract lying north of the power line was designated as part of the Bolleswood Natural Area.⁵⁴ Its boundaries were fenced by 1963.²³⁴ The small quarry near the northern end of the eastern boundary was reactivated in the 1950s to provide stone used in the construction of the College Infirmary, Larrabee House and Hale Laboratory. Since then, no further disturbances have been permitted. The western extensions of Transects II, III and IV of the long-range vegetation studies⁹ end on this tract. The open fields, which were present in 1952 and were traversed by Transects III and IV, have been the subject of several investigations of old-field succession.²³⁵ Portions of them have already grown up to young forest, as shown in recently published photographs.²³⁶ The vegetation and soils of the wetlands have been studied.²⁸

A Right-of-Way Demonstration Area, where the vegetation has been managed by the selective use of herbicides in cooperation with the power company, was established under the power line crossing this tract in 1953.¹⁰⁰ Observations on the stability of established shrubs under the wires have been published.¹²⁵

The history of this tract is the same as that for Tract 4.

TRACT 12 THE HEMPSTEAD TRACT

This five-acre tract was purchased by the Arboretum Director on behalf of seventeen contributors for \$500 from E. Judson Hempstead and his sister, Agnes H. Libby, on December 17, 1952.²³⁷ It was then immediately quit-claimed to the College. The deed to the College states the intent of the gift, that the land be used as an addition to the Arboretum.²³⁸ This property is bounded to the south by a stone wall that separates it from Tract 6, to the west by a stone wall except for a thirty-foot strip belonging to Robert J. Horwell,²³⁹ to the north by a stone wall, and to the east by the Thames River. The tidal wetlands and part of the western boundary have been mapped.²⁴⁰

The terrain consists of a steep east-facing slope that, at the time of acquisition, was an old field in the early stages of forest development and a small piece of salt marsh. The railroad right-of-way separates these two habitats.

Encroachments on the tract have included the storage of a boat on the marsh in the 1950s, the removal of a large red cedar about fifteen inches in diameter in the 1960s, construction of a tree house and cultivation of a small plot of *Cannabis* in 1972.

This land is a portion of the northern section of the Mamacock Farm (see Tract 5). In 1753 it was inherited by Samuel Rogers, one of the sons of John Rogers,

Jr.²⁴¹ He leased it to his son-in-law, Daniel Byrne, from 1802 to 1806.²⁴² Byrne acquired the farm after Samuel's death in 1805 and sold it to Caleb Comstock in 1821.²⁴³ Orlando Comstock, Caleb's oldest son, inherited it in 1841,²⁴⁴ and Stephen Congdon Comstock, Caleb's youngest son, acquired it in 1881.²⁴⁵ It passed to Stephen's son, Albert O. Comstock, in 1885,²⁴⁶ to Albert's sister Mary Jane Comstock in 1899,²⁴⁷ and finally to Mary Jane's cousins, E. Judson Hempstead and Agnes H. Libby, in 1943.²⁴⁸

TRACT 13 MAMACOKE ISLAND

Mamacoke Island is a 40.5-acre rocky peninsula that juts out into the Thames River right across from the U.S. Navy Submarine Base in Groton. It was purchased for \$15,000 from the Merritt-Chapman & Scott Corp. by the Arboretum Director as trustee for 286 contributors²⁴⁹ and quit-claimed to the College as a gift on June 1, 1955.²⁵⁰ The complete wording of the document has been published.²⁵¹ The instrument provides that the property be added to the Arboretum as a natural area.²⁵² The Tract is bounded to the west by the Central Vermont Railroad right-of-way and Tract 6.

The upland is an ellipsoidal dome of Mamacoke gneiss rising 130 feet out of the Thames River. The crest is chiefly composed of outcrops and ledges with thin pockets of glacial till supporting grass, thickets and scattered trees. A large glacial erratic sits at the highest point. At the time of acquisition the slopes were deciduous woodland dominated by oaks. A very large dead chestnut tree was lying at the foot of the western ledges. Thin pockets of soil on the southeast ridge supported scrub oak (*Quercus ilicifolia*) and tangles of sawbrier (*Smilax glauca*). An aerial photograph taken in 1934 shows the area relatively open, with large, scattered trees. A low gravel terrace at the southwestern end was an open field, which by 1955 had become a thicket. Two exotic species, tree-of-heaven (*Ailanthus altissima*) and Japanese honeysuckle (*Lonicera japonica*), have become established on the adjacent southerly slope above a small salt marsh.

A one-acre pocket of salt marsh lies tucked between the southern lobe of the terrace and the upland. Another one of 2.5 acres to the west, which has never been ditched, connects the terrace to the western bank of the river. A stone wall separates this salt marsh from the upland to the east, and the remains of two other walls at the northern and southern ends run down into the water and are submerged, indicating that much of the original marsh has been eroded away.

This tract was designated the Mamacoke Natural Area at the time of its acquisition, and a special endowment has been established to cover its maintenance. Encroachment problems have included litter, camping, chopping of trees, hunting, fires, cross-country running, paint on the ledges (in conjunction with various rowing team boat races), the unauthorized installation of navigation markers on the eastern side of the peninsula as an aid to dredging operations, and the removal of a number of trees along lines of sight.

The area has been used regularly by classes to study zonation of the vegetation. The upland has been the subject of a number of student investigations—the bioecology of the island,²⁵³ the breeding bird population,²⁵⁴ and the role of windthrow mounds in mountain laurel reproduction.²⁵⁵ Careful mapping of the tidal wetlands has documented the rate of erosion and vegetation change during the past twenty years,²⁵⁶ and seven studies have been completed on various aspects of salt marsh ecology.²⁵⁷ Studies have been made of the impact of Mute Swans on the native waterfowl populations in the Thames River.²⁵⁸ Photographs of the area have been published.²⁵⁹



Archaeological excavation of a Native American shell midden site by Anthropology students on the south slope of Mamacoke Island, 1983. Tract 13. (H. Juli)

Mamacoke has a long history of use by the Indians. A rock shelter on the eastern side of the Island has yielded two skeletons, and an archaeological dig on the southwestern slope, above the small pocket of salt marsh, has provided important information regarding aboriginal occupation.²⁶⁰

Mamacoke was part of the original Mamacock Farm. Its train of ownership from the first grant in 1647 up to 1940 is summarized under Tract 5. The salt marsh is noteworthy

as having been mowed in 1645, the first year of colonial settlement.²⁶¹ In the latter part of the 19th Century the gravel terrace, which had been cleared for pasture, served as a shipyard, where three or four schooners were constructed. Mr. Shut, an expert blacksmith, was reported to have made all the hardware required for these ships right on the site.²⁶² About the only evidence of this activity today is an old well, but remains of the ways were still standing in the 1890s. The late Ira Gifford of Salem tells of escaping an angry bull by climbing up on the scaffolding when he was a boy,²⁶³ and Michael Coffey, who lived on Williams Street (Tract 19), was gored to death in the same place in 1893, perhaps by the same animal.²⁶⁴ In 1943 the Merritt-Chapman & Scott Corp., a firm engaged in marine construction, purchased Mamacoke from the Savings Bank of New London.²⁶⁵ Shortly thereafter the Corporation installed two dolphins off the southeastern shore to serve as a mooring for one of its barges. Fortunately, no further exploitation took place, as the gneiss of which the Island is composed could have been removed for breakwater construction. Indeed, some evidence of earlier quarrying may be found along the eastern shore. The Corporation terminated its operations in New London in 1954, at which time negotiations were initiated for purchase of the land for the Arboretum.

TRACT 14 THE RICHARD HALE GOODWIN TRACT

In order to preserve this eight-acre tract from development, it was purchased personally by the Arboretum Director from Grant D. Bliven in 1954.²⁶⁶ Two years later, on October 13, 1956, at a luncheon celebrating the 25th anniversary of the founding of the Arboretum, Dr. Goodwin deeded the land to the College.²⁶⁷ He had been presented with a check for \$2,250 to cover his expense in acquiring the property and with an illuminated scroll signed by the seventeen donors to the fund. The scroll reads, "The undersigned friends of the Connecticut Arboretum, as an evidence of the high regard in which they hold Dr. Richard Hale Goodwin and in recognition of the invaluable contribution which he is making in the broad field of conservation, present this property to Connecticut College for the Arboretum and request that it be designated The Richard Hale Goodwin Tract." This gift was accepted by the Trustees.²⁶⁸

The tract is bounded on the south by Gallows Lane, to the west and north by stone walls of Tract 20, and to the east by the ledges of Tract 10. At the time of acquisition two old fields, separated by a stone wall, sloped gently eastward to a flat, wooded floodplain traversed by the brook that flows from the Monroe Tract (Tract 10) into the Ravine (Tract 4). The eastern boundary is a cliff. The remains of an old nursery was in the western section of the northern field and a thicket in the eastern half, where an old well may be found. The southern field was still open grassland. One unusual plant found growing on an outcrop in it was the rock spikemoss (*Selaginella rupestris*), which has not been seen there in recent years. The flat eastern portion of the tract is subject to periodic flooding, especially in late winter. This is the site of a pond that was formed by the dam at Gallows Lane constructed some time prior to 1733.¹⁰⁹

This tract was added to the Bolleswood Natural Area at the time of its acquisition. A fire lane, maintained by mowing, along the north side of the

View north from Gallows Lane of red maple dominated wetland in the southeastern corner of the Richard Hale Goodwin Tract. Fall 1990. Tract 14. (G. Dreyer)



stone wall on Gallows Lane and around the eastern and western edges of the open field has prevented the spread of a number of fires into the adjacent woodland. In 1956 herbicide treatments of invading woody plants were used in the southern field to maintain the open grassland, and these have continued to the present. Observations on old field succession have been made,²⁶⁹ and the vegetation and soils of the wetland have been studied.²⁸

This tract is the southern portion of the western half of a forty-acre lot acquired by John Bolles from the Inner Commons in 1733.²⁷⁰ The eastern half is now the Monroe Tract (Tract 10). In 1740 Bolles gave the western twenty acres to three of his sons, Thomas, Ebenezer and Enoch,²⁷¹ and they conveyed it to their younger brother, Joshua, the following year.²⁷² Joshua sold it forty-three years later to Edward Hallam for £23,²⁷³ who within three months used it briefly as security for a £117 loan.²⁷⁴ In 1793 Edward Hallam's sons sold the property for £80 to John Bolles' youngest son, Samuel,²⁷⁵ who was operating a large farm to the north. In 1839 Samuel sold the southern eight acres, described as a meadow, for \$150 to his brother Joshua's grandson, William Bolles. William acquired the Adams Lot right across the street six months later. Allen I. Darrow took title to these eight acres in 1863,²⁷⁶ and the W. R. Perry Ice Corp., which cut ice on a pond fed by the brook flowing across this tract, bought the property in 1904 from Darrow's estate.²⁷⁷ The Perry Ice Corp. became the Southern New England Ice Co. in 1927 and the Southern New England Realty Co. in 1936.²⁷⁸ Jonathan L. Johnson acquired the land in 1938,²⁷⁹ and Grant D. Bliven in 1945.²⁸⁰

TRACT 15 THE KIP HOUSE AND LOT

This property, located at the southeastern corner of Tract 8, was purchased from the estate of Nona M. Kip on January 2, 1958,²⁸¹ for \$12,500. The house and garage are being rented to members of the College faculty. The 0.7-acre lot is separated from Tract 8 by stone walls.

The property was a portion of the farm acquired by John Calvert in 1882¹⁸⁹ and was left to his granddaughter, Alice Franklin Woodworth, in 1912.²⁸² She sold it to Mrs. Kip in 1948.²⁸³ Mrs. Kip was the widow of Herbert Z. Kip, Professor of German at the College. For earlier ownership, see Tract 8.

TRACT 16 THE BRAILSFORD TRACT

This 28-acre tract was purchased by the College from Alice and Arthur Brailsford, Jr. for \$10,000 on June 23, 1958.²⁸⁴ It is bounded to the east by Williams Street, to the south by the stone walls of Tract 19, to the west by the stone walls of Tracts 17, 18 and 20, to the north by a stone wall and lots of the Totoket Road development.

THE CONNECTICUT COLLEGE ARBORETUM

Location of Tracts
Listed in Table 1

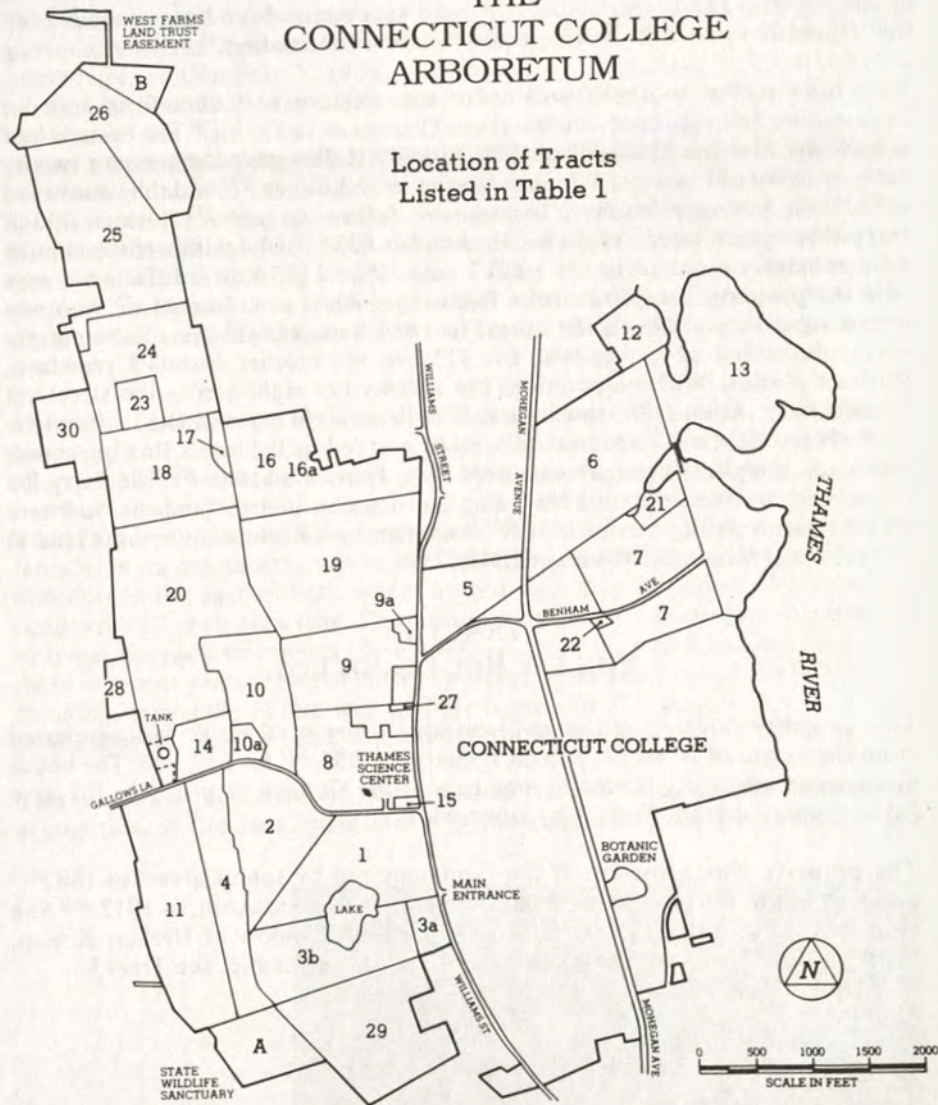


Table 1. Data on Arboretum Tracts

Key to abbreviations:

Buildings:

B = Barn
 H = House
 HG = House and Garage
 S = Shed

Method of Acquisition:

CP = College Purchase
 G = Gift from grantor
 GP = Purchased with gifts
 or by gifts in the
 proportion indicated

Other Uses:

AH = Arboretum House
 FH = Faculty House
 PH = President's House
 MW = Municipal Watertank
 OS = Open Space
 SB = Storage Building
 SWS = State Wildlife Sanctuary
 TSC = Thames Science Center

No.	Name of Tract	Year Acq.	Acreage and Buildings	Method of Acq.	Amount of Gift	Total Cost or Value	Arboretum Acres	Other Uses
1	Branch	1911	21.6	CP	—	(1)	21.6	
2	Bolleswood	1911	16.5	G	(2)	(2)	16.5	
3 a	Comstock	1926	3.8	CP	—	\$9,900	3.4	PH
3 b	Comstock	1927	21.8	G	(2)	(2)	21.8	
4	Ravine	1937	15.7	GP	\$3,232	3,232	15.7	
5	Benham Avenue Ext.	1942	10.3	GP	3,500	3,500	10.3	
6	George S. Avery	1944	33.2	65% GP	3,247	5,002	33.2	
7	Katharine Matthies	1946	26	GP	12,000	12,000	26	
8	Gallows Lane Ext.	1946	19	24% GP	927	4,056	19	TSC
9	Frances S. William	1950	19	B 39% GP	3,012	7,658	18	SB
9 a	Faraci House & Lot	1972	0.7	H CP	—	6,500	0.1	FH
10	Monroe	1950	15.7	GP	1,658	1,658	15.7	
10 a	Monroe House & Lot	1956	1.3	H.S. 35% GP	3,000	8,500	1.0	AH
11	Ribaud	1951	29.2	90% GP	4,500	5,000	29.2	
12	Hempstead	1952	5	GP	500	500	5	
13	Mamacoke Island	1955	40.5	GP	15,000	15,000	40.5	
14	Richard Hale Goodwin	1956	8	GP	2,250	2,250	8	
15	Kip House & Lot	1958	0.7	HG CP	—	12,500	—	FH
16	Brailsford	1958	28	CP	—	10,000	—	OS
16 a	Lot No. 16	1968	0.7	H CP	—	31,500	—	FH
17	Burdick	1959	1.5	CP	—	600	1.5	
18	Hirschfeld	1959	24	CP	—	5,000	24	
19	Coffey Farm	1959	50	H CP	—	67,500	4	FH, OS
20	Hirschfeld Farm	1960	50	42% GP	2,500	6,000	49	MW
21	Espinosa House & Lot	1963	3	HG 15% GP	4,000	26,250	2	FH
22	Lloyd B. Benham	1964	0.2	G	(2)	(2)	0.2	
23	Thames Science Center	1968	4	G	2,000*	2,000*	4	
24	Goodwin	1969	20.5	G	12,300*	12,300*	20.5	
25	Lodus Realty	1970	32	CP	—	45,000	—	OS
26	Sally L. Taylor	1975	24	GP	16,400	16,400	24	
27	Worcester Lot	1976	0.2	50% GP	750	1,500	—	OS
28	Anderson	1983	2.9	G	13,500	13,500	2.9	
29	William A. Niering	1983	22	51% GP	45,776	90,000	12	OS
30	Applewood	1988	10.3	G	90,000*	90,000*	10.3	
A	State Wildlife Sanctuary	1957	8.9	GP#	1,800	1,800#	—	SWS
B	West Farms Land Trust	1975	5.5	GP+	2,500	2,500+	—	OS

* Value determined by appraisal.

Gift to the State of Connecticut.

+ Conservation restriction purchased by the West Farms Land Trust.

- (1) The price for a total of 54.6 acres, including buildings east of Williams Street, was \$37,500.
 (2) The value of gift not determined but may be partly reflected in the cost of the adjoining property acquired from the same family.

At the time of acquisition the southern two-thirds was open, abandoned pasture. The section west of the Totoket Road development was wooded wetland. One unusual plant found growing in this swamp was the netted chain-fern (*Woodwardia areolata*). Large hemlock trees are growing at the western edge of this swamp at the foot of east-facing ledges. These probably survived the 1938 hurricane because of their protected location. The high ground along the western boundary was a young deciduous woodland, which was killed back by a severe wildfire in the early 1960s.

The vegetation and soils of the swamp have been studied,²⁸ and the woodland of this tract was the site of a study of the social behavior and communication of Hairy and Downy Woodpeckers.²⁸⁵ A trail has been laid out through the southwestern section, leading from Bolles Road to the northern boundary of Tract 19.

This property was the undeveloped remainder of a forty-five-acre farm which the Brailsfords acquired in 1944 from Charles and Harriet Ramsdell.²⁸⁶ Mr. Brailsford, a builder, proceeded to create the Totoket Road subdivision in its northeastern corner. Sixteen homes were constructed and sold between 1951 and 1960.²⁸⁷ The last one, on Lot 16, was purchased by the College for faculty housing in 1968.²⁸⁸ The boundaries of the development have been mapped.²⁸⁹

This farm was originally a portion of the Middle or Wood Commons,²⁹⁰ which was acquired by John Rogers II in 1732.²⁹¹ In 1753 it was inherited by five of his sons, who deeded it to Peter Strickland two years later.²⁹² It remained in the Strickland family for the ensuing seventy-eight years. Asa and Sarah W. Comstock acquired the farm in 1833²⁹³ and sold it five years later to Alexander Rogers, the great-grandson of John Rogers, Jr.²⁹⁴ It remained in his family's hands until 1928,²⁹⁵ at which time it was purchased by the Ramsdells.²⁹⁶

TRACT 17 THE BURDICK TRACT

This 1.5-acre strip of land was purchased by the College from Richard H. Goodwin on March 9, 1959, for \$600.²⁹⁷ It lies east of Bolles Road and is bounded to the east by the stone wall separating it from Tract 16 and to the north by a wall on the southern edge of Tract 24.

When acquired, there was a pile of lumber and the beginnings of a foundation at the southern tip, where the road swings slightly to the west up a little pitch. An open field was at its northern end.²⁹⁸ This tract is being managed by the Arboretum as part of Tract 18.

This land was purchased by Irene and Samuel Burdick from Edward M. and Stasia Hirschfeld in 1952.²⁹⁹ For earlier ownership, see Tract 18. Dr. Goodwin bought the land from the Burdicks in 1956, together with their house lot situated immediately to the north, at the end of Bolles Road.³⁰⁰ At that time the field was strewn with rubbish, which was picked up and removed.

TRACT 18 THE HIRSCHFELD TRACT

This twenty-four-acre farm was purchased by the College from Edward and Stasia Hirschfeld on August 4, 1959, for \$6,000.³⁰¹ It was encumbered by easements for a telephone cable³⁰² and the gas pipeline.³⁰³ An eastern strip had been previously sold to the Burdicks (see Tract 17). The land was assigned to the Arboretum subject to possible withdrawal by the Board of Trustees.³⁰⁴ The tract is bounded on all sides by stone walls with the exception of the frontage on Bolles Road along Tract 17 and of the western section of the northern boundary, where it crosses a wetland.

At the time of acquisition this abandoned farm was mostly open fields in various stages of succession, as is shown in a published photograph of the northern section.²⁹⁸ One



Wendy Dreyer standing next to a series of artificial flowers which were part of an experiment by Pamela Hine (MA '84) to study foraging behavior of honey bees. This part of the work was done in a field on the Hirschfeld Tract in 1983. Tract 18. (G. Dreyer)

or two cows were still being pastured. The land west of the gas pipeline easement was in post-agricultural forest, with an understory of mountain laurel. The stream running through the Bolleswood Natural Area has its headwaters in this woodland. The old Samuel Bolles homestead burned to the ground on June 19, 1943, the barn having been destroyed at the time of the 1938 hurricane.³⁰⁵ A farm dump may be found on the east side of Bolles Road near the entrance to the lane leading to the farmyard. The lane was closed by an iron gate.

The portion of the farm west of the former telephone cable was designated part of the Bolleswood Natural Area by action of the Trustees.³⁰⁶ One summer in the 1960s several pigs escaped from the Millaras piggery and spent a number of weeks in the wet woodland, an escapade repeated again in the late 1980s. The later resulted in an article, complete with photographs, in the November 15, 1988 edition of the *College Voice* memorably titled "Swine Invasion: Obese Pigs Usurp Arboretum Trails." In the latter part of the 1960s a severe wildfire swept several acres along the eastern boundary, killing most of the trees between Bolles Road and the top of the ledges to the east. The

foundations and yard of the Samuel Bolles homestead were the site of an archaeological dig, under the direction of Dr. Harold Juli.³⁰⁷ The farmyard is being kept open by mowing.

This farm was originally part of the Middle or Woods Commons, which became property of the Town of New London in 1703 by Act of the Connecticut Assembly. It was part of the land laid out to John Bolles in 1732.³⁰⁸ John gave sixty acres to his youngest son, Samuel, in 1763,³⁰⁹ and Samuel immediately built his house on the property.³¹⁰ Thomas Calvert purchased the homestead from Samuel's estate in 1844 for \$390,³¹¹ and it remained in the hands of the Calvert family for a century. DeWitt C. Calvert acquired the farm in 1886,³¹² and his daughter, Lotta M. Whitman, inherited it in 1926.³¹³ She was leasing the place to John Watson, a Waterford Town constable, when the house burned down.³⁰⁵ She sold the farm to Joseph and Edward M. Hirschfeld in 1944.³¹⁴ Joseph died, and Edward acquired Joseph's half interest in 1947 and made his wife a joint owner.³¹⁵

TRACT 19 THE COFFEY FARM

This fifty-acre abandoned farm, including the farm house, was purchased by the College from Mary C. Brayne on September 17, 1959, for \$67,500.³¹⁶ It was encumbered by a gas pipeline easement, which cuts off the southwestern corner.³¹⁷ The farm is bounded to the east by Williams Street and State land, to the south, west and north by stone walls of Tracts 9, 20 and 16. It has been mapped.³¹⁸

At the time of acquisition most of the land was fairly open. A brook flows northward from the adjacent Williams Tract (Tract 9) across the eastern portion of the farm. The rocky knoll in the southwestern corner was forested with an understory of mountain laurel. This four acres of high ground, bounded by stone walls, is being managed as part of the Arboretum, since it provides a protective buffer to the Bolleswood Natural Area. In order to keep some of the fields open, invading trees in certain portions of the upland were selectively treated with herbicide in the spring of 1973 and again in the 1980s. By 1984 a rather large population of deer was present and a graduate student fenced off a small section as an enclosure in order to study the impact of deer browse on the vegetation.³¹⁹ A trail was laid out across the western portion of the farm connecting Tracts 9 and 16.

The old colonial farm house dating from the early 1800s has been leased and restored by Hyla M. Snider, a retired member of the College faculty. A lot to the south has been leased to Margaret Hazlewood, also a retired member of the faculty, on which she has built a retirement home.³²⁰

The southern seventeen acres of this tract were originally on the northern boundary of the Inner Commons and were laid out to John Waterhouse Sr. in 1733.³²¹ The northern part was in the Middle or Woods Commons and was a

portion of a larger piece deeded to John Rogers II in 1732/33.²⁹¹ At John Rogers' death twenty years later, his portion was inherited by five of his sons, who deeded the land to Peter Strickland in 1755.²⁹² The land became the property of Vashti Strickland, who married John Waterhouse, Sr., and thus the two pieces came under the same ownership. In 1805 title passed to John Waterhouse, Jr.³²² and then to Hallam and Elizabeth Waterhouse, who sold the farm to Stephen Congdon for \$1,000 in 1817.³²³ Congdon sold it to Franklin Gallup in 1852 for \$3,500,³²⁴ and he, in turn, sold it to Hezekiah U. Williams in 1855.³²⁵ Michael and Margret Coffee bought the property in 1881.³²⁶ Michael was gored to death by a bull on August 8, 1893,²⁶⁴ and his interest in the farm passed to his wife,³²⁷ who died in 1908.³²⁸ Their son, David Coffey, inherited the property in 1917³²⁹ and sold an acre along Williams Street to the State of Connecticut in 1935.³³⁰ He worked as a clerk in G. M. Williams hardware store. His daughter, Mary C. Brayne, acquired title to the property between 1957 and 1959.³³¹

TRACT 20 THE HIRSCHFELD FARM

This fifty-acre tract was purchased by the College from Katherine Hirschfeld on January 5, 1960, for \$6,000,³³² \$2,500 of this sum having been contributed by friends of the Arboretum. It was the eastern portion of the Hirschfeld Farm, the house, outbuildings and eight acres of land with frontage on Bloomingdale



Arboretum maintained walking trail on natural gas pipeline right-of-way owned by Algonquin Gas Transmission Co. The right-of-way cuts diagonally from Tract 9 to Tract 30. Photo shows section of Hirschfeld Tract in 1990. Tract 20. (G. Dreyer)

Road having been retained by Mrs. Hirschfeld. The property was encumbered by easements for a telephone cable³³³ and the gas pipeline,³³⁴ which cut diagonally across the north-eastern corner. The tract was assigned to the Arboretum, subject to possible withdrawal by the Board of Trustees.³⁰⁴

Commencing at the southwestern corner, this tract is bounded as follows: westerly by a stone wall running north from Gallows Lane for 1,345 feet by Tract 28 and thence across fields and other walls to the north-western corner, northerly by stone walls of Tract 18, easterly by the stone walls of Tract 19 to the east of Bolles Road, southerly and easterly by stone walls and Tract 10 and southerly and easterly by Tract 14 to Gallows Lane, southerly by Gallows Lane.

In 1970 the College deeded a 1.25-acre site for a water tank to the City of New

London in exchange for the compensating reservoirs that were located in the middle of the campus, the present location of the Charles E. Shain Library. The tank site lies 140 feet north of Gallows Lane and is reached by a forty-foot right-of-way, which is owned in common by the College and the City and runs just west of the boundary of Tract 14.³³⁵

The western boundary of Tract 20 runs along high rocky ledges forested by oak with an understory of brier and huckleberry. The land drops off eastward, precipitously in places, to a moist wooded valley traversed by the headwaters of the stream that flows through Tracts 10 and 14 to the Ravine (Tract 4).

The west-facing slope, which had a dense understory of mountain laurel, rises gently to Bolles Road. Along this road and east of the telephone cable the land was either open or in early post-agricultural forest at the time of acquisition. Near the north boundary of the Monroe Tract (Tract 10) was a mature stand of redcedar, and at the northeast corner, just south of Tract 18, was an



open field, which had been maintained in that condition by mowing. The portion of this tract lying west of the telephone cable was added to the Bolleswood Natural Area by action of the Trustees.³⁰⁶ The riparian vegetation and soils have been studied.²⁸

A field on the Hirshfeld Tract in 1990 maintained by annual mowing. Most of the surrounding unmowed area has reverted to deciduous forest. Tract 20. (G. Dreyer)

This tract has had a complex land ownership history. The southernmost twelve acres were part of an initial forty-acre distribution of the Inner Commons to John Bolles in 1733 and had the same train of ownership as Tract 14 until 1839. In that year the southeastern eight acres (Tract 14) were sold by Samuel Bolles to his great nephew, William Bolles.²⁷⁵ The remaining twelve acres were retained and became part of Samuel's estate.

The next seventeen acres to the north were laid out to Nathaniel Lathrop in 1729/30³³⁶ and were subsequently deeded to Samuel Richards in 1735.³³⁷ The eastern twelve acres of this parcel were soon sold by Richards to two former slaves. Cesar Bolles (also referred to as Cesar Freeman), the freed slave of John Bolles, bought the northeastern four acres in 1751 for £107 10s.³³⁸ Cesar lived there for forty-three years. John Bolles' eighth son, Joshua, bought the property in 1794 for £13³³⁹ and sold it to his brother Samuel the following year.³⁴⁰ A small house was standing on it at that time. The southeastern eight acres were sold by Richards in 1753 to Thomas Boham for £240.³⁴¹ Boham

had been freed by the heirs of Jonathan Hill. After Boham's death his son, Moses, sold his partial interest in the lot to Isaiah Bolles' son-in-law, Green Plumb, in 1771.³⁴² Isaiah was John Bolles seventh son and owned the contiguous land to the south (Tract 10). Isaiah's son, Joseph, acquired this interest in the land from Plumb the following year and sold it to his uncle, Samuel, in 1783.³⁴³ The remainder interest in the Boham lot was sold directly to Samuel Bolles by Boham's daughter, Ann Adams, and her husband in 1788.³⁴⁴

All of the above-mentioned twenty-four acres were purchased in 1843 from Samuel Bolles' estate by John R. Bolles.³⁴⁵ He held the land for sixteen years and then sold it to Benjamin T. Keyes,³⁴⁶ who owned it until his death. In 1912 it was acquired from Keyes' estate by Leo D. Doherty.³⁴⁷

The adjacent thirteen-acre tract to the north was laid out to Joshua Baker in 1732/33.³⁴⁸ His son-in-law, Samuel Atwell, Jr. sold it to John Bolles in 1750/51 for £30.³⁴⁹ John gave this land to his son, Joshua,³⁵⁰ and it eventually became part of Joshua's son Elijah's estate, which was inherited by Elijah's nephews. One of these, William, acquired title in 1838³⁵¹ and conveyed it to his great uncle Samuel.³⁵² When Samuel's estate was broken up, the western five acres of this tract became part of the Ephraim Lyon farm,³⁵³ and the eastern section came into the possession of the Calvert family.³⁵⁴ Both pieces were acquired by Leo D. Doherty in the early part of this century.³⁵⁵

The whole farm was thus owned by Doherty by 1912. It included the balance of the tract from which the lots had been sold to the two freed slaves. Doherty sold the land to Croci and Joseph Fredrico and Joseph Mugavero in 1919,³⁵⁶ and they sold it to Karol Hirschfeld in 1933.³⁵⁷ In 1948 Mr. Hirschfeld sold a one-year permit to cut laurel for the Christmas trade.³⁵⁸ The next year he deeded the farm to his wife, Katherine, and daughter, Jennie.³⁵⁹ Jennie proceeded to marry a Muslim, John Jaszczur, and then to make him a joint owner of her interest in the property.³⁶⁰ John promptly deserted his wife, and Jennie subsequently died. It took court action to get Jaszczur to deed his interest in the farm to Mrs. Hirschfeld,³⁶¹ which took place on the day Mrs. Hirschfeld sold the back land to the College.

TRACT 21 THE ESPINOSA HOUSE AND LOT

This three-acre property was purchased by the College for \$26,250 from Michael Espinosa on May 20, 1963.³⁶² Friends of the Arboretum contributed \$4,000 toward the purchase price. The tract is bounded to the south by the stone wall of Tract 7, to the east by the railroad right-of-way and to the north by the cove. The right-of-way to this property has been mapped.³⁶³ The wetlands, cove margin and portion of the river terrace are being managed as part of the Arboretum.

The western end of this property is part of the wet meadow traversed by the spring-fed stream referred to in the description of Tract 6. It grades into a

Brackish Pond as seen looking west from the Vermont Central Railroad tracks. Espinosa Lot is to the left, George S. Avery Tract to the right. Tracts 21 and 6. (G. Dreyer)



brackish marsh at the head of the cove. A house, garage and sheds are situated on the river terrace, a portion of which, adjoining the railroad embankment at the edge of the cove, had been removed to about the two-foot contour for sand and gravel. An unsightly dump had been growing on the bank of the cove between the garage and sheds during the ten years prior to its acquisition by the College. About an acre of the terrace had been mowed and planted to fruit trees.

The house has been remodelled by the College for two faculty apartments. About twenty truckloads of debris were removed from the dump and the remainder buried. Part of the terrace has been converted from lawn to occasionally mowed meadow, commencing in 1977. The wetlands have been carefully inventoried and mapped.¹⁴⁹ The freshwater meadow-marsh habitat is the only one of its type within the Arboretum.

This was originally a part of the Benham Farm (see Tract 7). It was sold by Mr. Benham in 1859 to James M. Perkins,³⁶⁴ who owned it for fourteen years. It changed hands a couple of times in the next nine years³⁶⁵ and was acquired in 1882 by Sarah A. Lamphere.³⁶⁶ It remained in her family³⁶⁷ until 1946, when it was purchased by Mr. Espinosa.³⁶⁸

TRACT 22 THE LLOYD B. BENHAM TRACT

This 0.2-acre lot on the south side of Benham Avenue was given to the College on August 4, 1964, by Tryon G. Benham and Ida Bartlett in honor of their brother, Lloyd B. Benham, a long-time employee of the College, who died on August 21, 1956.³⁶⁹ It is bounded by stone walls and is being managed as part of the Arboretum, along with the adjacent Matthies Tract. It was part of the Benham Farm (see Tract 7).

TRACT 23 THE THAMES SCIENCE CENTER TRACT

This four-acre tract, together with a right-of-way access from Bolles Road, was given to the College by the Thames Science Center on December 11, 1968,³⁷⁰ with the request that the property be kept as open space and used for scientific and educational purposes and added to the holdings of the Connecticut Arboretum.³⁷¹ The gift was in consideration of a lease to the Center of the site for its interpretive building on Gallows Lane. The tract is located just north of Tract 18.

The Center acquired the property as a gift from Dr. Richard H. Goodwin.³⁷² For a description of the land and a summary of its former ownership see Tract 24.

TRACT 24 THE GOODWIN TRACT

This 20.5-acre tract was given to the College by Dr. Richard H. Goodwin in four installments, the first on August 19, 1969, and the last on January 11, 1971.³⁷³ The deeds provide that the land be added to the Arboretum and impose restrictions on its disposal.³⁷⁴ Ernest L. Deshefy surveyed the property just a few days before he died.³⁷⁵ The map shows that most of the boundaries are defined by stone walls. A wire fence crosses the wetland at the southwestern edge.

The donor purchased this land in two separate transactions: Parcel I, acquired in 1956, was 2.5 acres in the southeastern corner at the end of Bolles Road (the Burdick house and lot);³⁰⁰ Parcel II, 22 acres, was acquired in 1959 from Harold F. Dunbar and family.³⁷⁶ Four acres of this second piece (Tract 23)



The Burdick house site, Goodwin Tract, on Bolles Road in 1957. View is to the southeast with Tract 17 to the left of the road past the stonewall and Tract 18 to the right. Tract 24. (R. Goodwin)

were given to the Thames Science Center in 1968.³⁷² All 24.5 acres are included in the following description.

A flat rocky crest somewhat east of the center of this tract, with thin soil and a few glacial erratics, slopes off in all directions. The vegetation was oak woodland with an understory of mountain laurel. A bridle trail makes a loop through the property. Near the western boundary a swampy woodland drains to the north, fed by overflow from a one-acre pond and wetland near the southern border.²⁹⁸

The site of the two-acre homestead, with two cellar holes, lies in the southeastern corner at the end of Bolles Road. It was still open at the time of acquisition. The Burdick house and numerous outbuildings had been burned early in 1958, and a lot of trash removed. During the clean-up the small cellar hole near the southern boundary was partially filled with metal scrap. A few hemlocks had been planted just south of the wetland at that time.



Shallow pond on Goodwin Tract looking west from the east edge in 1990. Located southwest of the Burdick house site, the pond has been used for amphibian studies. Tract 24. (G. Dreyer)

mapped.³⁸⁰ A photograph of the eastern corner has been published,³⁸¹ and the eastern boundary has been surveyed.³⁸²

This land was part of a sixty-acre section of the Middle or Woods Commons laid out to John Bolles in 1732/33,³⁰⁸ which he gave to his youngest son, Samuel, in 1763.³⁰⁹ It was inherited by Samuel's daughter, Margaret Hathaway, who deeded it to Ephraim Lyon in 1844.³⁸³ It remained in the possession of the Lyon family until 1875, at which time it was conveyed by Lorenzo D. Lyon's estate to George C. Ripley and by him to Rebecca Street.³⁸⁴ The following year Rebecca Street sold it to John Cone.³⁸⁵ In 1878 Cone deeded it to Michael McLaughlin.³⁸⁶ McLaughlin sold it to Patrick Leary in 1893.³⁸⁷ Norman A. Richards acquired the land in 1898.³⁸⁸ He sold a small

A very handsome white oak, 3.5 feet in diameter in 1990, grows near the southern boundary. Some of the hardwoods that were crowding it were removed in 1970. The pond has been used as a site for research on the migratory behavior³⁷⁷ and population variation of the spotted salamander³⁷⁸ and on wood frog reproduction in relation to acid rain.³⁷⁹ The wetland vegetation around it has been

piece in the southeastern corner to the Burdicks in 1946,³⁸⁹ and upon his death title to the remainder passed to his widow and daughters.³⁹⁰ They sold another piece to the Burdicks in 1952³⁹¹ and the rest to Harold F. Dunbar in 1956.³⁹²

TRACT 25 THE LODUS REALTY TRACT

This thirty-two-acre tract was purchased by the College from Lodus Realty, Inc. on May 22, 1970, for \$45,000.³⁹³ The boundaries were mapped in 1965.³⁹⁴ There is access to it by a right-of-way from the western end of Dunbar Road. The property consists of deciduous woodland sloping off to the north and west. It lies between Arboretum Tracts 24 and 26 and serves to connect them. It is being held by the College as open space.

This land was originally parts of two tracts in the Middle or Woods Common laid out to John Bolles in 1733.³⁹⁵ The northern portion John gave to his oldest son, Joseph, in 1738,³⁹⁶ who conveyed it to his brother Isaiah in 1747.³⁹⁷ Isaiah sold it to his youngest brother, Samuel, in 1778.³⁹⁸ Upon Samuel's death it was inherited by his daughter, Rebecca Lapham, who sold it to Thomas Calvert in 1845.³⁹⁹ The southern portion John gave directly to Samuel in 1763.³⁹⁹ It was sold by Samuel's heirs to Thomas Calvert between 1848 and 1854.⁴⁰⁰ Both of these tracts eventually became part of the farm of Norman A. Richards, whose widow and daughters obtained title from his estate in 1947.³⁹⁰ They sold the property to the Harold F. Dunbar family in 1956,³⁹² and three years later the Dunbars sold this portion of it to Lodus Realty, Inc., a venture established by Mr. Sudol.⁴⁰¹

TRACT 26 THE SALLY L. TAYLOR TRACT

This twenty-four-acre tract was purchased by the College from Thomas F. and Theresa P. Ammirati on May 22, 1975, for \$16,400.⁴⁰² Funds for this purchase were contributed by forty friends of the Arboretum and four organizations. The deed recites the College's intent to preserve the tract as open space,⁴⁰² and the tract was added to the Arboretum.⁴⁰³ As part of the consideration for this transaction, the Ammiratis also conveyed a conservation restriction to the West Farms Land Trust, which protects land just north of this tract and the south bank of Hunts Brook and provides access to the Brook from the Arboretum via a right-of-way.⁴⁰⁴ In 1990 the Trustees of the College voted to name the tract in honor of Sally L. Taylor at the time of her retirement as Professor of Botany.⁷

The southern boundary is contiguous with Tract 25; the eastern is defined by stone walls. The western boundary has been mapped.⁴⁰⁵ At the time of acquisition this tract consisted of oak-dominated woodland sloping gently downward to the north. There was an understory of mountain laurel, especially thick in the northern section.

This land was part of the Middle or Woods Commons laid out to John Bolles in 1733 and 1734.⁴⁰⁶ He gave it to his oldest son, Joseph, in 1738.³⁹⁶ Sometime prior to 1871 the property belonged to Norman Richards. It was acquired in that year, along with a number of other tracts, by John Robertson, who established a paper mill on Hunts Brook.⁴⁰⁷ It passed by inheritance to Robertson's granddaughter, Carolyn R. Kirckhoff, in 1928.⁴⁰⁸ She sold it in 1951, and it passed through two ownerships before being acquired by Horace and Judith S. Wuerdemann in 1966.⁴⁰⁹ The Ammiratis purchased the land from the Wuerdemanns in 1975.⁴¹⁰

TRACT 27 THE WORCESTER LOT

This quarter-acre wooded lot on Williams Street was purchased by the College from the executors of the estates of Carlos W. and Edwin G. Worcester on August 18, 1976, for \$1,500.⁴¹¹ Half the purchase price was contributed by Dr. Goodwin. The lot is located at the northeastern corner of the farm acquired by Grace Calvert Woodworth in 1912¹⁹⁰ (see Tract 8). It is shown as Lot 15 on her development plan. She sold the lot to Augusta F. Tinker⁴¹² in 1920, and it was acquired by the Worcesters from the Tinker Estate.⁴¹³ The northern boundary is defined by a stone wall.

TRACT 28 THE ANDERSON TRACT

This 2.9-acre tract was given to the College on January 1, 1983, by Miss Martha B. Anderson.⁴¹⁴ Its southeastern corner is approximately 838 feet north of Gallows Lane on a stone wall marking the western boundary of Tract 20. It is bounded to the east for 507 feet by that wall and to the north for 199 feet by another wall. Its southwestern corner is marked by an iron pin approximately 266 feet west of the southeastern corner. It has been mapped.⁴¹⁵ The land consists of deciduous woodland with a dense understory of greenbrier. It is being held as a buffer to the Bolleswood Natural Area.

This land was part of the Inner Commons originally laid out to Samuel Richards in 1732/33.⁴¹⁶ A twenty-eight-acre portion, which also included Roach's Lot on Gallows Lane, was acquired from the Richards family by the Chapmans sometime prior to 1826.⁴¹⁷ In 1893 Electra R. Chapman sold this holding to Daniel D. Lyon for \$1,000, and that same day Lyon deeded it to John Cone.⁴¹⁸ Cone proceeded to draw up a plan for the Ocean View Park development. A series of lots were sold to Joseph and Mary Dandone and Joseph Gregory between 1905 and 1910.⁴¹⁹ Nicholas Dandone inherited these lots in 1979⁴²⁰ and sold them to A.J. Sylvester and Karen M. Padgett,⁴²¹ from whom Martha B. Anderson purchased the lot which is now Tract 28.⁴²²

TRACT 29
THE WILLIAM A. NIERING TRACT

In 1983 the still undeveloped southwestern twenty-two acres of the Comstock farm lying immediately south of the Arboretum came on the market. The College administration was persuaded to purchase the property with the understanding that an attempt be made to raise at least half the purchase price, so that the northern portion might be added to the southern boundary of the Arboretum. A purchase contract was signed with the owner, Florence C. Prince, for \$90,000 on December 1, 1983.⁴²³ Subsequently 163 friends of the Arboretum, including faculty and alumni, and ten organizations contributed \$45,776 to finance this addition. The southern boundary of the Arboretum tract was established along old stone walls, bringing the size of the addition to twelve acres.⁴²⁴ The tract is bounded to the west by a stone wall, to the north by the Arboretum fence, and to the east by the backs of house lots on Sunset Road, which have been mapped.⁴²⁵ The Trustees of the College voted to name the tract in honor of Dr. William A. Niering, the Arboretum's third Director.⁴²⁶

This land had not been farmed or grazed for over fifty years. Much of it is now in thicket or has already reverted to young forest. Portions have been burned by wildfires from time to time, a severe one occurring in 1950. Since about 1968 the area has been used by the College as a place to study old field succession.

The early ownership of this Tract is described under Tract 3. At about the same time that Frank A. Comstock sold Tract 3a to the College he started selling off building lots along Williams Street⁴²⁷ and conveyed the right-of-way for Sunset Road to the City of New London.⁴²⁸ Upon his death in 1938 the balance of the property was inherited by his widow,⁴²⁹ who, the following year, sold the undeveloped western portion of the farm to Mrs. Prince.⁴³⁰

TRACT 30
APPLEWOOD TRACT

This 10.3-acre tract was given to the College on September 29, 1988, by Theodore Olynciw.⁴³¹ A pedestrian right-of-way providing access from Applewood Drive was received the following day from William E. Kane III and Mary Ellen Kane, the owners of Lot 8 of the subdivision.⁴³² The Tract and right-of-way are shown on a boundary survey of the Applewood subdivision, which provides in note 17 on the map that the tract may not be developed.⁴³³ The survey map also provides in note 16 for a twenty-five-foot-wide buffer zone running 800 feet south of the tract along the eastern edge of Lots 6, 7 and 8, next to the Arboretum boundary, on which no grading, filling, building or clearing may take place.

The eastern edge of the tract was encumbered by an easement for a telephone cable, which has since been removed, and is still under easement for a gas pipeline.⁴³⁴



View north across the open field on the Applewood Tract, 1990. (G. Dreyer)

The flat western portion of the tract, composed of fill from area construction projects, slopes very steeply to the east down to the original grade. The slope was graded and seeded by the owner in 1988 before its conveyance to the College. The southern and eastern portions are old field or early forest.

This is the northeastern corner of a tract acquired by Olynciw from Edward Hirschfeld in 1987⁴³⁵ and was in the northernmost portion of the Karol Hirschfeld farm, which Edward acquired from his father.⁴³⁶

The land in which this tract lies was a portion of the Middle or Woods Commons laid out to Nathaniel Lathrop in 1732/33.⁴³⁷ It was sold to Samuel Richards in 1735⁴³⁸ and remained in the possession of the Richards family until 1812,⁴³⁹ when it was purchased by Ephraim Lyon.⁴⁴⁰ His heirs sold it to Lydia A. Calvert.⁴⁴¹ The Calverts owned it until 1901, when the property was sold to Leo Doherty.³⁵⁵ Doherty sold it to Croci and Joseph Fredrico and Joseph Mugavaro in 1919,³⁵⁶ who in turn sold it to Karol Hirschfeld in 1933.³⁵⁷

THE STATE WILDLIFE SANCTUARY

This 8.9-acre tract was purchased for a wildlife sanctuary by the State of Connecticut from the Federal Government on November 8, 1957.⁴⁴² The \$1,800 required for this acquisition were provided by the Conservation and Research Foundation. The deed of transfer states that the State shall "... hold the said premises, with the appurtenances thereof . . . for public use and no other purpose, forever . . ." An Act,⁴⁴³ which would have required the sale of the tract to the City of New London, was introduced into the Legislature in 1959, but was ruled illegal by the State's Attorney General and was killed in Committee.

The Sanctuary is situated at the southern end of the Ravine (Tract 4) from which it is separated by a stone wall. It is bounded on the east by the powerline which crosses Tracts 4 and 11. Its southern boundary was marked by a strand of barbed wire. The eastern two-fifths of the area is an alluvial wooded wetland threaded by streams. The land rising steeply to the west is forested with hardwoods. Several large fence-row oaks still stand on this tract. The property has been mapped.⁴⁴⁴

In accordance with the terms of the gift to the State, the tract was placed under the jurisdiction of the State Board of Fisheries and Game, which, by consolidation, has since come under the Department of Environmental Protection. The Connecticut College Arboretum has been asked to manage this Wildlife Sanctuary. The Arboretum staff erected a wire fence along the southern boundary in 1962. An inventory of the plants and birds has been made,⁴⁴⁵ and the vegetation and soils of the wetland have been studied.²⁸ The area is being observed and is occasionally used by ecology classes. It serves as an important buffer for the Bolleswood Natural Area.

This tract was a portion of the Inner Commons laid out to John Colfax in 1733⁴⁴⁶ and referred to as the Colfax pasture. It became part of a farm acquired by Daniel Deshon in 1790.⁴⁴⁷ His heirs sold it to John Congdon in 1831.⁴⁴⁸ Congdon died in 1844 and the land passed to his heirs,⁴⁴⁹ who sold it to Peleg Williams in 1885.⁴⁵⁰ Arthur H. Eggleston bought it in 1902,⁴⁵¹ and Connecticut College for Women acquired it from the Eggleston Estate in 1913.⁴⁵² The College sold the western section of the farm in 1925 to the Griswold Company,⁴⁵³ which, in turn, sold it to the Federal Government for a war-time housing development in 1942.⁴⁵⁴

THE WEST FARMS LAND TRUST CONSERVATION RESTRICTION

At the time the College acquired the Wuerdemann Tract (Tract 26) the West Farms Land Trust purchased a conservation restriction on 5.5 acres from Thomas and Theresa Ammirati for \$2,000.⁴⁵⁵ The purpose of this restriction was to preserve the natural values of the property, including the plant and animal life thereon. The restriction protects two parcels of land. Parcel 1, about 0.75 acre, is a narrow forested strip along the southern bank of Hunts Brook. Parcel 2, about 4.75 acres, is deciduous oak-dominated woodland with a heavy understory of mountain laurel. The two are connected by a ten-foot right-of-way for pedestrian use running along the eastern boundary of the Ammirati property, which is marked by a stone wall. The restriction provides that if Connecticut College ceases to protect its contiguous Tract 26 as open space, the grantors shall have the right to purchase a release of the conservation restriction on Parcel 2 for the sum of \$2,000.

Stewardship of the property subject to this restriction is the responsibility of the grantors, who have reserved the right to cut dead or dying trees, brush and underbrush, to clear or restore forest cover damaged or disturbed by fire, wind,

or other natural forces, to gather and use dead wood, and, with the express written permission of the Land Trust, to prune or selectively thin trees. The restriction prohibits or regulates the following activities: construction of buildings, camping accommodations, signs, fences and roads, excavating, filling, dumping, use of offensive recreational vehicles, spraying with pesticides, planting of exotic species of plants, and hunting.

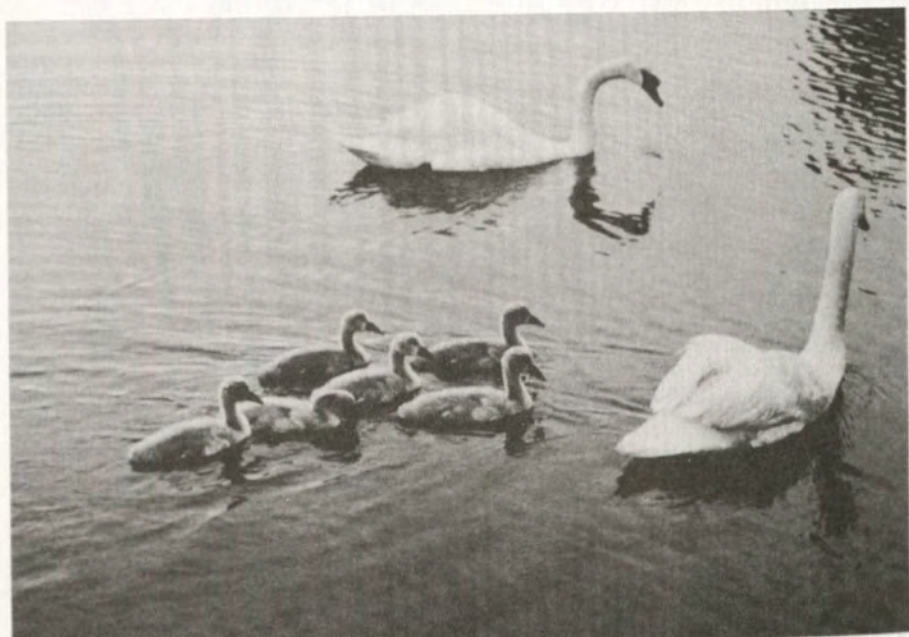
This land was in the Middle or Woods Commons. The northern portion was part of a tract originally laid out to John Winthrop in 1734.⁴⁵⁶ It was acquired by John Robertson in the latter half of the 19th Century. For its subsequent train of ownership see Tract 26.

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WETLAND AND ACQUISITION PROGRAM
1988 THROUGH 1989

Wetland and Acquisition Program
1988 through 1989
The following list of contributors to the
Wetland and Acquisition Program
is presented for their generous
contributions to the program.



Misty morning on Mamacoke. Stunted oaks grow in sand and gravel at the southwest corner of Mamacoke Island. Tract 13. (M. Braunstein)



Mute swans, introduced from Europe in the early 1900s, are increasing their numbers on the Thames River around Mamacoke. (M. Braunstein)

CONTRIBUTORS TO THE ARBORETUM LAND ACQUISITION PROGRAM 1980 through 1989

Contributors who made gifts prior to 1980 are listed in *Connecticut Arboretum Bulletin No. 28*.

Tracts for which gifts were received are indicated by number (see Table 1).

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Corp., 29
New London Garden Club, 29
Pfizer Inc., 29
Travenol, 29
West Farms Land Trust, 29
Xerox Corporation, 29

FOOTNOTES

In these footnotes the following abbreviations are used. Deeds and records are followed by volume and page; minutes by date.

B = Bulletin of the Connecticut College Arboretum, followed by number and page.

CL&P = Connecticut Light & Power Co.

NL = New London Hall of Records, deed.

Prop. Rec. = Proprietors Records, New London Hall of Records.

TECM = Trustees Executive Committee Minutes, Connecticut College.

TM = Trustees Minutes, Connecticut College.

W = Waterford Hall of Records.

Names followed by a date are references given in the bibliography.

1. TM (5/7/88)
2. TECM (1/90)
3. NL560:677,679.
4. TM (5/12/84)
5. W269:809.
6. W352:808.
7. TM (2/24/90)
8. Dreyer 1984c. Capizzano and Dreyer 1985.
9. Niering 1955a, 1956b, Niering and Goodwin 1962.
10. Hemond, Niering and Goodwin 1983.
11. Sutphen 1988.
12. Askins 1988, Askins and Philbrick 1983, 1984, 1987a, Askins, Philbrick and Sugeno 1985, 1986.
13. Two independent studies by M.S. Philbrick (Changes in the bird community in a mature oak-hemlock forest in the Connecticut Arboretum, 1982; Effect of vegetation structure on the composition of forest bird communities, 1985) are not available in the College Archives.
14. Askins and Philbrick 1987b, Askins, Philbrick and Sugeno 1987.
15. Askins, Lynch and Greenberg 1990.
16. Attai and Ferguson 1987.
17. Askins 1990b.
18. Goodwin and Grandjouan 1958.
19. Bazer and Fell 1986, Courreges and Fell 1989, Fell and Bazer 1990.
20. Hine 1984, Stark 1983. Goodwin 1989.
21. Pierce, Hoskins and Epstein 1984.
22. Pierce and Shayevitz 1982.
23. Bazer 1983. The independent study by L. Bazer (Social behavior and communication in Hairy and Downy Woodpeckers, 1984) is not available in the College Archives.
24. O'Brien and Askins 1985.
25. Wheeler 1987.
26. Hartvigsen 1987.
27. Orson, Warren and Niering 1987.
28. Evans 1987.

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|-----|--|------|
| 29. | Dreyer 1988a, 1988b. | 68. |
| 30. | Dreyer 1983a, 1983b, Dreyer and Niering 1986, Niering 1983, 1987, Taylor and Dreyer 1988. | 69. |
| 31. | Niering, Dreyer, Egler and Anderson 1986. | 70. |
| 32. | Niering 1978b, Niering and Dreyer 1988, 1989. | 71. |
| 33. | Dreyer, Baird and Fickler 1987, 1988. | 72. |
| 34. | Dreyer 1984a, 1984b, 1985. | 73. |
| 35. | Dreyer 1987. | 74. |
| 36. | TM (10/6/90) | 75. |
| 37. | Program in Human Ecology 1981, 1983, 1984, Taylor 1983. | 76. |
| 38. | Cooke 1984. | 77. |
| 39. | Taylor, Dreyer and Niering 1987. | 78. |
| 40. | Dreyer 1989. | 79. |
| 41. | Niering and Goodwin 1965. | 80. |
| 42. | Manwell 1963, Manwell, Goodwin and Niering 1965. | |
| 43. | Graves 1935, Goodwin, Heinig and Jansson 1950, Robinson 1980, Dreyer 1984c. | 81. |
| 44. | NL118:81. The purchase price, \$37,500 including buildings and 33 acres lying east of Williams Street. | |
| 45. | TM (5/7/31) | |
| 46. | W8:93(95). | |
| 47. | B28:27. | |
| 48. | B2:17. | 82. |
| 49. | A copy of these plans is on file in the Arboretum office. | 83. |
| 50. | Goodwin, Heinig and Jansson 1950. | 84. |
| 51. | Emery 1967. | 85. |
| 52. | B14; B28:41. | 86. |
| 53. | B1:3,6; B4:5,8,12; B5:2,6,7,13; B7:3,13,inside front cover; B21:inside front cover; B28:4,12,31,36,41; B30:front cover; B31:2. | 87. |
| 54. | TM (5/22/52) | |
| 55. | Stark 1983. | 88. |
| 56. | Prop. Rec. 25:81. | 89. |
| 57. | NL26:240. | 90. |
| 58. | W32:23. | 91. |
| 59. | W30:445. | 92. |
| 60. | Avery <i>et al.</i> 1940 | 93. |
| 61. | TM (11/18/31) | 94. |
| 62. | Shearin 1964, Elsbree 1959. | 95. |
| 63. | Hemond 1974, 1977, Hemond, Niering and Goodwin 1983, Barrett 1978, Manthorne 1979, Newman 1980, Thompson 1980, Bachelder 1983. | 96. |
| 64. | Niering 1958a, Kashanski and Niering 1955, Niering, Goodwin and Waldron 1959, Rayfield <i>et al.</i> 1961, Goodwin and Dewire 1964, Dewire 1967, 1968, 1969, Syz 1972, DeGange and Syz 1973, Butcher 1977c, Askins and Philbrick 1983, 1984, 1987a, Askins, Philbrick and Sugeno 1985, 1986, Askins 1988, 1989, 1990a. | 97. |
| 65. | Butcher 1977a, 1977b, Butcher <i>et al.</i> 1981, Askins and Philbrick 1987b. | 98. |
| 66. | Zaprzalka 1976, Barrett 1977b, Barry 1980. | 99. |
| 67. | Kluza 1989, Waller 1884. | 100. |
| | | 101. |

The Connecticut College Arboretum

- Beetham and Niering 1961.
Beetham 1956.
Jones 1977, Rice 1954; data for permanent quadrats established by Christopher Gross in 1965 and resurveyed in 1973 and 1975 are on file in the Botany Dept.
Barrett 1977a.
Whitney 1959, Pitt 1989.
B1:3; B4:13; B8:13; B9:2,12; B10:19; B15:5,8; B28:7,10-11; B31:2.
Floyd 1935; B4:4-6.
NL163:332.
NL169:88.
NL183:180.
NL247:248; NL309:619.
NL337:195.
Plan of Real Estate belonging to Mr. F. A. Comstock, Aug. 1936, Rev. July 1948.
L. E. Daboll, Civil Eng'r.
A letter from E. Leroy Knight, Treasurer and Business Manager of Connecticut College to William A. Niering dated 2/27/73 in the Arboretum file states, "Maintenance of the Arboretum land outside the fence is the jurisdiction of the Arboretum Director. . . . In the event of sale of the property (the President's residence) the fence shall be moved to the property line, and in the event of a change in use of the property the Arboretum Director may request consideration of the relocation of the fence."
B8:13.
Hemond 1974.
See Tract 2 and footnotes 9, 62, 63, 64, 65, 66, 69, 71, 72.
Rice 1954, Coleman 1977.
Brown 1974, Currie 1976, MacMillan 1978, Robinson 1981, Schwartz 1974, Tucker 1978.
Heller 1965, Lepore 1974, Hogeland 1976, Rolland 1977a, 1977b, Courreges and Fell 1989, Fell and Bazer 1990.
Hine 1981, Carroll 1983.
B15:13; B17:7; B28:26; B31:2,7.
NL13:100.
W8:94(96).
W21:100.
NL119:291.
W52:225; W54:519.
W54:626; NL198:424.
"Land for the Arboretum, 15 acres, has been secured through the efforts of Prof. Avery." TM 2/11/37; B4:4-6.
CL&P pole grant, W53:362.
See photograph B28:10-11.
Fide Cora A. Marsh (letter in file) and Walter Moran.
Niering 1955b, 1955c, 1956a, 1956b, 1957, 1958b, 1961c, 1967, 1968, 1969, 1978a, Niering and Goodwin 1959, Dreyer 1983a, 1983b.
Survey by Ernest Deshefy, 12/26/36, "Plan Showing Tract of Land on Gallows Lane Lying West of the Ledges, Towns of New London and Waterford." Maps W6 :18-19.

102. B4:2; B7:10; B8:15; B28:14,40; B31:2,7.
103. W35:114.
104. W29: 616.
105. W12:85(101), for \$650.
106. W17: 669, for \$15.
107. W12:314(298), Peter H. Walker and Mary Ellen Walker to William Bindloss for \$480.
108. Hempstead 1901. A typical entry in Joshua Hempstead's diary: "Mr. A. pr. all day."
109. Prop. Rec.:79.
110. NL12 :116.
111. NL16:180.
112. Caulkins 1895, pp. 486-489.
113. NL21:107,108.
114. NL20:231.
115. W1:138; W7:368,373.
116. W8:463 (466).
117. NL25:5.
118. Estate of Charles Reid to Mary Reid, 1/4/1883, W7:335(340).
119. W4:723,92; W5:213(217); W6:407; W7:175(176); W8:316(314); W12:208 (192),210(226).
120. W65:521.
121. ". . . which premises these grantors have purchased . . . for the purpose of protecting other land of The Connecticut College for Women from encroachments by residential or commercial uses and to insure that The Connecticut College for Women will not in the future find itself completely surrounded by land which is extensively devoted to residential and commercial uses, thus depriving The Connecticut College for Women of the advantages which accrue to such an institution from open fields, woods, and hills adjacent to it. The Connecticut College for Women does . . . covenant and agree with the Grantors . . . that said The Connecticut College for Women will use the herein conveyed premises only for park purposes and as an extension of its present Arboretum for the use and benefit of the faculty and students . . . and their guests and friends and that it will not use or permit the use of said premises for either residential or commercial purposes and that it will use and maintain said premises solely for the above-expressed purposes for which these Grantors acquired said premises and have conveyed said premises to this Grantee." W65:523.
122. Plan showing sub-division of a portion of P. H. Fitzgerald Est. Property-New London Road, Waterford, Conn. Surveyed for the Savings Bank of New London, August 1942.
123. B5:4; Warga 1969.
124. Warga 1969.
125. Niering and Goodwin 1974.
126. NL1A:31.
127. NLIC:47.
128. NL3:187.
129. Rogers 1902:42-43.
130. NL5:26.
131. NL5:106.

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132. Rogers 1902:60,61,141.
133. W1:120(23).
134. NL Probate Rec. 7:564; W17:127,128.
135. W22:411.
136. W59:563.
137. W70:75.
138. Letter from William H. Putnam, Chairman of the Connecticut College Board of Trustees, to Friends of the Conn. Arboretum, 1/22/45.
139. W67:144.
140. W106:502.
141. Plan of "Mamacoke," Waterford, Conn., Showing R/W from Mohegan Ave. to Land of Railroad Co. conveyed by Savings Bank of New London to Merritt-Chapman & Scott Corp. 9/21/43. Tidal wetlands, Ecological Unit 61, DEP (Map W688).
142. B5:5; B15:14; B28:43; Niering, Goodwin and Taylor 1970:271,276,280; Warga 1969.
143. A trespass agreement with the U.S. Army was dated 11/25/42.
144. Rogers 1902.
145. W10:291(269).
146. Carr 1958, Warga 1969, Wilson 1976, Barrett 1978, Johnson 1979, Manthorne 1979, Masicale 1981.
147. Niering, Goodwin and Taylor 1970, Niering, Taylor and McDonnell 1977, Warren and Niering 1973.
148. Christman 1970, Crispe 1976, Field 1974, Kitchel and Polidoro 1989, McCarthy 1975, Bachelder 1983, Mercaldo 1983, 1984.
149. Veitch 1967, Evans 1987.
150. Macklin 1973.
151. W72:273; NL225:544.
152. "Allocated to the College Arboretum until such time as . . . needed for other development of the College." TECM 4/17/46.
153. Southwestern boundary, 1959, W13:92; eastern boundary, Bucher & O'Brien, July 1965.
154. B21:14,15,cover; Niering and Dreyer 1989:90,91, Niering, Goodwin and Taylor 1970:274,275; Niering and Goodwin 1974:785; Warga 1969.
155. TECM (5/16/56)
156. Gerber 1969, Warga 1969, Hunter 1981, Lombardi 1982, Thomas 1983.
157. Niering, Olmstead *et al.* 1974, Niering, Taylor *et al.* 1976, 1981, Taylor 1981, Taylor, Niering and Bandazian 1976.
158. Niering 1961b, 1975, Niering and Goodwin 1963, 1975.
159. Siewers 1977.
160. Carr 1958, Shelburn 1973, Pfanner 1974, Wilson 1976, Barrett 1978, Johnson 1979, Manthorne 1979, Newman 1980, Masciale 1981, McGlathery 1981, Bachelder 1983.
161. Goodwin 1974, Niering and Goodwin 1974, Crispe 1972, McDonnell 1974.
162. Wheeler 1986, 1987.
163. Barry 1981, Smultea 1984.
164. Hine 1984.
165. Christman 1970, Gans 1986, McDonnell 1973, Kitchel and Polidoro 1989, Mercaldo 1984, Mercaldo 1984, Niering and Dreyer 1989, Niering, Goodwin and

- Taylor 1970, Niering, Taylor and McDonnell 1977, Warren and Niering 1973.
166. Rogers 1902:60.
 167. Rogers 1902:94.
 168. W4:289,290.
 169. W9:183.
 170. W10:260(282); W11:222(223).
 171. W21:311.
 172. W36:333; W43:563.
 173. Rogers 1902:134.
 174. Interview with Mrs. Ida Benham Bartlett, daughter of William H. Benham, Jr. Photographs of the house and barn are in the College Archives.
 175. W72:269.
 176. Boundary change to legitimize a house lot, 5/19/52, W83:422; Roadway deeded to the Town of Waterford, 11/29/60, W134:91.
 177. W176:139. "Plan showing proposed site for Thames Science Center. Chandler & Palmer Engrs., Norwich, CT, 6/6/67." On file at Conn. College.
 178. Copies of the lease and its extension are on file at the Thames Science Center and at Connecticut College.
 179. "Plan of Building Lots at New London and Waterford belonging to Mrs. Grace C. Woodworth, Sept. 1918. Daboll and Crandall Civil Eng. New London, Conn."; "Plan made for Conn. College showing Proposed Site for Thames Science Center. Chandler and Engrs., Norwich, Conn. 6/6/67."; College Court, 1961, Map W16.
 180. Photograph, B28:20.
 181. Cook 1980.
 182. Prop. Rec. 34:100
 183. NL15:245.
 184. NL11:200.
 185. NL11:104.
 186. NL Probate Recs. 10:631; 11:501-502. The corner lot became the property of James Carberry. W15:368.
 187. W9:358; W13:5.
 188. W15:454,475; W17:52.
 189. W16:746; W19:280.
 190. W33:131.
 191. W88:349.
 192. W78:569,572.
 193. W84:595.
 194. "It is the purpose and intent of the many donors who contributed funds for said Option Agreement that all rights thereunder be held for the benefit of said College and assigned and conveyed to said College so that the realty might be taken and held for an addition to the College Arboretum and for all general purposes of benefit to the College as the College might from time to time deem satisfactory and proper . . .", W88:349.
 195. TM (10/19/52)
 196. W150:435.
 197. W56:517.
 198. W96:1.
 199. NL10:217.

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200. W27:751; W33:389.
201. W63:89; W65:406.
202. W93:113,391.
203. W196:103.
204. W196:643.
205. W196:649.
206. Plan showing property to Conn. College, Williams Street. (Old Norwich Rd.), Waterford, Conn. DiCesare-Bentley-Welling, Engrs. Inc. 8/72.
207. W272:484.
208. W86:286.
209. "It is the intention of the thirty-one contributors in making the gift that said College shall not sell or otherwise dispose of said tract of land hereinafter described, unless it shall sell or otherwise dispose of all of its other property in said Towns of New London and Waterford; but in the event it should become urgently necessary, in the opinion of the trustees of said College, to sell said tract hereinafter described, then the proceeds thereof shall be kept by said College as an endowment fund, to be administered by the trustees of said College, the income of which is to be used for the maintenance and development of the Connecticut Arboretum for as long as an arboretum is maintained by said College, and in the event that said College shall no longer maintain an arboretum, then thereafter the principal and income of said endowment fund, may be used for the general purposes of said College, and . . . further . . . that said College shall use said tract hereinafter described as an Arboretum but, without making such intention mandatory . . . that only compelling necessities will cause the trustees of said College to use said tract of land . . . for any purpose other than as an Arboretum . . ." W86:283.
210. TM (2/16/50)
211. Map W9:101.
212. Delaney 1978, Evans 1987.
213. Loutrel 1967.
214. Rowe 1974.
215. W107:287; W111:57.
216. Prop. Rec. 1723-1827:81,97.
217. NL15:9.
218. NL27:13.
219. W6:74,279.
220. W10:87(91); Inventory in NL Court Book 19:565-566; W19:326.
221. W17:578; W21:77.
222. W25:216.
223. W33:129.
224. W38:436.
225. W46:83; W56:241; W68:382; W69:557.
226. W75:348,583.
227. W89:251; NL251:464.W91:112.
228. W91:112.
229. ". . . It is the purpose and intent of the many donors who have contributed approximately nine-tenths of the funds for said option agreement and also for the purchase price under said option, . . . that all right under said option be . . . assigned and conveyed to said College so that the realty might be taken for an

addition to the College Arboretum and for all general purposes of benefit to the College as the College might from time to time deem satisfactory and proper." NL251:463.

230. TM (10/18/51)
231. Map showing a portion of boundary of the Conn. College for Women, Waterford, Connecticut, Radcliffe & Ross, Surveyors. Map W34.
232. CL&P R/W Survey.
233. B15:11, Warga 1969, B28:34; B31:2.
234. The Gallows Lane boundary in 1958, the western boundary in 1961, the north side of the power line in 1963.
235. Gerber 1969, Pfanner 1974, Foster 1977, McGlathery 1981, Meehan 1977, Sutphen 1988, Tabachnik 1977, Barrett 1978, Sutphen 1988.
236. B28:34.
237. W96:576.
238. "It is intended that the tract herein conveyed be used as an addition to the College Arboretum, but it may also be used for other purposes of benefit to the College as the College may from time to time deem satisfactory and proper. If the College should sell this tract, then the proceeds shall be kept by said College as an endowment fund to be administered by the trustees of said College, the income from which is to be used for the maintenance and development of the Connecticut Arboretum for as long as an Arboretum is maintained by said College, and in the event that said College shall no longer maintain an arboretum, then thereafter the principal and income of said endowment fund may be used for the general purposes of said College." W96:579.
239. This lot was sold by Hempstead and Libby to Leroy F. & Doris W. Perry in 1947 (W75:333). It was bought by Doris Legare in 1948 (W75:355). Anthony Fazzano acquired it in 1949 (83:61) and he sold it the same year to Hyla M. Snider (W83:83). Miss Snider sold it to Horwell in 1966 (W304:464). 1986.
240. Map of Tidal Wetlands, Ecological Unit 61, DEP, W688; Part of west boundary, 1976, W795.
241. Rogers 1902:62,98.
242. W1:145.
243. W5:14(18).
244. NL Probate Rec. 10:403.
245. W16:728.
246. W21:89
247. W25:126.
248. W67:225.
249. W106:131.
250. Goodwin 1955.
251. B8:6-7.
252. W106:504. Restrictions in the Mamacoke deed: Title was quit-claimed ". . . while, until and so long as said releasee, its successors and assigns, use the hereinafter described property as an arboretum for recreational, educational or scientific purposes, said land and salt marsh remaining substantially in its wild character with its natural features preserved, and while, until and so long as no roads or ways are built or established, except paths for pedestrian and/or equestrian use only. . . . Said premises are conveyed subject to the condition that the releasee, its successors and assigns provide a right-of-way suitable for pedestrian and/or equestrian purposes to Mamacoke Island . . . Upon the failure

of any of these conditions or limitations then the said property shall pass over subject to the conditions and restrictions of this deed to the Connecticut Forest and Park Association or its successors or successor by merger or consolidation, if in existence, or if not, then to The Nature Conservancy or its successors or successor by merger or consolidation, providing, however, that the releasee, its successors or assigns, is hereby expressly empowered to transfer and convey all of its right, title and interest in said premises for no consideration, or for a consideration of less than \$500.00 in money or value, to either of the above-named organizations or their successor willing to accept said premises for the purposes described and on the conditions hereinbefore set forth, said premises to be offered to the organizations or their successor in the order they are listed above by registered letter addressed to the secretary of the organization annexing a copy of this deed; on the failure of all the above mentioned organizations to elect to receive and maintain said property for said purposes, which election if made shall be in writing and shall be delivered to the releasee within 90 days from the date the said offers as aforesaid were made to said organizations respectively, said releasee, its successor or assigns, may transfer and convey said premises or any part thereof . . . free of all conditions and limitations . . . In the event that said premises are taken by process of eminent domain for public purposes, all proceeds realized as damages and compensation for such taking action, or as a result of such action, shall be kept by said College as an endowment fund, to be administered by the trustees of said College, the income of which is to be used for the maintenance and development of the Connecticut Arboretum for as long as an arboretum is maintained by said College, and in the event that said College shall no longer maintain an arboretum, then thereafter the principal and income of said endowment fund may be used for the general purposes of said College. It is the intention of the releasor that these premises be part of the Arboretum of the College, and be used for arboretum purposes as hereinbefore set forth, since it was only through the contributions of the many generous people who gave money to acquire land for these purposes that the purchase of these premises was made possible. Provision is made, however, for the contingency that should management of these premises for such purposes prove to be totally impracticable the releasee may transfer said premises as hereinbefore set forth."

253. Haines 1962.
254. Haines *et al.* 1961.
255. Tweedie 1976.
256. Niering 1961a, Hine 1983; data in Arboretum files; Map of Tidal Wetlands Ecological Unit 61, DEP. W688.
257. Newman 1973, Niering and Warren 1975, Niering, Warren and Weymouth 1977, Pellagrino and Carroll 1974, Woodman 1974, Howell 1975, Roberts 1975, 1976.
258. Bohan 1983, O'Brien 1983, O'Brien and Askins 1985.
259. B8:3.8; B15:6,15; B22:cover; B28:18.
260. Juli 1977, Stark 1982.
261. Caulkins 1895, p.44.
262. Capt. Lawrence Malloy, personal interview.
263. Ira Gifford, personal interview.
264. Death Records W3:376.
265. W67:144.
266. W102:345.
267. "The purchase price of the premises herein conveyed to the College was raised by the contributions of persons particularly interested in the Arboretum on the

occasion of the twenty-fifth anniversary of the founding of the Arboretum. It is my hope that the Trustees of the College will honor this particular interest of these donors and dedicate this land to use as an integral part of the Arboretum." W113:551.

268. TECM (10/17/56)
269. Carr 1958.
270. Prop. Rec. 25:81.
271. N13:72.
272. NL13:250.
273. NL23:193; NL24:8.
274. NL28:9.
275. W8:448(451).
276. W12:429.
277. W26:429.
278. W41:398; W54:390; W58:290.
279. W52:369.
280. W69:248.
281. NL281:323.
282. W33:130.
283. NL234:56.
284. W124:123.
285. An independent study by L. Bazer in 1984 titled *Social behavior and communication in Hairy and Downy Woodpeckers* is not available in the College Archives.
286. W68:321; W83:57.
287. W90:415; W116:71; W89:601; W102:531; W95:205; W99:387; W83:612; W95:557; W102:201; W107:63; W102:415; W108:575; W107:204; W114:161; W122:60; W124:151; W125:125; W130:62,145.
288. W176:137.
289. Map W11:48.
290. Act of Conn. Assembly, 5/13/1703.
291. NL10:30.
292. NL16:103.
293. W6:164.
294. W8:223; W9:14,135.
295. W16:198,199; W21:277.
296. W44:645.
297. W122:246.
298. Photo B28:22.
299. W95:42.
300. W113:594.
301. W122:433.
302. W56:533.
303. W94:79.
304. Letter to Richard H. Goodwin from President Rosemary Park, 1/4/61.
305. Rosenbaum and Knox 1976.
306. TECM 1/20/60.
307. Juli 1977, Morton, Graham and Biddle 1976.

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308. Prop. Rec. 25:82.
309. NL18:44.
310. Bolles 1865, Williams 1970.
311. W10:109(113).
312. W18:253.
313. W43:554.
314. W69:23.
315. W77:336,339.
316. W122:489.
317. W103:489.
318. Map W4:1.
319. Hartvigsen 1987.
320. This lot has 100 feet of frontage and is 200 feet deep.
321. NL10:53.
322. W2:159(80).
323. W4:146.
324. W9:339.
325. W12:136(152).
326. W16:732.
327. W22:268.
328. Death Records W3:418.
329. W36:89.
330. W49:505.
331. W97:484; W121:60; (Est. of Mary A. Coffey).
332. W131:296.
333. W56:526.
334. W94:157.
335. W185:346. Photograph B31:2.
336. NL9:129.
337. NL11:60.
338. NL15:234.
339. NL28:57.
340. NL29:43.
341. NL16:55.
342. NL20:67.
343. NL22:145.
344. NL26:18.
345. W10:97(10).
346. W12:307.
347. W32:41.
348. Prop. Rec. 25:82.
349. W14:376.
350. NL14:292.
351. W8:92(94).
352. W8:452(455).
353. W10:109(113); W10:110(114).

354. W9:92.
355. W25:293.
356. W33:589.
357. W46:590.
358. W81:74.
359. W86:249.
360. W83:597,598.
361. W131:294.
362. W145:571.
363. Sketch of Right-of-way for John Espinosa over lands of Conn. College for Women, Waterford, Conn., July 1960. Bucher & O'Brien, Land Surveyors. In Arboretum file.
364. W12:284(300).
365. W16:387; W16:393; W16:465.
366. W16:781.
367. W30:282; W51:122.
368. W69:356.
369. W153:74.
370. W176:137.
371. Letter from Ralph A. Sturges III, President of the Thames Science Center, to President Charles E. Shain, 2/9/68. See also letter of agreement from Richard H. Goodwin to President Shain, 12/11/68.
372. W176:134.
373. W179:617; W181:92; W185:72,151.
374. The deeds state: "1. That the premises or any portion thereof will not be sold, transferred, conveyed or mortgaged unless and until the Trustees of the College in their discretion deem it urgently necessary to do so; and if such an occasion arises and the premises are sold, transferred, conveyed or mortgaged, or if the premises are taken by eminent domain, the proceeds will be held by the College as an endowment fund with the income being used for the maintenance and development of the College's Arboretum for such period of time as an Arboretum is maintained by the College. In the event that the College shall at any time cease to maintain an Arboretum the income from the fund may be used for the general purposes of the College. 2. That the premises will be designated by the College as part of its Connecticut Arboretum and will be used for other purposes only in the event that compelling necessity, in the discretion of the Trustees, requires another use."
375. Survey of tract of land, Quaker Hill, Town of Waterford, Ct., to be conveyed by Harold F. Dunbar, et al. Feb. 1959, Ernest L. Deshefy, Surveyor.
376. W127:65.
377. Ballek 1973, Hitchcock 1975, Hunter 1977.
378. Pierce and Shayevitz 1982.
379. Pierce, Hoskins and Epstein 1984, Pierce and Harvey 1987.
380. Cutler 1973.
381. B28:22-23.
382. Map W1:67.
383. W9:79.
384. W16:664; W15:689.
385. W16:564.

386. W16:630.
387. W21:550.
388. W25:39.
389. W69:407.
390. W76:295.
391. W89:470.
392. W113:12.
393. W182:344.
394. Map W205.
395. Prop. Rec. 25:81.
396. NL12:108.
397. NL14:203.
398. NL21:186.
399. W9:94.
400. W9:592; W10:498; W11:371.
401. W178:611.
402. W217:153. The deed states that, "the grantee herein evidences by acceptance of this deed its intention to preserve said tract as open space in its natural state and its intention not to use said tract in any manner or for any purpose other than as such open space. This statement on intention is in no way binding upon the grantee; and the grantors do not hereby retain any rights of reentry or reverter or any rights whatsoever to enforce said use of such open space."
403. TM (10/4/75)
404. W217:163.
405. Map W205.
406. Prop. Rec. 25:81.97.
407. W16:316.
408. W36:613; W41:604.
409. W89:225; W107:300; W165:149.
410. W217:151.
411. W228:172.
412. W38:121.
413. W54:119; W91:300; W195:646; W228:171.
414. W269:809.
415. Map W1154.
416. Prop. Rec. 21:74.
417. W5:349(353).
418. W21:572,573.
419. W30:36,340.
420. W251:234.
421. W251:248.
422. W265:130.
423. NL560:677,679.
424. Map on file in the Arboretum archives.
425. Plan of Real Estate in the City of New London belonging to Mr. F. A. Comstock. August 1936. Revised 1948. L. E. Daboll Civil Eng'r. Map NL6:23; NL8:34.
426. TM (5/12/84)

427. NL157:510; NL169:134; NL176:235; NL183:202; NL190:14; NL199:79.
428. NL194:112.
429. NL200:631.
430. NL197:270,271.
431. W352:808.
432. W352:812.
433. Boundary survey map of Applewood resubdivision prepared by Ted Olyn-
ciw/Olyn Contracting Co. by John Kopko, Jr. & Associates. Scale 1" = 100'.
August 1987.
434. W94:79.
435. W336:298.
436. W57:325,326; W61:333,334.
437. Prop. Rec. 35:102.
438. NL11:60.
439. NL19:26; W1:447(241); W3:449(419,225).
440. W3:288(258,144).
441. W15:496(497); W16:747.
442. NL281:260.
443. Bill #HB 3033.
444. Plan made for Connecticut College for Women, New London, Conn. showing
portion of "College Heights," Chandler & Palmer, Norwich, Conn., Sept. 1956.
445. Platz 1962, McCarthy 1980, Newman 1980.
446. Prop. Rec. 24:79.
447. NL27:13.
448. W6:74,279.
449. Inventory in Court Book, 19:565; W10:87(91); W19:326.
450. W21:63.
451. W26:237,238,414.
452. NL123:16.
453. NL160:110.
454. NL213:246; NL214:324,429.
455. W217:163.
456. Prop. Rec. 9:49.

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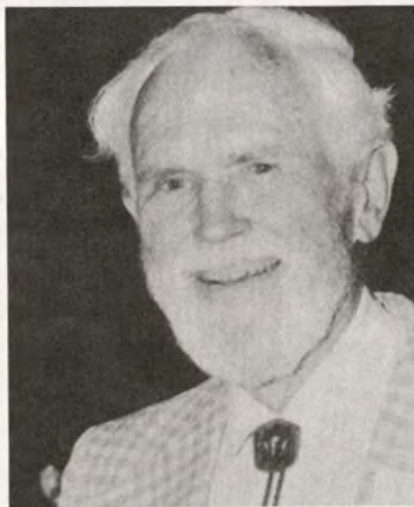
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About the Author

Richard Hale Goodwin is *The Katharine Blunt Professor* Emeritus of Botany at Connecticut College and Director Emeritus of the Connecticut College Arboretum. He received his Ph.D. in Biology from Harvard University in 1937, where his dissertation topic was on hybridization and morphogenesis in Goldenrod (*Solidago*). Before coming to Connecticut College in 1944 he was a Botany Professor at the University of Rochester.

During his long and illustrious career Richard Goodwin has held many offices and titles: Chairman of the Connecticut College Botany Department; a Commissioner of the Connecticut Geological and Natural History Survey; a founder and first Chairman of the Connecticut Chapter of the Nature Conservancy (TNC); two-term national President of TNC; Chairman of the national Council, TNC; Board member of Connecticut Conservation Association; a founder and Board member of the Conservation and Research Foundation. He and his wife, Esther, live in East Haddam, Connecticut, within a TNC natural area, the Burnham Brook Preserve.



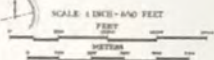
LEGEND

1. LAUREL WALK
2. OUTDOOR THEATER
3. ROCK LEDGE
4. CONIFER COLLECTION
5. EDGETON WILDFLOWER AREA
6. BOX
7. RED MAPLE SWAMP
8. RAVINE
9. OPEN LEDGE WITH SEVERAL BRACKS
10. UTILITY RIGHT-OF-WAY DEMONSTRATION AREA
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- NATURAL AREAS
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John Correll 1966
Richard P. H.



THE TREE AND SHRUB COLLECTION.



View up the Laurel Walk to the Arboretum main entrance in spring 1989. Tract 1 (G. Dreyer)



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