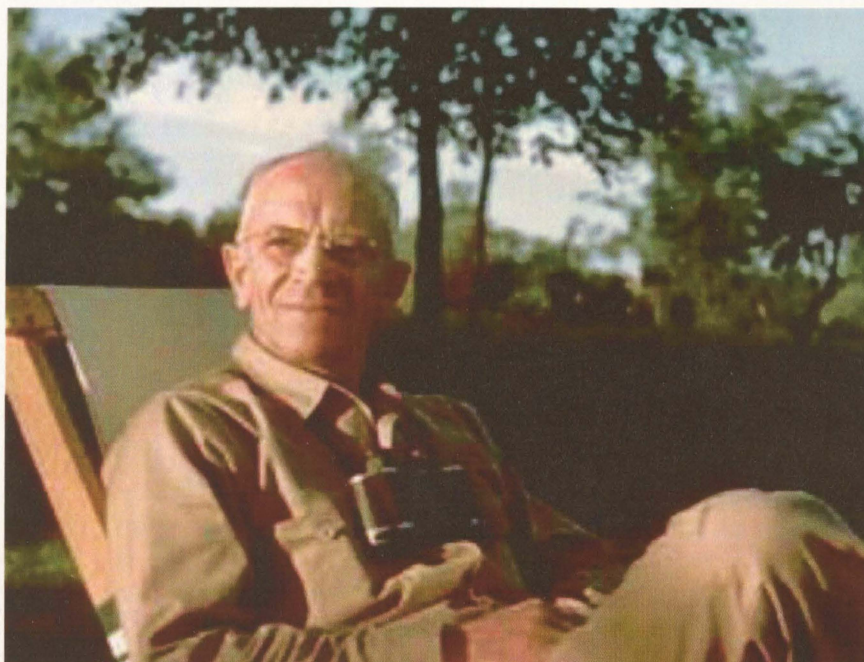


SAND COUNTY ON CAMPUS

A walking tour of the University of Georgia Campus
inspired by Aldo Leopold's "A Sand County Almanac"



Compiled by Dorinda G. Dallmeyer
Director, UGA Environmental Ethics Certificate Program

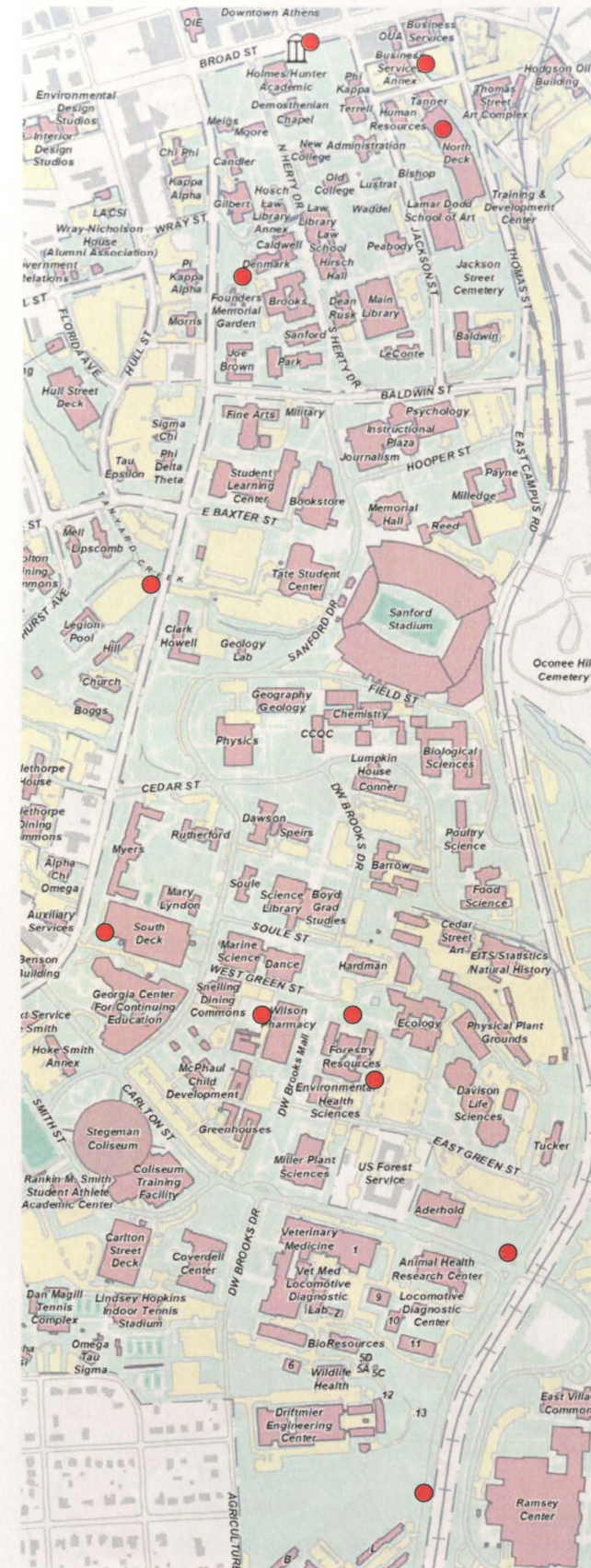
presented as part of
ALDO IN ATHENS
An Aldo Leopold Weekend
February 27-March 2, 2008
Athens, Georgia

ALDO LEOPOLD was a conservationist, forester, philosopher, educator, writer, and outdoor enthusiast and is considered by many to be the father of wildlife management and of the United States' wilderness system.

Born in 1887 and raised in Burlington, Iowa, Aldo Leopold developed an interest in the natural world at an early age, spending hours observing, journaling, and sketching his surroundings. Graduating from the Yale Forest School in 1909, he eagerly pursued a career with the newly established U.S. Forest Service in Arizona and New Mexico. By the age of 24, he had been promoted to the post of Supervisor for the Carson National Forest in New Mexico. In 1922, he was instrumental in developing the proposal to manage the Gila National Forest as a wilderness area, which became the first such official designation in 1924. Following a transfer to Madison, Wisconsin in 1924, Leopold continued his investigations into ecology and the philosophy of conservation, and in 1933 published the first textbook in the field of wildlife management. Later that year he accepted a new chair in game management – a first for the University of Wisconsin and the nation.

In 1935, he and his family initiated their own ecological restoration experiment on a worn-out farm along the Wisconsin River outside of Baraboo, Wisconsin. Planting thousands of pine trees, restoring prairies, and documenting the ensuing changes in the flora and fauna further informed and inspired Leopold.

A prolific writer, authoring articles for professional journals and popular magazines, Leopold conceived of a book geared for general audiences examining humanity's relationship to the natural world. Unfortunately, just one week after receiving word that his manuscript would be published, Leopold experienced a heart attack and died on April 21, 1948 while fighting a neighbor's grass fire that escaped and threatened the Leopold farm and surrounding properties. A little more than a year after his death Leopold's collection of essays "A Sand County Almanac" was published. With over two million copies sold, it is one of the most respected books about the environment ever published, and Leopold has come to be regarded by many as the most influential conservation thinker of the twentieth century.



A Note from Dorinda Dallmeyer

I often have the privilege of taking visiting scholars and friends on tours around the University of Georgia campus, a place which has been my intellectual home since 1969. Even in light of the changes the campus has undergone over two centuries, it remains a delightful place, rich in environmental history dating back millennia.

As part of the "Aldo in Athens" observance, I wanted to create the kind of walk I'd take Aldo Leopold on if it was still possible for him to visit us in the flesh. I re-read "A Sand County Almanac" to find passages that, even if based on his experiences in Wisconsin and the Southwest, nevertheless speak to us here in Athens. Thanks to EECF faculty members R. David Dallmeyer and Peter G. Hartel for sharing their knowledge of geology and soils, respectively.

Put on some good walking shoes and grab your copy of "A Sand County Almanac." I hope you enjoy it.

Photo Credits

Cover, Aldo Leopold Foundation.

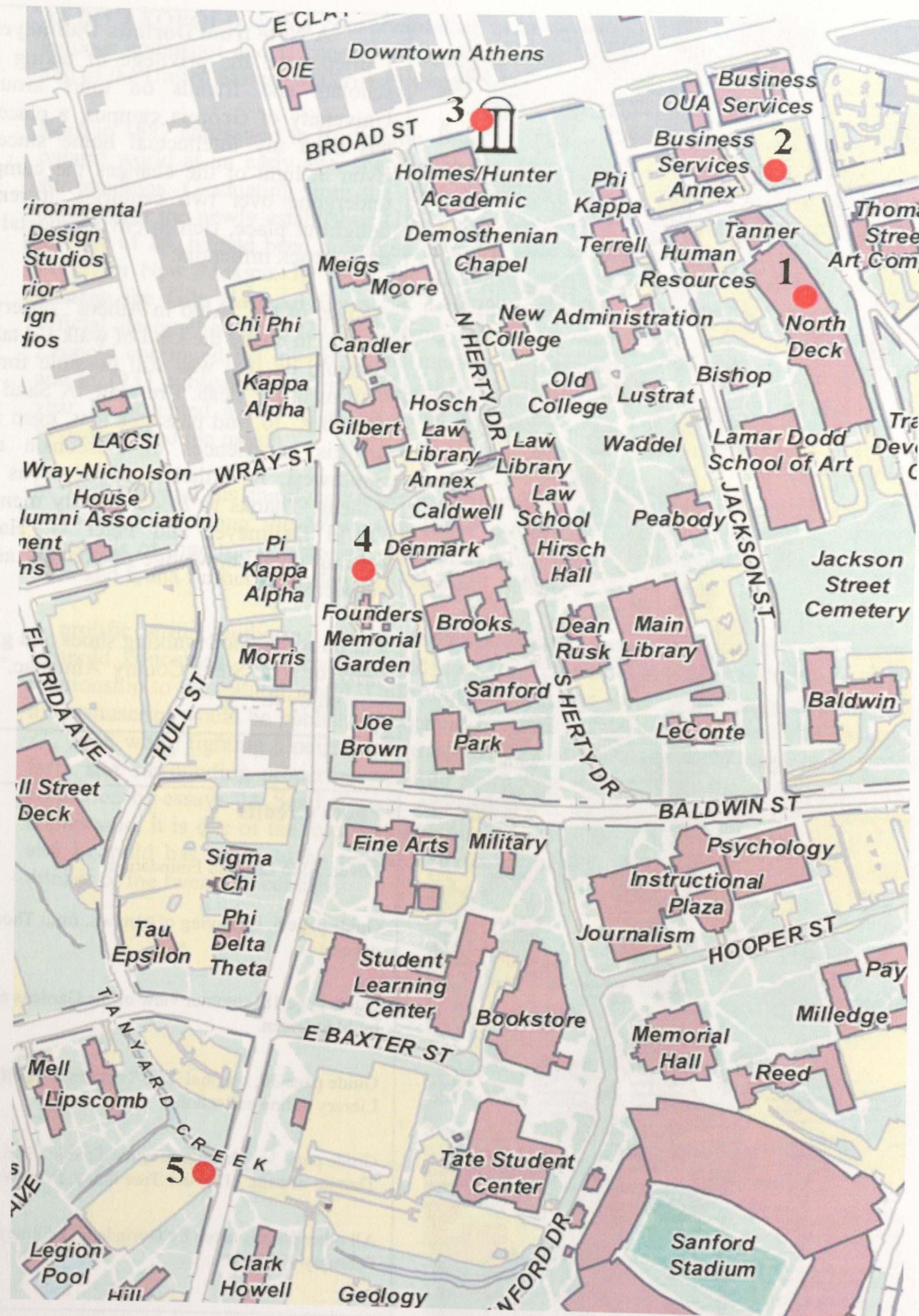
Guide page 6, engraving of campus, from Thomas at page 31.

Guide page 18, summer view of the Gardens at Athens by Meg Green.

Guide page 30, original Tree That Owns Itself, Hargrett Library online collection.

Guide page 31, planting the new Tree in 1946, from Thomas at page 217; new Tree today, from Wikipedia.

All other photos taken by Dorinda G. Dallmeyer on February 19, 2008.



“Sand County on Campus” – North Campus Walk

Stop 1 – North Campus Parking Deck, Jackson Street



Take the elevator or the stairs to the top level of the North Campus Parking Deck for a panoramic view of Athens, particularly its eastern vista overlooking the Oconee River. Although the University of Georgia was chartered in 1785, the actual site for its campus was not selected until 1801. In “College Life in the Old South,” Merton Coulter wrote:

“In the midst of summer (1801) they set out into the forests to the northwest and did not stop until they had almost entered Indian territory. Here at the last tavern, on the edge of all white habitation, they began the intensive search for the inevitable hill from which knowledge should go out to the people. After debating various eminences, they agreed on a small plateau high above the Oconee River where it swirled down over some rocks near a clump of cedar trees.... [T]his region was unquestionably beautiful in all its primeval glory, its undulating forests of pine and oak, its yellow jessamine and honeysuckle, and its streams of cool, clear water. Baldwin had long held that just such scenes should surround a college.... The friends of the University...argued not only the beauty and healthfulness of the location but called attention to the fine shad that ascended the river ‘as high as Athens in great perfection’.... After climbing the University hill and surveying the country undulating in every direction, Baldwin no doubt had a sort of feeling of sublimity.” [pages 8-10]

The Augusta Chronicle reported in July 25, 1801:

“The river at Athens is about one hundred and fifty feet broad, its waters rapid in descent; and has no low grounds. The site of the University is on the south side,

and a half a mile from the river. On one side the land is cleared, the other is woodland.”

Aldo says:

“The song of a river ordinarily means the tune that waters play on rock, root, and rapid.... This song of the waters is audible to every ear, but there is other music in these hills, by no means audible to all.... [T]hink hard of everything you have seen and tried to understand. Then you may hear it – a vast pulsating harmony – its score inscribed on a thousand hills, its notes the lives and deaths of plants and animals, its rhythms spanning the seconds and the centuries.”

from “Song of the Gavilan”

“Some paintings become famous because, being durable, they are viewed by successive generations, in each of which are likely to be found a few appreciative eyes.

I know a painting so evanescent that it is seldom viewed at all, except by some wandering deer. It is a river who wields the brush, and it is the same river who, before I can bring my friends to view his work, erases it forever from human view. After that it exists only in my mind's eye.”

from “The Green Pasture”

Stop 2 – The Original Springs

Make your way back down to the parking deck’s Jackson Street entrance. Turn right and head north on Jackson Street. Turn right at Fulton Street and go east to its intersection with Spring Street. On your left, you will see a railroad siding which ends in a culvert, lush with green grass growing between the rails the year-round, even in extreme drought.



This is the only remaining surface expression of the springs that led the founders of the University to situate its campus here above the Oconee River. The Augusta Chronicle continued its report of July 25, 1801:

“[A]t least three hundred feet above the level of the river, in the midst of an extensive bed of rocks, issues a copious spring of excellent water; and in its meanderings to the river, several others are discovered.”

Merton Coulter relates the high regard held for the spring:

“John Milledge, one of the committeemen, and a friend and follower of Thomas Jefferson, who must have been particularly pleased with the hill and especially with the fine spring of water flowing out of the side, bought the land and presented it to the University.” [at page 8]

"[President Josiah] Meigs seemed never to be quite content unless he were measuring something or seeking an explanation for some force of nature. He found out that the campus spring would flow 9,000 gallons of sparkling water in twenty-four hours in May or only 7,700 gallons in January...." [at page 16]

Aldo says:

"It is the part of wisdom never to revisit a wilderness, for the more golden the lily, the more certain that someone has gilded it. To return not only spoils a trip, but tarnishes a memory."

from "The Green Lagoons"

Stop 3 – North Campus Oaks

Retrace your steps to Jackson Street, turn right and head north toward Broad Street. Turn left and cross Jackson Street, heading west along the iron fence marking the northern boundary of the original UGA campus. Continue west toward The Arch until you reach this enormous water oak (*Quercus nigra*) whose trunk and roots envelop the fence.



Of the state of the University campus around 1815, Merton Coulter writes:

"The only thing the University had worth while was its land, and it was questionable whether this property was any longer an asset. People had squatted upon it anywhere they pleased, and the University made no friends when it tried to dispossess them. Many who were not squatters were purloiners and pilferers of whatever they could carry off. Even staid Athenians were so prone to make mistakes in cutting down University trees that the trustees bargained with them to furnish University wood at \$8 a year for each fireplace." [at page 21]

But by 1824, the attitude had changed.

"In 1824 an investigation was ordered to determine the cost of planting three hundred trees and building a fence along Front Street – called Broad now. No

great number of trees were planted at this time but by 1833 a 'strong and substantial' fence had been thrown around campus – but not powerful enough to prevent students from kicking the palings off. In 1857 the campus was fortified with an iron fence 'made in Athens,' which successfully resisted all assaults. It was also about this time that the landscape artists planted hundreds of trees and shrubs on the campus to please old President Church for the loss of the *botanical garden." [at page 98]



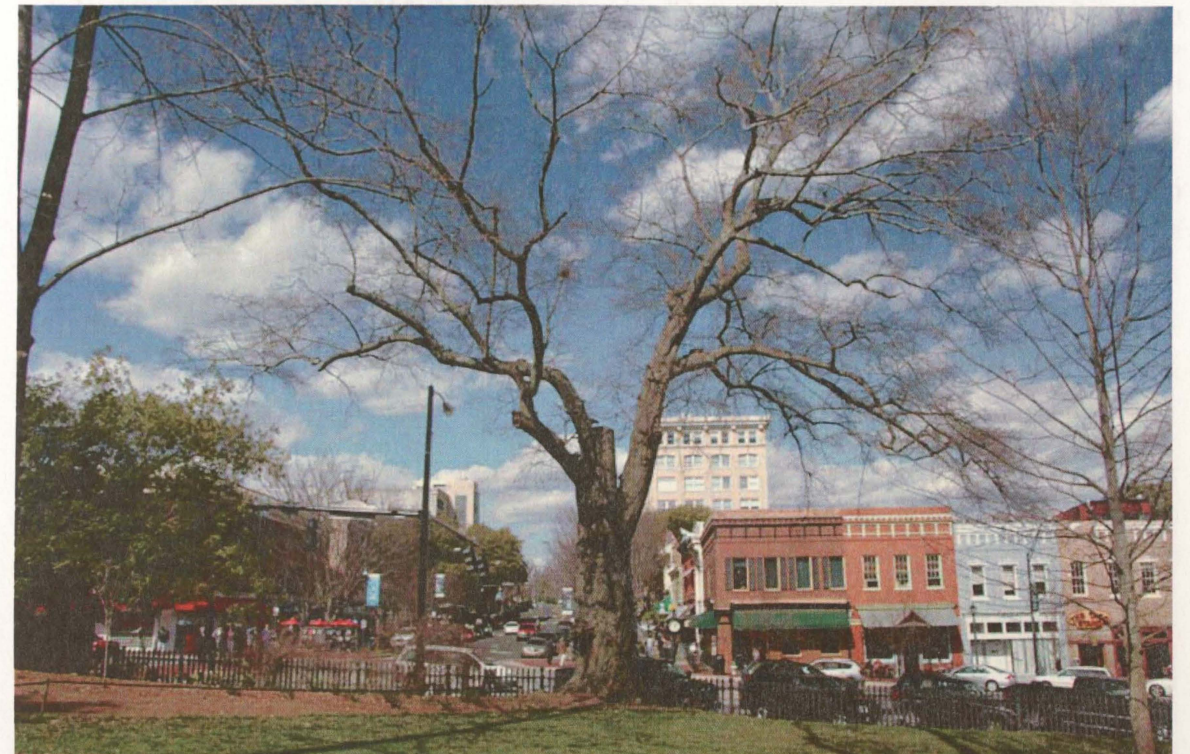
This engraving shows North Campus as it appeared in 1844. You can clearly see the original wooden fence bordering the lively activities of "Front" Street and the stiles providing access over the fence. Left to right, the extant buildings are Phi Kappa Hall, Old College at the southern boundary, New College, the Chapel and Demosthenian Hall with smoke coming from its chimney.

*Note that the original botanical garden founded in 1833 lay between Broad Street and up Finley Hill, roughly the area north of the Holiday Inn Express bounded by Finley, Reese and Pope Streets. This garden was a marvel, with over 2,000 trees and shrubs from around the globe, including a weeping willow tree grown from the willow planted at Napoleon's grave on St. Helena. It had a small pond featuring perch and one small, harmless alligator. When the University fell on hard financial times in 1856, the garden was sold for \$1,000. Part of the money was used to purchase the iron fence, which also kept livestock from wandering onto campus. See Merton Coulter, at p. 41-43.

In the chapter "The Good Oak," Aldo Leopold recounts sawing an enormous fallen oak for use as firewood. He thinks of each annual ring his saw cuts through and writes of the

events that each ring marks through time. Some of the events are human history and development; others are blizzards and droughts; still others mark the extinction of species such as the passenger pigeon.

We do not know when this water oak was planted. It may have been growing at the time the cast iron fence was installed in 1858 or it could have sprung up afterwards. In any event, this tree is extremely old. Like Leopold's "Good Oak," it's worth considering the changes this oak has seen and recorded in its woody heart.



In the company of this old oak tree, read "The Good Oak" in its entirety if you have the time.

Aldo says:

"We sensed that these two piles of sawdust were something more than wood: that they were the integrated transect of a century; that our saw was biting its way, stroke by stroke, decade by decade, into the chronology of a lifetime, written in concentric annual rings of good oak."

from "The Good Oak"

Continue walking west along the sidewalk to The Arch and turn left to pass under it. The two quadrangles on North Campus are often referred to as "Athens' Central Park." As you walk south along the first quadrangle, you may notice that some of the trees are labeled with their scientific and common names. This is part of the Campus Arboretum project with its own self-guided walks of North, Central, and South Campus. Please see the website <http://www.hort.uga.edu/Research/arboretum/index.htm>

As you approach the southwest corner of the quadrangle, turn right onto the sidewalk just south of New College. Head west toward the fountain at the south end of Herty Field, named for UGA chemistry professor Charles Herty (1867-1938), who revolutionized the southern forestry and naval stores industry. Originally a parade ground, Herty Field was the site of the first intercollegiate football game played at the University in 1892. In 1999, it was restored to a grassy field after serving as an asphalt parking lot for decades.

Continue west toward Gilbert Hall and turn left. Descend the stairs and proceed southwest across the circular parking lot to enter the Founders Memorial Garden.

Stop 4 – The Founders Memorial Garden

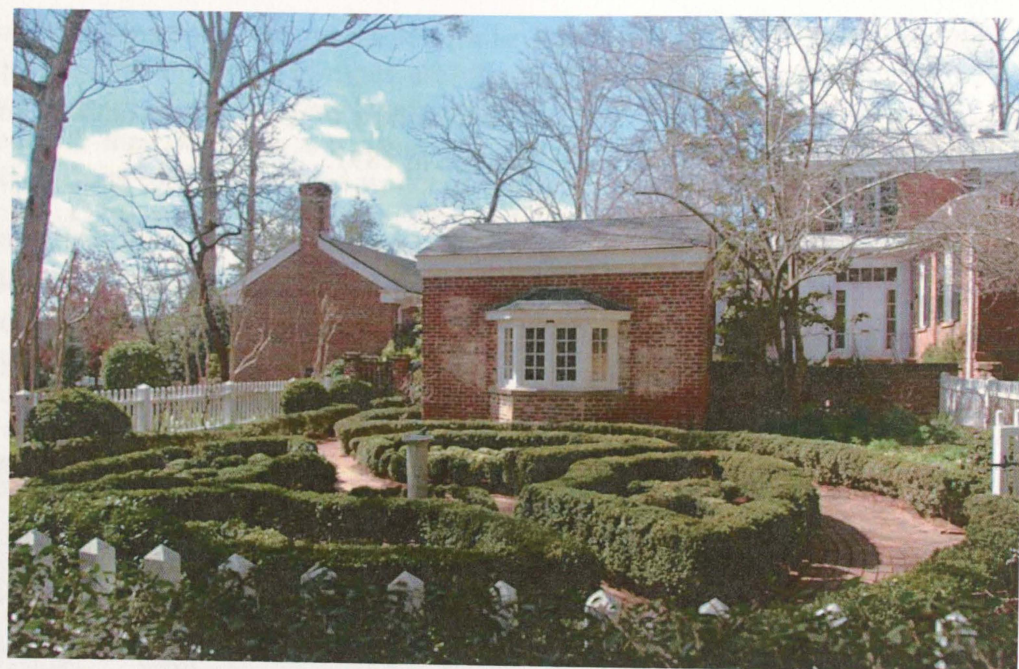
This garden is a living memorial to the twelve founders of the Ladies' Garden Club of Athens, the first garden club in America, organized in 1891.

Dean Hubert B. Owens, staff, and students of the Landscape Architecture Department, working with funds contributed by the Garden Club of Georgia members, designed and developed the nationally acclaimed Garden, completing the project in 1946. The layout of the two and one-half acre series of gardens consists of a formal boxwood garden, two courtyards, a terrace, a perennial garden, and an arboretum.



The Founders Garden Arboretum is planted in a more naturalistic style.

The rose-brick, Federal-style house was built in 1857 as a faculty residence and is known as the E. K. Lumpkin House. Although its barn and other wooden out-buildings are gone, the smokehouse and detached outdoor kitchen/summer dining room flank the courtyard. The stone pavers in the front courtyard facing Lumpkin Street were removed from an Athens street during a resurfacing project. These "Belgian blocks" originally came to the New World as ship ballast on European sailing vessels, perhaps arriving at Savannah.



The boxwood garden behind the smokehouse is cordoned into four sections honoring Georgia's state flower and agricultural crops illustrated in outline by boxwoods: the watermelon (north quadrant, native to Africa), cotton (east quadrant, native to Central and South America), and the peach (south quadrant, native to China). The fourth quadrant is the Cherokee rose, Georgia's state flower (west quadrant, native to China).



The southern end of the garden features a sunken formal garden enclosed with a serpentine brick wall.

As you stroll the grounds, take time to note which plants and trees are native to the Southeast and which are imported from abroad. Many of the plants we consider to be quintessentially "Southern" (e.g., camellias, azaleas, boxwoods, flowering cherry trees) originally came from Japan and China.

Aldo says:

"It is evident that our plant biases are part traditional. If your grandfather liked hickory nuts, you will like the hickory tree because your father told you to. If on the other hand, your grandfather burned a log carrying a poison ivy vine and recklessly stood in the smoke, you will dislike the species, no matter with what crimson glories it warms your eyes each fall.

It is also evident that our plant biases reflect not only vocations but avocations, with a delicate allocation of priority between industry and indolence. The farmer who would rather hunt grouse than milk cows will not dislike hawthorn, no matter if it does invade his pasture. The coon-hunter will not dislike basswood, and I know of quail-hunters who bear no grudge against ragweed, despite their annual bout with hay-fever. Our biases are indeed a sensitive index to our affections, our tastes, our loyalties, our generosityes, and our manner of wasting weekends."

from "November"

From the west side of Lumpkin House, descend the steps and cross Lumpkin Street at the marked crosswalk. Turn left and head south toward the bottom of the hill. As you walk south, notice the pecan trees between the Pi Kappa Alpha fraternity house and Morris Hall, as well as south of the Baptist Student Union building. These trees are remnants of a large pecan grove that once extended from Lumpkin Street west to Florida Avenue. These are so-called "seedling" pecans produce lots of very small but very rich nut meats highly prized by bakers and confectioners, not to mention the resident squirrels and birds.

Make your way south to the intersection of Lumpkin Street and Baxter Street. Cross Baxter Street and walk to the bridge over Tanyard Branch.

Stop 5 – Tanyard Branch

As you make your way downhill, along the sidewalk at intervals you will see “rain gardens” designed to divert rain water from coursing directly down Lumpkin Street gutters and storm drains. These rain gardens hold water in temporary storage and allow it to soak in. This diversion is one method of keeping the flow of Tanyard Branch at the foot of Lumpkin Street from rising and falling dramatically due to runoff originating from all the imperviously paved streets and parking lots upstream.



According to a 2002 UGA College of Environment and Design study:

“The appearance and quality of Tanyard Branch has changed much over the years. A series of historic maps and aerial photos of the Athens-Clarke County region illustrate the progression from a sinuous, unrestrained stream channel to a straightened, culverted, and highly degraded urban stream. Even as early as 1874, much of the Tanyard Branch watershed had been urbanized. However, a riparian corridor was maintained and the stream was allowed to flow freely. An 1893 map shows the addition of a city reservoir on Tanyard’s South Branch, where the UGA Legion pool is located today. A 1909 bird’s-eye view of Athens confirms the presence of the city reservoir and a meandering stream channel. At this point, the map shows that Tanyard still maintains a natural sinuous path of waterflow. The growth of the community around Tanyard from 1909 to 1924 leads to the alteration of the stream channel. A 1924 Ben Epps aerial photo from the Iowa State University Special Collections Library Warren Manning Collection suggests

that the stream was moved to the edge of the valley bottom to make room for the old UGA baseball field. By 1959, the reservoir is gone. A 1959 Athens map drawn specifically to show drainage patterns locates many first-order tributaries flowing freely into Tanyard Branch, almost all of which are piped today. The 1993 aerial photo reveals a highly urbanized watershed. Today, the historically meandering stream has been transformed into a channelized stream with a 0.782 square-mile watershed, 74% of which is covered by impervious surfaces, and only 21% of the area remaining forested.”

The UGA organization Students and Educators for Ecological Design and Sustainability (SEEDS) has taken on the long-term goal of restoring Tanyard Branch. For more information, please see the website <http://www.uga.edu/seeds/tanyard.html>

Aldo says:

“One of the penalties of an ecological education is that one lives alone in a world of wounds. Much of the damage inflicted on land is quite invisible to laymen. An ecologist must either harden his shell and make believe that the consequences of science are none of his business, or he must be the doctor who sees the marks of death in a community that believes itself well and does not want to be told otherwise.

The government tells us we need flood control and comes to straighten the creek in our pasture. The engineer on the job tells us the creek is now able to carry off more flood water, but in the process we lost our old willows where the cows switched flies in the noon shade, and where the owl hooted on a winter night. We lost the little marshy spot where our fringed gentians bloomed.

Some engineers are beginning to have a feeling in their bones that the meanderings of a creek not only improve the landscape but are a necessary part of the hydrologic functioning. The ecologist sees clearly that for similar reasons we can get along with less channel improvement....”

from “Round River”

“By and large, our present problem is one of attitudes and implements. We are remodeling the Alhambra with a steam-shovel, and we are proud of our yardage. We shall hardly relinquish the shovel, which after all has many good points, but we are in need of gentler and more objective criteria for its successful use.”

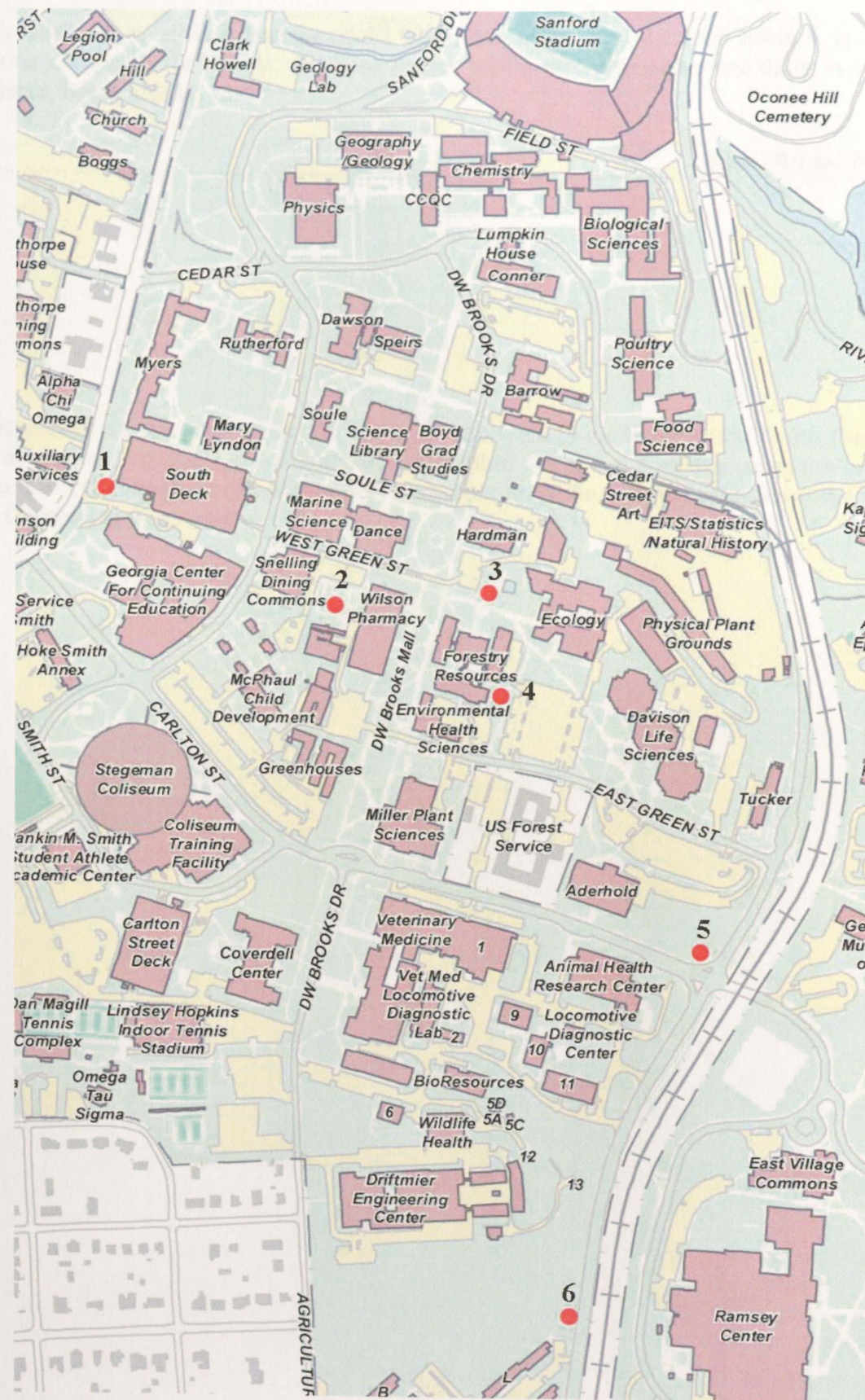
from “The Land Ethic”

"We shall never achieve harmony with land, any more than we shall achieve absolute justice or liberty for people. In these higher aspirations the important thing is not to achieve, but to strive.

from "Round River"

This completes the North Campus Walk. If you wish to continue to the South Campus section, please cross to the eastern side of Lumpkin Street and continue south toward the Green Street entrance to the parking deck adjacent to the north side of the Georgia Center for Continuing Education.

FIELD NOTES



“Sand County on Campus” – South Campus Walk

Stop 1 – Indian Trail Marker

Make your way to the intersection of Lumpkin Street with the Green Street entrance to the Georgia Center parking deck.



You will see a roughly pyramidal granite marker adjacent to the sidewalk. This marker was placed here by the Georgia Daughters of the American Revolution and its Elijah Clarke Chapter of Athens, Georgia on November 27, 1930. Its bronze plaque reads:

“Here passed the old Indian trail used by the Creeks of the Savannah River Basin, the Cherokees of Upper Georgia and Tennessee, and by trading parties of other tribes.”

The plaque also features in bas relief the profile of an Indian wearing a feathered headdress more typical of Plains tribes than the headgear favored by Indians of the Southeast. Archaeologists believe that the first nomadic tribes of what they term “Paleo-

Indians" probably arrived in the Clarke County area around 10,000 B.C.E. These people depended primarily on large game for sustenance. Around 6,000 B.C.E, the "Archaic" Indians had begun to collect a wider array of plant foods as well as small game and fish. Hickory nuts and acorns were particularly important to them. By 2,000 B.C.E., they had begun to supplement their diet by cultivating native plants such as squash and sunflowers. Settlements grew larger during the subsequent "Woodland" Period (1,000 B.C.E.-1,000 C.E.) and maize introduced from Mexico became an important addition to their diet.

By the Mississippian Period (1,000 C.E. to European contact), town life became more common and was marked by an increasingly sophisticated socio-religious culture. During this period, Clarke County was part of a chiefdom centered farther south in present-day Greene County. Clarke County was primarily used as a foraging range for gathering nuts and other wild foods and for hunting deer and turkey.

First contact with Europeans came in 1540 with the arrival of Hernando De Soto near Greensboro, Georgia, where his soldiers encountered the people affiliated with the town of Ocute, near present-day Sparta, Hancock County.

Merton Coulter relates that during the early years of the University near the boundary with "Indian Country"

"[A]s long as red Indians were around – the 'savage Creeks and the gallant Cherokees' – students and townsmen found it difficult to convince themselves that they were not in fact on the frontier.... In fact 'gallant Cherokees' now and then entered the seat of knowledge....but with all the indulgence and consideration heaped upon them by students and teachers alike they soon tired of the white men's ways and returned to their homes in the hills to the northward....

One of the Indian traders had taken a fancy to the thirteen-year-old son of President Meigs and had got permission to take the boy 150 miles into the Cherokee nation to Vann-Town on the Etowah River. After a seven week's visit young Meigs returned dressed in Indian stockings, with a belt of wampum and other Indian knickknacks about him, riding an Indian pony – and for a long time students had one more Indian among them....

By 1819 the Indian boundary had been moved fifty miles away, so far that Athens was never to be afraid of the Cherokees again. But these same Cherokees never tired of visiting the University to trade with the students and shoot arrows for their amusement – until 1838 when they were forced to leave their home in the Georgia hills for the regions beyond the Mississippi." [at pages 25-26]

Aldo says:

"In human history, we have learned (I hope) that the conqueror role is eventually self-defeating. Why? Because it is implicit in such a role that the conqueror knows, *ex cathedra*, just what makes the community clock tick, and just what and who is valuable, and what and who is worthless, in community life. It always turns out that he knows neither, and this is why his conquests eventually defeat themselves.

In the biotic community, a parallel situation exists. Abraham knew exactly what the land was for: it was to drip milk and honey into Abraham's mouth. At the present moment, the assurance with which we regard this assumption is inverse to the degree of our education.

The ordinary citizen today assumes that science knows what makes the community clock tick; the scientist is equally sure that he does not. He knows that the biotic mechanism is so complex that its workings may never be fully understood.

That man is, in fact, only a member of a biotic team is shown by an ecological interpretation of history. Many historical events, hitherto explained solely in terms of human enterprise, were actually biotic, interactions between people and land. The characteristics of the land determined the facts quite as potently as the characteristics of the men who lived on it."

from "The Community Concept"

"The culture of primitive peoples is often based on wildlife. Thus, the plains Indian not only ate buffalo, but buffalo largely determined his architecture, dress, language, arts, and religion. In civilized peoples, the economic base shifts to tame animals and plants, but the culture nevertheless retains part of its wild roots."

from "Wildlife in American Culture"

Proceed east from the parking deck to the intersection of Sanford Drive and West Green Street. Cross the street and continue walking east past Snelling Dining Hall. Turn right between the dining hall and the School of Pharmacy Building to find our next stop, the Gardens at Athens.

Stop 2 – The Gardens at Athens



Winter

Summer

The Gardens at Athens were started in 1982 by Professors Allan Armitage and Michael Dirr and their students. The primary functions of the garden have always been research, teaching, and new crop introduction and that continues today. The garden is open to the public and professionals alike and detailed information on the plants tested there is available to all who are interested. The trials are planted in April and May and consist of major and minor bedding classes, tropicals, vines, plantings of specialty annuals, over 60 free-standing containers, and three large perennial beds. The Gardens website states

“The Gardens at Athens serves research and teaching functions and is an important resource for breeders, retailers, growers, landscapers, and consumers....

As a teaching facility, the garden allows students to take advantage of the myriad of annual and perennial species and to study the different growth habits, tolerances and uses of herbaceous material. Students can also learn about those elusive terms called quality and performance by viewing the good, the bad, and the ugly under garden conditions. And even if nobody ever visited, the trials have helped educate a whole army of dedicated student workers who plant, dig, weed, clean, and worry about the trial garden. While the plants provide the color, they provide the soul.

Lastly, our garden is simply a pleasant place to spend a little time away from the hustle and bustle of everyday life. Each year improvements in the garden make it a prettier place to be. Where is it written that research cannot be beautiful?”

Aldo says:

“Within a few weeks now, *Draba*, the smallest flower that blows, will sprinkle every sandy place with small blooms.

He who hopes for spring with upturned eye never sees so small a thing as *Draba*. He who despairs of spring with a downturned eye steps on it, unknowing. He who searches for spring with his knees in the mud finds it, in abundance.

Draba asks, and gets, but scant allowance of warmth and comfort; it subsists on the leavings of unwanted time and space. Botany books give it two or three lines, but never a plate or portrait. Sand too poor and sun too weak for bigger, better blooms are good enough for *Draba*. After all, it is no spring flower, but only a postscript to a hope.

Draba plucks no heartstrings. Its perfume, if there is any, is lost in the gusty winds. Its color is plain white. Its leaves wear a sensible woolly coat. Nothing eats it; it is too small. No poets sing of it. Some botanists once gave it a Latin name, and then forgot it. Altogether it is of no importance -- just a small creature that does a small job quickly and well.”

from “*Draba*”

Return to West Green Street and continue walking east toward the Warnell School of Forestry and Natural Resources. Just north of its entrance is the next stop, the Mary Kahrs Warnell Memory Garden.

Stop 3 -- The Mary Kahrs Warnell Memory Garden



Dedicated on April 12, 1991, the Mary Kahrs Warnell Memory Garden is a tranquil garden featuring a small pool surrounded by densely planted river birches (*Betula nigra*). Prince Maximilian thought of river birch as the most beautiful of American trees when he toured North America before he became the short-lived Emperor of Mexico. River birch is "perhaps the most heat resistant of all trees in North America" according to Dr. Michael Dirr, who also notes "this particular birch is even more spectacular without the leaves." Because of its adaptability, river birch was named the 2002 Urban Tree of the Year by the Society of Municipal Arborists.

Also known as red birch, water birch, or black birch, it is the only birch whose range includes the southeastern coastal plain and is also the only spring-fruiting birch. Although its wood has limited utility, the tree's beauty makes it an important ornamental. The understory beneath these birches features native trees, shrubs, and wildflowers. The Garden's pool displays native water plants and wildlife including fish, dragonflies, and turtles.

Aldo says:

"A cardinal atop a river birch whistles loudly his claim to a territory that, but for the trees, cannot be seen to exist."

from "Come High Water"

"I incline to believe we have overestimated the scope of the profit motive. Is it profitable for the individual to build a beautiful home? To give his children a higher education? No, it is seldom profitable, yet we do both. These are, in fact, ethical and aesthetic premises which underlie the economic system. Once accepted, economic forces tend to align the smaller details of social organization into harmony with them.

No such ethical and aesthetic premise yet exists for the condition of the land these children must live in. Our children are our signature to the roster of history; our land is merely the place our money was made. There is as yet no social stigma in the possession of a gullied farm, a wrecked forest, or a polluted stream, provided the dividends suffice to send the youngsters to college. Whatever ails the land, the government will fix it.

I think we have here the root of the problem. What conservation education must build is an ethical underpinning for land economics and a universal curiosity to understand the land mechanism. Conservation may then follow."

from "Round River"

"Our ability to perceive quality in nature begins, as in art, with the pretty. It expands through successive stages of the beautiful to value as yet uncaptured by language."

from "Marshland Elegy"

From the Garden, walk east and turn right on the first sidewalk adjacent to the Warnell School.

Stop 4 – Longleaf Pines



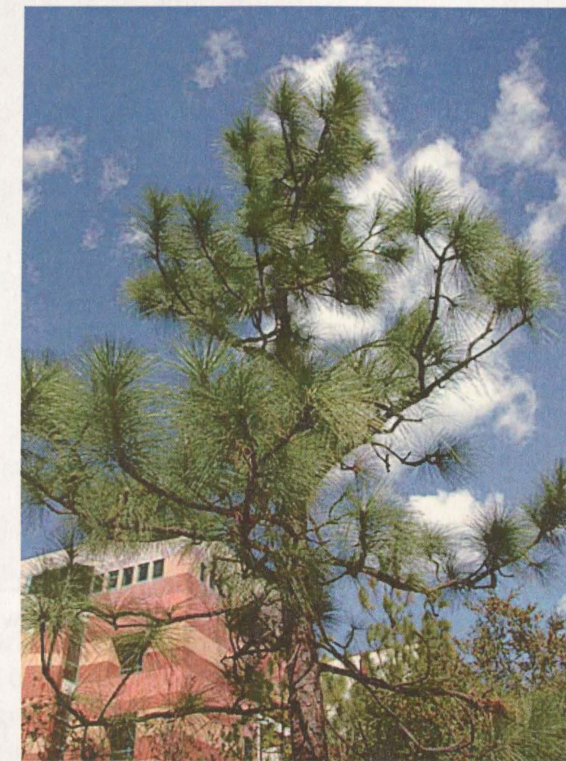
On the west side of the parking lot, a small stand of pines flanks the sidewalk. The two dozen longleaf pines (*Pinus palustris*) planted here outside their natural range are isolated specimens of what once was a major forest type in the Southeast. Not only were these trees a major source of timber production, they were ecologically important. The New Georgia Encyclopedia describes them as follows.

“In its native range, [longleaf pine] once stretched from southern Virginia to east Texas, covering almost 90 million acres. In Georgia its range was roughly below the Fall Line in the Upper Coastal Plain, though longleaf sometimes flourished across the lower Piedmont as well. Today only 3 million acres across the South contain some longleaf forests, and of that only about 12,000 scattered acres retain an old-growth component with a biologically diverse understory.

The longleaf pine–grassland forest may well be the most diverse North American ecosystem north of the tropics, containing rare plants and animals not found anywhere else. The understory throughout the longleaf range contains from 150 to 300 species of groundcover plants per acre, more breeding birds than any other southeastern forest type, about 60 percent of the amphibian and reptile species found in the Southeast—many of which are endemic to the longleaf forest—and at least 122 endangered or threatened plant species.

The longleaf-grassland forest that we know today...most likely never existed

absent a human presence. Indeed, some researchers estimate that this ecosystem is no more than 5,000 years old. Native Americans arrived in the coastal-plain region while the system was taking shape, and there is considerable evidence that their land-use practices shaped the forests that Europeans found when they moved into the region thousands of years later. . . .The longleaf pine and grassland forest of the southern Coastal Plain is among the most endangered ecosystems in North America.”



Aldo says:

“The pine’s new year begins in May, when the terminal bud becomes ‘the candle.’ Whoever coined that name for the new growth had subtlety in his soul. ‘The candle’ sounds like a platitudinous reference to obvious facts: the new shoot is waxy, upright, brittle. But he who lives with pines knows that the candle has a deeper meaning, for at its tip burns the eternal flame that lights a path into the future.... It is a very old pine who at last forgets which of his many candles is most important, and thus flattens his crown against the sky. You may forget, but no pine of your own planting will do so in your lifetime....

Each species of pine has its own constitution, which prescribes a term of office for needles appropriate to its way of life. Thus the white pine retains its needles for a year and a half; the red and jackpines for two years and a half. Incoming needles take office in June, and outgoing needles write farewell addresses in October. All write the same thing,

in the same tawny yellow ink, which by November turns brown. Then the needles fall, and are filed in the duff to enrich the wisdom of the stand. It is this accumulated wisdom that hushes the footsteps of whoever walks under pines.”

from “Pines Above the Snow”

“No living man will see again the long-grass prairie, where a sea of prairie flowers lapped at the stirrups of the pioneer. We shall do well to find a forty here and there on which the prairie plants can be kept alive as species. There were a hundred such plants, many of exceptional beauty. Most of them are quite unknown to those who have inherited their domain.

But the short-grass prairie, where Cabeza de Vaca saw the horizon under the bellies of the buffalo, is still extant in a few spots of 10,000-acres size, albeit severely chewed up by sheep, cattle, and dry-farmers. If the forty-niners are worth commemorating on the walls of state capitols, is not the scene of their mighty hegira worth commemorating in several national prairie reservations?

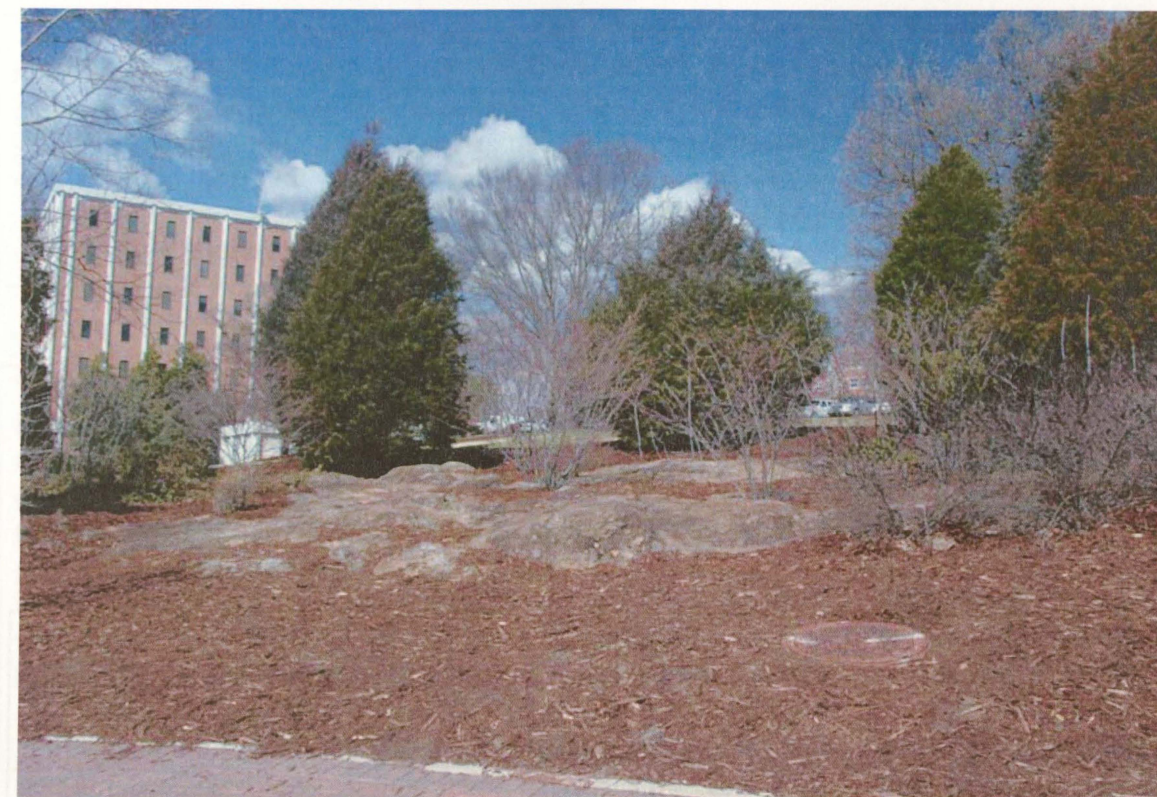
Of the coastal prairie there is one block in Florida, and one in Texas, but oil wells, onion fields, and citrus groves are closing in, armed to the teeth with drill and bulldozers. It is last call.

No living man will see again the virgin pineries of the Lake States, or the flatwoods of the coastal plain, or the giant hardwoods; of these samples of a few acres each will have to suffice.”

from “The Remnants”

Continue heading south on the sidewalk. Cross Green Street and continue south across the parking lot separating the Miller Plant Sciences Building from the USDA Forest Lab. When you reach Carlton Street, turn left and walk to its intersection with East Campus Road.

Stop 5 – Athens Gneiss Outcrop



At the corner of Carlton Street and East Campus Road, you can see a relatively unweathered outcrop of the bedrock underlying all of Athens. Several different rock types are exposed here, including a banded metamorphic rock (Athens Gneiss) and deformed layers of granite. Together they comprise the Athens Gneiss Complex. The banded gneiss formed during very deep burial and high-temperature modification (“metamorphism”) of a much older sedimentary rock. Temperatures and pressures were so intense that the original rock began to melt, thereby producing the granite layers. This metamorphism occurred 320-325 million years ago at a depth of approximately 10 miles during the collision of the ancient continents of Laurentia (which included North America in part) and Gondwana (which included Africa in part). This collision produced the Appalachian Mountains which likely were as high as today’s Rocky Mountains. The deep crustal level that you see here has been exhumed as a result of continuous weathering and erosion over the last 300 million years. Quarries in the Athens Gneiss produced much of the stone used for walls and buildings on campus and continue to supply gravel.

Recent weathering of the Athens Gneiss Complex has produced a soil known to scientists as the Cecil Sandy Loam. Prior to European agriculture (particularly the cultivation of cotton), the topsoil in the Athens area was 8-9 inches thick. How do we now that? It was uncommon for people building houses on the Athens “frontier” to disturb the soil; they simply cut down trees and cleared brush before they built a structure. Modern soil scientists have been able to recover complete cores of the Cecil Sandy Loam by crawling

beneath the oldest houses they can find and sampling the soil profile there.

By 1850, soil erosion and nutrient exhaustion had taken a great toll on the land. And yet cotton cultivation continued. In "A Portrait of Historic Athens and Clarke County," France Taliaferro Thomas notes

"Athens economy remained a cotton economy through the first half of the twentieth century.... [A]ll around Athens timber was cut down for acre upon acre of cotton fields. Behind General Hospital in the 1930s, for example, was a two-hundred-acre cotton patch. Other cotton fields lined the Lexington Highway and the Winterville Road all the way to Whitehall." [at page 182]

It takes approximately 500 years to generate one inch of topsoil here in the Athens area. Therefore it will take many centuries, if ever, to recreate the original characteristics of the Cecil Sandy Loam.

Aldo says:

"The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.

This sounds simple: do we not already sing our love for and obligation to the land of the free and the home of the brave? Yes, but just what and whom do we love? Certainly not the soil, which we are sending helter-skelter downriver. Certainly not the waters, which we assume have no function except to turn turbines, float barges, and carry off sewage. Certainly not the plants, of which we exterminate whole communities without batting an eye. Certainly not the animals, of which we have already extirpated many of the largest and most beautiful species. A land ethic of course cannot prevent the alteration, management, and use of these 'resources,' but it does affirm their right to continued existence, and, at least in spots, their continued existence in a natural state."

from "The Community Concept"

"Land, then, is not merely soil; it is a fountain of energy flowing through a circuit of soils, plants, and animals. Food chains are the living channels which conduct energy upward; death and decay return it to the soil. The circuit is not closed; some energy is dissipated in decay, some is added by absorption from the air, some is stored in soils, peats, and long-lived forests; but it is a sustained circuit, like a slowly augmented revolving fund of life. There is always a net loss by downhill wash, but this is normally small and offset by the decay of rocks. It is deposited in the ocean and, in the course of geological time, raised to form new lands and new pyramids."

from "The Land Pyramid"

"[T]here is value in that which reminds us of our dependency on the soil-plant-animal-man food chain. Civilization has so cluttered this elemental man-earth relation with gadgets and middlemen that awareness of it is growing dim. We fancy that industry supports us, forgetting what supports industry. Time was when education moved toward soil, nor away from it."

from "Wildlife in American Culture"

"A deep chesty bawl echoes from rimrock to rimrock, rolls down the mountain, and fades into the far blackness of the night. It is an outburst of wild defiant sorrow, and of contempt for all the adversities of the world. Every living thing (and perhaps many a dead one as well) pays heed to that call. To the deer it is a reminder of the way of all flesh, to the pine a forecast of midnight scuffles and of blood upon the snow, to the coyote a promise of gleanings to come, to the cowman a threat of red ink at the bank, to the hunter a challenge of fang against bullet. Yet behind these obvious and immediate hopes and fears there lies a deeper meaning, known only to the mountain itself. Only the mountain has lived long enough to listen objectively to the howl of a wolf."

from "Thinking Like a Mountain"

Here Aldo Leopold counsels us to "think like a mountain," and thereby extend our time reference from daily experience to that of ecological or even geological scale. In the Piedmont, we may have to settle for contemplating this undulating 325 million-year-old outcrop. Nonetheless, it follows that changing our time horizon can modify the perception of what best advances our self-interest. Extending the time horizon requires us to balance our perceptions of what is currently in our self-interest against foreclosing the environmental options available to future generations.

Now cross Carlton Street and continue walking south. You will pass the UGA School of Veterinary Medicine on your right and begin to climb a low hill. Just before you reach Family Housing, stop at the ravine filled with beech trees.

Stop 6 – Beech Glade



This small ravine may have been too steep to plow during the decades in which this part of campus was used for agriculture. It runs westward from here to Ag Drive and features many very large oaks and hickories. But it is the beech trees (*Fagus grandifolia*) which take center stage here. Some of the largest beeches are nearly three feet in diameter at breast height and may be 150-200 years old. Although this site has no formal name, it is one of the most admired spots on campus. This is particularly true in the late fall and winter months when the pale orange leaves which cling to the younger beech trees seem lit from within.

Aldo says:

“Almost anything may happen between one red lantern and another... For the ensuing... months, the lanterns glow only in recollection. I sometimes think that the other months were constituted mainly as a fitting interlude....”

from “Red Lanterns”

“Some species of trees have been 'read out of the party' by economics-minded foresters because they grow too slowly, or have too low a sale value to pay as timber crops: white cedar, tamarack, cypress, beech, and hemlock are examples. In Europe, where forestry is ecologically more advanced, the non-commercial tree species are recognized as members of the native forest community, to be preserved as such, within reason. Moreover some (like beech) have been found to have a valuable function in building up soil fertility. The interdependence of the forest and its constituent tree species, ground flora, and fauna is taken for granted.”

from “Substitutes for a Land Ethic”

“Conservation is a state of harmony between men and land. By land is meant all of the things on, over, or in the earth. Harmony with land is like harmony with a friend; you cannot cherish his right hand and chop off his left. That is to say, you cannot love game and hate predators; you cannot conserve the waters and waste the ranges; you cannot build the forest and mine the farm. The land is one organism. Its parts, like our own parts, compete with each other and co-operate with each other. The competitions are as much a part of the inner workings as the co-operations. You can regulate them – cautiously -- but not abolish them.

The outstanding scientific discovery of the twentieth century is not television, or radio, but rather the complexity of the land organism. Only those who know the most about it can appreciate how little is known about it. The last word in ignorance is the man who says of an animal or plant: ‘What good is it?’ If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering.”

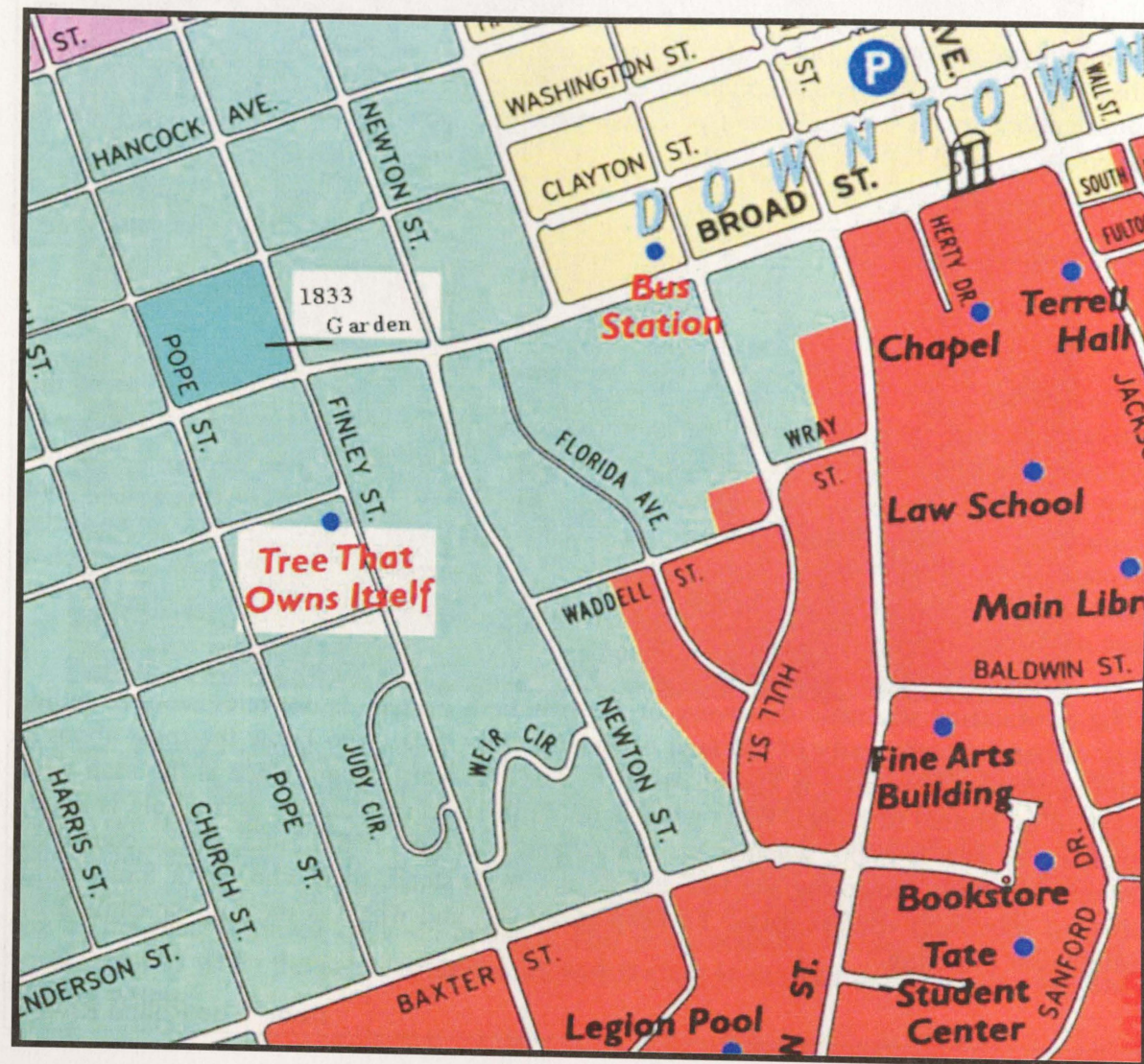
from “The Round River”

“Quit thinking about decent land-use as solely an economic problem. Examine each question in terms of what is ethically and esthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”

from “The Outlook”

This completes the South Campus Walk. The North Campus Walk begins at the North Campus Parking Deck on Jackson Street approximately 1.5 mile north from this site.

THE TREE THAT OWNS ITSELF



Lagniappe – The Tree That Owns Itself

The Tree That Owns Itself, a white oak (*Quercus alba*), is located at the intersection of Dearing and Finley Streets, a block south of West Broad Street.

Although not a part of campus, The Tree That Owns Itself is adjacent to the site of the University's first botanical garden and across the street from the home of Dr. Malthus Ward, the garden's founder. Specimen magnolia, ginkgo, bald cypress, elm, and other trees of the original garden still stand in the side yard of Ward's house at the northwest corner of Dearing and Finley Streets.



The Original Tree That Owns Itself (date of photograph unknown)

The story of the tree first appeared in the *Athens Weekly Banner* newspaper on August 12, 1890. This story also has been the subject of Ripley's perennial column "Believe It or Not" and countless other publications through the years have brought attention to the tree. It is often visited by tourists to the city and known to most Athenians. Most recently, the tree was named as one of the top ten insider spots of interest in Travelocity.com's "Local Secrets, Big Finds" international poll in 2005.

As the story goes, University of Georgia professor William H. Jackson, at the time Jackson sold his property to Malthus Ward in 1832, gave the oak ownership of itself by means of a deed that provided eight feet of land on all sides of the tree. This land grant is memorialized on a marker at the base of the tree which reads

"For and in consideration of the great love I bear this tree and the great desire I have for its protection for all time, I convey entire possession of itself and all land within eight feet of the tree on all sides. William H. Jackson"

Around the turn of the 20th century, George F. Peabody, a philanthropist and benefactor of the University of Georgia, had the enclosure of granite posts and iron chain put around

it with a white block set up with the words of the deed carved on it. Around 1942, the world famous majestic oak, over 100 feet tall and 15 feet around, fell, a victim of heart rot and high winds. Having gathered acorns from the tree for several years, the Junior Ladies Garden Club had urged Athenians to germinate them, and planted a sapling of it at a dedication ceremony on Wednesday, December 5, 1946. This tree, a son of the original, has grown and flourished ever since, with the Junior Ladies Garden Club periodically providing maintenance weeding and loving care.



Planting the replacement in 1946



Today's Tree That Owns Itself now tops 50 feet

Aldo says:

"A tree tries to argue, bare limbs waving, but there is no detaining the wind."

from "If I Were the Wind"

"Trees still live who, in their youth, were shaken by a living wind. But a decade hence only the oldest oaks will remember, and at long last only the hills will know...."

from "On a Monument to a Pigeon"

"We can be ethical only in relation to something we can see, feel, understand, love, or otherwise have faith in."

from "The Land Pyramid"

For further reading:

Books

"College Life in the Old South," by E. Merton Coulter (University of Georgia Press 1973).

"The University of Georgia: A Bicentennial History" by Thomas G. Dyer (University of Georgia Press 1985).

"The Southeastern Indians," by Charles M. Hudson (University of Tennessee Press 1976).

"A Portrait of Historic Athens and Clarke County," by Frances Taliaferro Thomas (University of Georgia Press 1993).

"Looking for DeSoto: A Search through the South for the Spaniard's Trail," by Joyce Rockwood Hudson (University of Georgia Press 1993).

"Looking for Longleaf: the Fall and Rise of an American Forest," by Lawrence S. Easley (University of North Carolina Press 2004).

"Ecology of a Cracker Childhood," by Janisse Ray (Milkweed Editions 2000).

Online resources

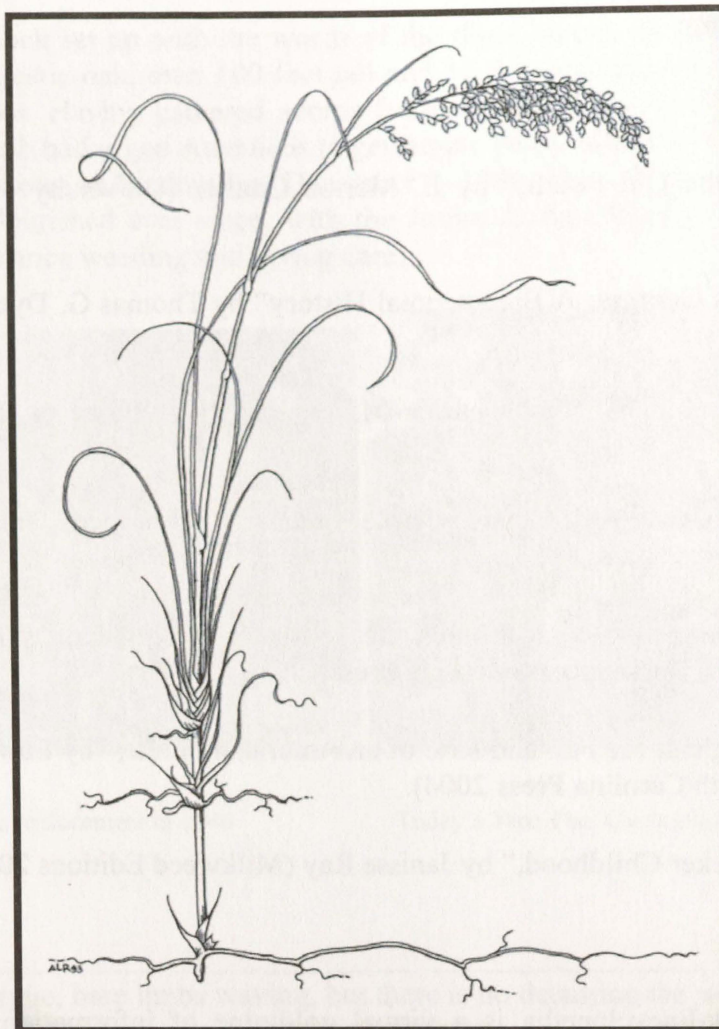
The New Georgia Encyclopedia is a virtual goldmine of information on everything related to Georgia. <http://www.georgiaencyclopedia.org/nge/Home.jsp>

For an extensive treatment of the history of the Founders Memorial Garden, please see http://getd.galib.uga.edu/public/adams_paul_d_200405_mla/adams_paul_d_200405_mla.pdf

"Tanyard Branch Restoration and Design Studio," available at http://www.uga.edu/seeds/linked_docs/Tanyard-Layout.pdf

For more information about the Gardens at Athens, please see the website <http://ugatrial.hort.uga.edu/index.cfm/fuseaction/about.main/index.htm>

For an extensive discussion of the Tree That Owns Itself, please see http://en.wikipedia.org/wiki/Tree_That_Owns_Itself



The Environmental Ethics Certificate Program

The Environmental Ethics Certificate Program (EECP) is a non-degree program offered at the University of Georgia as an enhancement to an undergraduate or graduate degree. The EECP is an interdisciplinary program, drawing faculty and students from many different departments on campus. We are formally part of the School of Environmental Design.

The Program seeks to unify people from a diversity of disciplines in discussion and decision-making about environmental problems that involve competing values. The Program provides a forum where philosophers, scientists, and people from all other disciplines can discuss social and scientific responsibilities toward our environment in a rational manner which clearly defines problems, considers all the information, and maintains our values.

