

Ranger-Guided Bike Tours of Stones River National Battlefield

The TENNESSEE

CONSERVATIONIST

MAY/JUNE 2017 • \$4.25



**Leave Those Wild
Babies Alone**

**Discarded Food:
Refuse or Resource?**

**Cypress Grove Nature Park
Re-Connects Kids With Nature**

The TENNESSEE

CONSERVATIONIST

May/June 2017 • Vol. LXXXIII, No. 3 • \$4.25

Editor

Louise Zepp

Art Director/Designer

Jeff Law

Circulation Manager

Taylor Breland

Student Edition Editor

Mike Baumstark

Editorial offices are at

William R. Snodgrass TN Tower
312 Rosa L. Parks Ave., 2nd
Floor, Department of
Environment and Conservation,
Nashville, Tennessee 37243;
615/532-0060

Visit our Home Page on the World Wide
Web at: www.tnconservationist.org

Digital Prepress and Printing by
Douglas Printing, Inc.

Subscriptions: one year \$20; two years
\$27; three years \$35.

THE TENNESSEE CONSERVA-
TIONIST, (ISSN 0040-3202) is pub-
lished bimonthly by the State of
Tennessee, Department of Environment
and Conservation, William R. Snodgrass
TN Tower 312 Rosa L. Parks Ave.,
Nashville, Tennessee 37243. Periodicals
postage paid at Nashville, Tennessee.
Vol. LXXXIII, No. 3.

POSTMASTER: Send address change to
THE TENNESSEE CONSERVATION-
IST, Department of Environment and
Conservation, 312 8th Ave N FL 1,
Nashville, TN 37243-0440.

Copyright 2017. The original articles,
photographs and art work appearing in
this magazine, except those produced by
employees of the Tennessee Department
of Environment and Conservation, are
copyrighted and cannot be reproduced by
any means without the express consent of
the individual contributor. The opinions
expressed by authors do not necessarily
reflect the policy of the Tennessee
Department Environment and
Conservation or the State of Tennessee.

Regarding photographic editorial submis-
sions, only duplicates can be accepted when
transparencies are submitted; the photogra-
pher/owner assumes responsibility of risk
for original transparencies or any negatives
sent to the magazine. The state assumes no
responsibility.

ON THE INSIDE

4 Tennessee State Parks' Girls Outdoors Workshop Gives Girls Outdoor Experiences

By Katie Wisniewski

Girls are receiving outdoor adventure learning activities in Tennessee State Parks through Girls Outdoors Workshops that combine outdoor experiences with learning about careers for women in the fields of science and conservation.

8 Tennessee Mountain Laurel Festival Features Hikes During Bloom Time

By Louise Zepp

The Tennessee Mountain Laurel Festival on the Cumberland Plateau features 24 Designated Mountain Laurel trails in Morgan, Fentress and Scott counties and various guided hikes where the blooming Mountain Laurel will be a feature, among other activities.

12 Discarded Food: Refuse or Resource?

By Robert Wadley

Changing some of our habits and perceptions regarding what we eat and throw away can help the environment, help your neighbors and save money. The Tennessee Department of Environment and Conservation's goal is to reduce the amount of food going into landfills 50 percent by 2030 through the promotion of waste minimization practices, organic reuse, anaerobic digestion and composting throughout the state.

16 Jonesborough's Level 2 Arboretum for Native Plants

By Frances Lamberts and Tobie Bledsoe

Jonesborough's officials had the foresight to turn what used to be a barren waste area into an arboretum focused on native plants.

20 Experience Stones River National Battlefield on a Ranger-Guided Bicycle Tour

By Jeremy Childs

A monthly ranger-guided 90-minute bicycle tour of Stones River National Battlefield in Murfreesboro offers visitors a new way to experience the park and its history and natural beauty.

25 Nature Center Expansion at Bristol's Steele Creek Park

By Jeremy Stout

The nature center at Steele Creek Park in Bristol, a 2,230-acre municipal park, is undergoing a major expansion. Once completed, it will boast nearly 9,000-square feet of exhibit, classroom and research space.

28 Cypress Grove Nature Park in Jackson Works to Re-Connect Kids With Nature

By Sandy MacDiarmid

Cypress Grove Nature Park in Jackson works to re-connect kids with nature through year-round, hands-on experiences. Cypress Grove is a 165-acre wetland park with 1.4 miles of boardwalk winding through a natural cypress forest.

32 Leave Those Wild Babies Alone!

By Bettina Bowers and Carolyn Pendarvis

Sometimes misunderstandings about wild animals and what needs to be rescued can lead to permanent separation between mother and baby animals, no matter how good our human intentions may be. By following a few tips from experts at Walden's Puddle Wildlife Rehabilitation & Education Center in Joelton, Tennessee's wild babies can live their lives without human interference.

IN OUR DEPARTMENTS

- 2 For the Benefit
- 3,38 Conservation Update
- 37 Student Edition
- 39 Tennessee Events

ON OUR COVERS

Front Cover: The flowers of Sweet Shrub (*Calycanthus floridus*) have a strong strawberry-like fragrance when crushed. Photo by Aubrey C. Watson. **Back Cover:** A Green Frog seen near the end of May. Photo by Aubrey C. Watson.



Tennessee Department of Environment and Conservation,
Authorization No. 327325, 180,000 copies, February, 2017.
"This public document was promulgated at a cost of
\$.74 per copy."



This entire magazine printed on 50 percent
recycled paper (15 percent post-consumer waste).

Jonesborough's Level 2 Arboretum for Native Plants

By Frances Lamberts
and Tobie Bledsoe

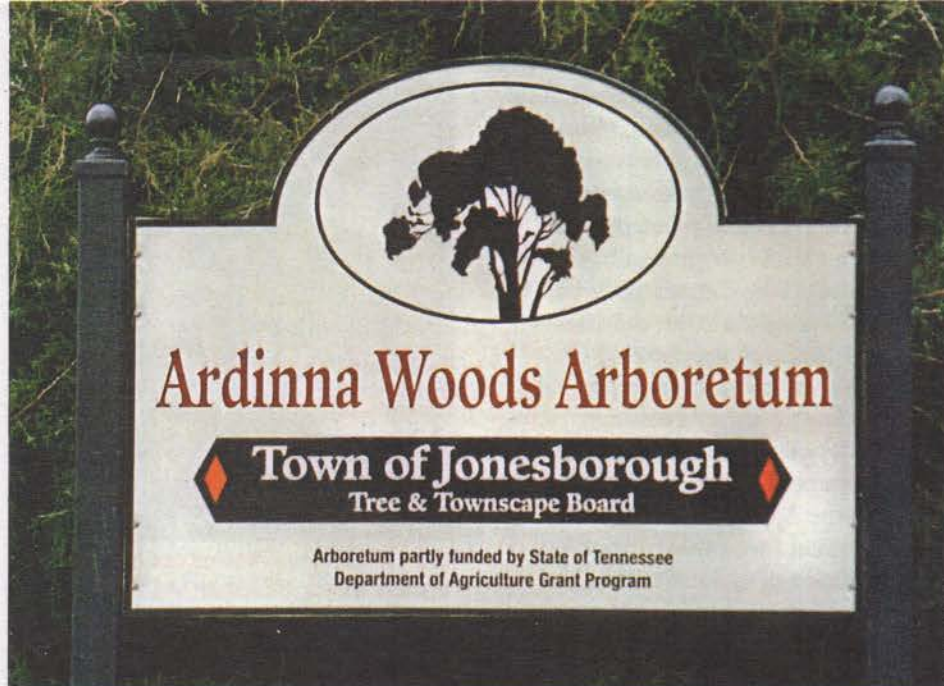
A diligent young patron, breaking away from other visitors on a guided tour, studies a Jonesborough Arboretum kiosk display for added information. On a Sunday morning in late winter, arboretum brochure in hand, a visitor states that he visits the arboretum each month during the growing season to observe leaf emergence as well as in fall to see foliage of many different trees.

Photographers come to capture the beauty of diverse wildflowers and butterflies. A private donor's personal note to the town of Jonesborough states: "I pick up my husband at his office and we have lunch at the arboretum frequently." Another donor indicates that she's gained landscaping inspiration and helpful know-how through visits to the arboretum and from volunteering there, noting that for her home and business

properties she's created habitat for insects and other pollinators.

These scenes and notes are testimonials to the appeal of even small urban public places to be oases for rest, learning and enjoyment of nature's beauty. They attest as well to the foresight of Jonesborough officials in deciding to transform what used to be a barren waste area into an arboretum focused on native plants. The facilities





The sign at the entrance to Jonesborough's Ardinna Woods Arboretum and butterfly garden. Previous page: Jonesborough's arboretum site in 2010.

at the site were receiving heavy use for recycling, waste-water treatment and other city services. An arboretum there could both expand and further exemplify the town's continual efforts, as a "Tree-City" community, to maintain and create esthetically and ecologically valuable tree cover and related plantings within its perimeter.

The decision adds to Jonesborough's public parks, following Henry Thoreau's admonition that "each town should have a park...for instruction and recreation."

It seemed a daunting undertaking, and initially uncertain if infertile and very steep terrain in parts of the site could be amended to support trees and other plantings. But in late fall of the year 2000 a row of Eastern Red Cedar saplings, rescued with owners' permission from plots slated for development, was planted along the busy state highway fronting the site on the east. In barely a half-dozen years these trees had taken root and grown into a stout windrow shielding the site from traffic noise and roadway littering and adding bird habitat along with other trees planted there. These were locally donated specimen in the early years, including Pawpaw and Devils-Walkingstick, Tulip and White Fringe trees, American Basswood and Red Mulberry.

Funding through Jonesborough's Tree and Townscape Board then enabled the addition of many further trees and other plants, including those for a Butterfly Garden at the entrance to the site.

At the outset, the presence of invasive pest plants on the site spurred a decision to focus the arboretum's collections on native plants. Johnson

Grass, Japanese Honeysuckle and Multiflora Rose had to be eradicated from a bank portion near the highway. Kudzu, seeking to invade from adjoining railroad and highway overpass banks, was kept at bay. This was accomplished, over three years, through mowing, rootstock and rhizome removal and limited herbicide spraying. But removal of scattered re-growth of Common Privet, Crown Vetch, periwinkle and other invasive plants remains a persistent chore a decade later due to their presence on adjoining, private lands. Almost exclusively the chosen plants would therefore represent the natural flora of Southern Appalachian forests and the region as outlined by the 2005 book sponsored by the Tennessee Native Plant Society, *Wildflowers of Tennessee, the Ohio Valley and Southern Appalachians*, by Dennis Horn, Tavia Cathcart, Thomas Hemmerly and David Duhl, published by Lone Pine Press, Auburn, Wash.

Throughout the arboretum's development but especially in the beginning years, large amounts of leaf and shredded mulch were added to planting areas. Supplied from the town services adjacent to the site, the mulch aided in soil building as well as in weed control. Slime molds soon appeared, along with stinkhorns, bird's nest fungi and other fruiting-body mushrooms, beginning the decomposition through which later, with more abundant leaf and needle fall, the trees would create a humus layer to sustain their growth and moisture retention. Recent, published work



Shady Oaks Garden Club visits Ardinna Woods Arboretum.



Frances Lamberts

Butterflies are attracted to the diversity of plants at the Ardinna Woods Arboretum, shown here and below, center.

by forest ecologists and scientists, such as Peter Wohlleben, Suzanne Simard, David Suzuki and others, has revealed an associated "bustling community of mycorrhizal fungal species" underground. These enhance trees' nutrient uptake from the soil and link them in chemical networks for food sharing and defense.

Following landscape architect Kenneth P. Soergel's layout design, the site was soon filling in with wildlife-beneficial tree and ground-cover plantings. The design placed short trees such as Red Buckeye, Hophornbeam, Serviceberry species and others in areas traversed by power lines. Taller trees such as Persimmon, oaks, ashes and others are in different sections. Walkways, although not handicapped accessible due to uneven terrain, allow access to view all trees, with help of a map in an arboretum brochure and numbered signs under trees identifying each species.



Frances Lamberts

While the butterfly garden was developing in a small section, many moths, butterflies and other insects could find host trees, ground-cover and shrubby nectar plants throughout the three-acre site. At the time of its certification through the Tennessee Urban Forestry Council, in 2011, the arboretum held 162 trees representing 68 species and 26 native shrub types. The town's name for the arboretum, Ardinna Woods, recognizes the enduring importance of Celtic traditions and music in the Appalachian Mountains. The Ardennes forest named after her, Ardinna was a deity venerated as guardian of woods by the Celtic people in Europe, in ancient times.

Through the roughly 15 years of development, most planting, maintenance and related work at the site was performed by community volunteers under oversight, guidance in plant selection and funding by the Tree and Townscape Board.

Principal additional funding sources were a Community Tree Planting grant from the Tennessee Department of Agriculture and grants, under its Arbor Day and Small Tree Demonstration programs, from the Johnson City Power Board. Donations



Frances Lamberts

Left: Professor James Donaldson is shown with East Tennessee State University botany students at the Ardinna Woods Arboretum.



Frances Lamberts

Many kinds of mushrooms can be found at Ardinna Woods Arboretum, and they are important to tree growth and health.

from local garden and civic clubs, businesses and individuals, likewise, have continued to support the arboretum and its butterfly garden. Since 2009, an advisory board of community citizens involved with biology, horticulture, gardening and land conservation provides annual review and input on arboretum plans and progress and new plant acquisitions.

Ardinna Woods contains all our official state plants: Passionflower and the Southern Blue Flag iris, the Tulip tree and Yellowwood bicentennial tree and the Red Cedar conifer. More than 30 types of shrubs include deciduous ones such as Sweet Shrub, Dwarf and Large Fothergilla, Golden and Shrubby St. Johnswort, and evergreen ones such 'Grey Owl' Juniper and Wax Myrtle. Among the non-woody plant collections are a number of fern species along with Big Bluestem and a half-dozen other, tall and lower-growth native grasses. More than 100 wildflower species include late-winter or spring-flowering Bloodroot, Shooting Star, Virginia Bluebell and others, many common and some rare mid-season flowers such as Purple Phacelia, mints and beebalms, Broadleaf Barbara's Button, Pale Corydalis and Rattlesnake Master, and rudbeckias, goldenrods and others among the fall aster flowers. Vines include Trumpet Creeper, Virgin's Bower and Yellow Honeysuckle.

Rainwater gathering and water-cleanliness protection were given atten-

tion in the design of the arboretum. Plants and soil in a rain garden, located at the lowest point, receive and filter the driveway and parking area run-off before releasing the water to Little Limestone Creek. Plants in a bed alongside the building receive moisture through buried drip hoses attached to rain barrels. General plant watering, however, was performed manually throughout the arboretum.

Since 2013, a colorful mural greets visitors. It depicts many of the arboretum's special plants, some of the butterflies these seek to nurture, and a symbolic season progression from green-clad mountains to a winter-dormant forest. In a striking, artistic manner it portrays well the town's purpose in its Ardinna Woods: to foster awareness and appreciation, and thereby help preserve the richness of plants and wildlife still present in the Appalachian region.

Mayor Kelly Wolff expressed elation and hope that the American Chestnut tree may be returned to the eastern landscape through the work of the American Chestnut Foundation. "Jonesborough is proud," he said at the planting of small 'Restoration' chestnut trees there in 2016, "to support this arboretum for native plants, and we want, happily, to help the Foundation in this effort."

Earth Day and Arbor Day celebrations now are often held at the arbore-

tum. Guided botany walks are offered, and other, day or evening events for viewing wildlife and plants take place several times during the year. The arboretum is a field observation site for East Tennessee State University biology classes. From barren, often debris littered grounds where people came to unload brush and recyclables or to purchase mulch, within a mere decade-and-a-half it is now a place richly diverse in native plants and trees and an increasingly popular spot to visit in Tennessee's oldest town.

Thoreau would find his appeal fulfilled in Jonesborough's parks and its Ardinna Woods, as he stated that villages "have willows for spring, elms for summer, maples and walnuts and tupeloes for autumn, evergreens for winter, and oaks for all seasons," to be enjoyed for both "instruction and recreation."

The Jonesborough website www.jonesboroughtn.org carries information updates about the arboretum and butterfly garden.



(Frances Lamberts is a retired psychologist, active gardener and the arboretum's coordinator. Tobie Bledsoe is a retired surgical nurse who was mayor of Jonesborough during most of the arboretum's developmental years.)



Frances Lamberts

Rue Anemone and other plants mark the beginning of seasonal bloom succession at Ardinna Woods Arboretum in Jonesborough.



Frances Lamberts

Jonesborough's arboretum site in 2000. State Highway 81S is to the right of the driveway.

White Fringetree, Southern Arrowwood and Showy Evening Primrose blossom in early May in a sun exposed bank as other flowers, shrubs and wildflowers are emerging.



Tom Pardee



Frances Lamberts

This is a photo of the Jonesborough arboretum site to the left of the driveway 15 years later.