

Quick Overview of Extension Programs to Educate Homeowners about Environmentally Friendly Landscape Practices in Florida, South Carolina, and Tennessee¹

Tatiana Borisova, Katie Giacalone, Ruth Anne Hanahan, and Esen Momol²

Introduction

Nationwide, landscape irrigation is estimated to account for a significant portion—almost one-third—of all residential water use, or more than 7 billion gallons of water per day (US EPA 2010). Some experts estimate that up to 50 percent of this water may be wasted due to overwatering, poor irrigation system design, evaporation, or other factors (US EPA 2010). Such waste depletes water supplies, especially in times of drought, and when combined with excessive or poorly timed fertilizer application, causes pollution runoff and deterioration of surface and ground water.

Federal, state, and local agencies, as well as cooperative extension services, have developed outreach programs to educate homeowners about environmentally friendly landscaping practices, the importance of water conservation, and opportunities to reduce the environmental impacts of landscaping practices while at the same time maintaining lawn aesthetics and saving time and money on landscape maintenance. This publication presents a quick overview of one such program (*Yards and Neighborhoods*) that educates homeowners about nine core principles for landscape management. The program was originally developed by

the University of Florida, and it is currently implemented in seven states: Alabama, Florida, Kansas, Louisiana, North Carolina, South Carolina, and Tennessee. In this publication, we use a table format to characterize *Yards and Neighborhoods* programs in three southeastern states: Florida, South Carolina, and Tennessee. In these three states, the program is in different stages of implementation. In Florida, the program is well-established and supported by state and local agencies. It was re-named *Florida-Friendly Landscaping*[™] (FFL), and is used as a trademark of the University of Florida. In Tennessee, the program is relatively new, but it is actively developing and expanding in its geographic coverage. In South Carolina, the program is undergoing growth due to new partnerships between horticulture agents and Clemson's *Carolina Clear* program, which works with communities to deliver regional, strategic stormwater education and public involvement programming. Although all began as *Yards and Neighborhoods* programs modeled from the one at University of Florida, they each have grown in unique ways based on resources, clientele needs and interests, policy support, and other factors. By comparing these three programs, other states may gain insight as to how this program could best be delivered in their states and territories.

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2. Tatiana Borisova, assistant professor and Extension specialist, Food and Resource Economics Department; Katie Giacalone, statewide coordinator, Carolina Clear Program, Clemson University; Ruth Anne Hanahan, senior research associate, Water Resources Research Center, University of Tennessee; and Esen Momol, director, Florida-Friendly Landscaping[™], UF/IFAS Extension, Gainesville, FL 32611.

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Outreach Programs Targeting

Residential Landscaping Practices

Several programs have been developed to encourage environmentally friendly landscaping practices and are being promoted by different agencies and organizations (Table 1). Although these programs are developed for different geographical regions (Southern, Northeastern, and Western United States), they promote a similar set of core landscaping principles:

1. Planning and designing landscapes to meet homeowners' recreational, functional, and aesthetic needs, which often translates into decreasing areas covered with turf, while increasing the use of trees and bushes
2. Using plants with low-water requirements, preferably native plants
3. Designing efficient irrigation
4. Using mulch for moisture retention and weed management

The programs can also include additional principles, such as proper landscape maintenance (e.g., proper fertilizing, mowing, weeding, and pruning); holistic pest management; wildlife habitat creation; stormwater runoff reduction; composting; lawn aeration; water recycling; and proper waterfront management. Homeowners who follow the landscaping principles promoted by the programs can benefit from reduced costs and time requirements for landscape maintenance; improved landscape aesthetics and functionality; reduced environmental impacts (such as water use and stormwater runoff); and reduced exposure to potentially harmful chemicals (such as pesticides). The *Yards and Neighborhoods* program is one of the most comprehensive educational programs promoting environmentally friendly residential landscaping practices (discussed in detail in the tables).

Yards and Neighborhoods Programs in Florida, South Carolina, and Tennessee

A summary of *Yards and Neighborhoods* programs in Florida, South Carolina, and Tennessee is presented in Table 2. The *primary target audiences* for the three programs are individual homeowners and homeowner associations. In addition, *Florida-Friendly Landscaping™* (FFL) has two special components targeting builders/developers

and green industry professionals. Instead of promoting a “prescribed” design for the homeowner yard, the programs use a flexible approach and encourage implementation of *nine core landscaping principles*:

1. Right Plant, Right Place
2. Water Efficiently
3. Fertilize Appropriately
4. Mulch
5. Attract Wildlife
6. Manage Yard Pests Responsibly
7. Recycle Yard Waste (note that in Tennessee, this principle is substituted with “Manage Turfgrass Appropriately”)
8. Reduce Stormwater Runoff
9. Protect the Waterfront

The programs in the three states rely on similar *educational methods* to reach their target audiences. All three programs offer a yard recognition program to homeowners implementing *Yard and Neighborhoods* practices; however, the requirements for receiving the recognition certificate are slightly different among the programs. Furthermore, the programs in all three states have demonstration sites that educate homeowners about the nine core landscaping principles. In addition, program faculty and staff conduct workshops and training programs. An extensive library of resources for each program is available online.

In the three states, the programs *partner* with state and local government agencies. Particularly, FFL is referenced in Florida Senate Bill 2080 (2009), which mandates that homeowner association (HOA) covenants, deed restrictions, and local government ordinances may not prohibit or be enforced so as to prohibit any property owner from implementing FFL practices. Support from local government agencies is linked to the ability of the local government to use some features of the program to meet educational program requirements in their water pollution permits as part of the Municipal Separate Storm Sewer Systems, or MS4, program.

The programs' *effectiveness* in educating individual homeowners are measured through a set of indicators: (a) funding received by the programs and the partnerships established; (b) number of workshops conducted and

participant attendance; (c) educational materials developed and distributed; (d) case studies with documented behavioral changes of target audience; and (e) a collection of “success stories” or the results of program implementation for individual yards or homeowner association properties for which water and/or landscape chemical use reductions are documented. An example of such success stories is the one provided by FFL. After delivering a series of FFL classes, the *Village Las Palmas* community, one of the three villages in Ocean Gallery (St. Johns County, Florida), decided to decrease irrigation costs and save water for common areas. They applied low-volume irrigation principles, installed soil moisture sensors, and replaced difficult-to-maintain turf grass areas with low-water and low-maintenance groundcovers. Savings attributed to the program include 10 million gallons of water in 2.5 years, and \$6,500 that would otherwise be spent on landscape maintenance. Other success stories from the three states can be found by following the links provided in Table 2.

In the three states, the program’s **challenges** include:

1. Development of strategies to increase participation in workshops, as well as the level of adoption of landscaping practices by the homeowners
2. Limited extension personnel and limited funding for the programs
3. Difficulties associated with coordinating *Yards and Neighborhoods* programs across different counties, and coordinating *Yards and Neighborhoods* with other programs implemented by cooperative extension services (i.e., making sure that a consistent message is delivered to the homeowners)
4. Tracking system for the implementation of *Yards and Neighborhoods* practices and consistent evaluations of the outcomes associated with implementation of the program’s core landscaping principles. This specifically includes quantifying the economic costs and benefits resulting from the use of *Yards and Neighborhoods* practices, understanding the reasons for the variation in these costs and benefits among homeowners’ properties and communities, and developing strategies to measure the impact of the program on local, regional, and state levels.

Conclusions

This paper presents a summary of *Yards and Neighborhoods* programs in Florida, South Carolina, and Tennessee in a convenient table format, to be used as a quick reference guide to the similarities and differences among the *Yards and Neighborhoods* programs implemented in these three southeastern states.

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Table 1. Examples of environmentally-friendly residential landscape management programs

Program Characteristics	Yards and Neighborhoods	GreenScapes	BayScaping	Xeriscaping/Water-wise landscaping	Natural Landscaping
Organization	Developed by University of Florida; used in Alabama (30), Kansas (3), Louisiana (4), North Carolina (5), South Carolina (6), and Tennessee (7)	US EPA (8)	Alliance for the Chesapeake Bay and the US Fish and Wildlife Service, Chesapeake Bay Field Office (9)	Initiated in Colorado, currently available in many states, including Alabama (10), Arizona (11), Georgia (12), New Mexico (13,14), North Carolina (15), South Carolina (16), Texas (17), and Virginia (18)	US EPA—Great Lakes office (“GreenAcres” website) (19,20)
Geographical Region	See above	Nationwide	Chesapeake Bay	See above	Great Lakes
	Low-cost, low-maintenance, attractive landscapes that add value to communities, conserve water and natural resources, and reduce the chance of polluting the water supply (21)	Cost savings Waste reduction Reduction of environmental impacts Water conservation Energy savings Climate impact Reduced exposure to potentially harmful chemicals Improved aesthetics Improved public perception of business Knowledge that you are making a difference and protecting environment (22)	Wildlife Water quality and quantity Air quality Reduced time and cost for the gardener (23)	Attractive, comfortable landscapes Reduce water and maintenance costs by up to 60% Increase property value (by as much as 15%) Help extend water supplies Drought-proof landscapes that do not suffer from water use restrictions (24)	<i>Economic:</i> Reduced cost of installation and maintenance Reduced expense for stormwater management facilities Distinctive community image, strengthened real estate market Support green industry <i>Environmental:</i> Reduced soil erosion Improved water quality Reduced air / noise pollution Climatologic benefits Reduced greenhouse effect Habitat restoration Beautification <i>Educational and Recreational Benefits</i> (19)

Main Principles	<p>Right plant, right place</p> <p>Water efficiently</p> <p>Fertilize appropriately</p> <p>Mulch</p> <p>Attract wildlife</p> <p>Manage yard pests responsibly</p> <p>Recycle yard waste</p> <p>Reduce stormwater runoff</p> <p>Protect the waterfront</p>	<p>Right plant for your site</p> <p>Practice smart watering</p> <p>Build and maintain healthy soil with compost and mulch</p> <p>Adopt a holistic approach to pest management</p> <p>Practice natural lawn care (26)</p>	<p>Plant selection(native and drought tolerant plants; emulate a natural area)</p> <p>Water efficiently</p> <p>Mulch</p> <p>Provide water for wildlife</p> <p>Control water runoff</p> <p>Reduce areas in lawn grass</p> <p>Practice lawn aeration</p> <p>Recycle water (27,28)</p>	<p>Plan and design</p> <p>Create practical turf areas</p> <p>Select low water plants</p> <p>Use soil amendments</p> <p>Use mulches</p> <p>Irrigate efficiently</p> <p>Maintain the landscape properly (29)</p>	<p>Use native plants</p> <p>Use more vegetation and less concrete and asphalt</p> <p>Retrofit areas for more natural stormwater detention (19)</p>
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Table 2. Summary of *Yards and Neighborhoods* programs in Florida, South Carolina, and Tennessee (several pages)

	Florida-Friendly Landscaping™ (FFL) [University of Florida, Gainesville, FL]	Carolina Yards and Neighborhoods (CYN) [Clemson University, Clemson, SC]**	Tennessee yards & Neighborhoods (TYN) [University of Tennessee-led, Knoxville, TN]
Mission	Help communities meet their sustainable landscaping needs while also helping to conserve and protect water resources		
Goal	Low-cost, low-maintenance, attractive landscapes that add value to communities; conserve water and natural resources; and reduce the chance of polluting the water supply		
Program History	Initiated in 1994 52 participating counties	Initiated in 2002 Based on <i>Yards & Neighborhoods</i> programs in Florida Originally, all 46 counties received information; estimated 11 counties currently active	Initiated in 2007 as a 3-year pilot Based on <i>Yards & Neighborhoods</i> programs in North Carolina and Florida Founding partners: TN Water Resources Research Center, University of Tennessee Extension, Tennessee Valley Authority 7 county Extension offices in partnership with 12 community stormwater programs (MS4s)
Targeted Audience	Individual homeowners and homeowner associations Builders/developers Green industry professionals	Individual homeowners, neighborhoods Property managers	Individual homeowners and homeowner associations (Future) builders/developers (Future) green industry professionals
Nine Principles for Homeowners	Right plant, right place Water efficiently Fertilize appropriately Mulch Attract Wildlife Manage yard pests responsibly Recycle yard waste Reduce stormwater runoff Protect the waterfront	Right plant, right place Water efficiently Fertilizing Mulch Wildlife Managing yard pests Recycle yard waste Stormwater runoff On the waterfront	Right plant, right place Water efficiently Use fertilizer appropriately Manage soils and mulch Provide for wildlife Manage yard pests Manage turfgrass appropriately Reduce stormwater runoff and its pollutants Protect water's edge
Outreach Materials and Methods	Yard recognition checklist and program for homeowners, homeowner associations, and developers recognition levels for homeowners are based on points collected in Yard recognition checklists: <i>Standard</i> (50–52 points) and <i>Gold</i> (75–77 points) Individual consultations for homeowners by extension agents/master gardeners Demonstration sites Online materials: publications videos, narrated presentations photo gallery success stories interactive websites monthly e-newsletters Publications and leaflets Workshops, training, and certification program	Yardstick workbook/yard recognition program (for homeowners) Individual consultations for homeowners (by extension agents with horticulture responsibilities; master gardeners) Demonstration sites and photo gallery Online Home and Garden Information Center: publications videos narrated presentations Publications and leaflets Training and presentations	Yardstick workbook The TYN “Giraffe” yardstick—a yard-long document depicting TYN actions—designed for participants to track and reinforce their progress Homeowner Yard Recognition program based on the implementation of TYN actions (36 inches = Tennessee Yard Done Right) Individual consultations for homeowners (by extension agents / master gardeners) Demonstration sites Online materials: success stories publications resources (TN and other states) Workshops for homeowners

	Florida-Friendly Landscaping™ (FFL) [University of Florida, Gainesville, FL]	Carolina Yards and Neighborhoods (CYN) [Clemson University, Clemson, SC]**	Tennessee yards & Neighborhoods (TYN) [University of Tennessee-led, Knoxville, TN]
Collaboration with Local and State Agencies	<p>Partially funded by United States Environmental Protection Agency, Clean Water Act, Section 319, Nonpoint Source Management Program (administered by Florida Department of Environmental Protection)</p> <p>Partial funding from local water utilities</p> <p>Supported by state legislature</p> <p>Promoted by Florida Department of Environmental Protection and the five Florida Water Management Districts</p> <p>FFL™ program supports local watering restrictions</p> <p>Model ordinance for Florida-Friendly fertilizer use or urban landscapes</p>	<p>Currently, CYN is a partnership between horticulture agents and natural resource agents. Program growth is spearheaded by partners and <i>Carolina Clear</i> program, which works with MS4 communities to educate and involve general public in stormwater management</p> <p><i>Carolina Clear</i>: (1) includes education providers, universities, and city and county governments who work together to identify stormwater education and outreach needs within their community, then develop and implement a strategy to successfully meet those needs as they relate to stormwater education and watershed awareness and (2) has the following goals—</p> <ul style="list-style-type: none"> maximizing efficiency of stormwater education by using a regional/watershed approach; helping local MS4s meet NPDES Phase II permit requirements for public stormwater education and outreach; and creating a model for collaborative stormwater education that can be presented and applied throughout the state of South Carolina and beyond. <p>South Carolina Department of Health and Environmental Control and South Carolina Nursery and Landscape Association are involved in adapting <i>Florida Yards and Neighborhoods</i> program and in CYN Workbook distribution</p>	<p>Partially funded by the United States Environmental Protection Agency, Clean Water Act, Section 319, Nonpoint Source Management Program (administered by Tennessee Department of Agriculture)</p> <p>On the state level—collaborating agencies include University of Tennessee Extension</p> <p>University of Tennessee Institute for a Secure and Sustainable Environment / TN Water Resources Research Agency, and Tennessee Valley Authority</p> <p>Statewide Advisory Board comprised of federal, state, local agencies, NGOs, trade associations, utilities, and private sector</p> <p>On the local level—implemented by county extension offices and MS4s</p>

	Florida-Friendly Landscaping™ (FFL) [University of Florida, Gainesville, FL]	Carolina Yards and Neighborhoods (CYN) [Clemson University, Clemson, SC]**	Tennessee yards & Neighborhoods (TYN) [University of Tennessee-led, Knoxville, TN]
Measuring Success	Funding received and partnerships established Number of participating county extension offices Number of people trained Educational materials developed and distributed A few case studies with documented behavioral changes of target audience Several “success stories” with documented water/landscape chemical use reduction References to the program in other states	Number of workshops conducted and participant attendance Presentations made and educational materials developed and distributed Survey of public knowledge and awareness (<i>Carolina Clear</i> program) Partnerships established (<i>Carolina Clear</i> program) Interest and attendance at demonstration sites	Funding received and partnerships established Number of workshops conducted and participant attendance Pilot evaluation of (1) quality of TYN training materials, (2) effectiveness of workshop delivery system, (3) TYN participants’ behavioral changes, and (4) application of home / neighborhood low impact development (LID) strategies Documented participant “success stories”
Challenges	Coordination and administration of the program Education materials distributed in participating counties need to be consistent and updated	Cross-program coordination Tracking Consistent evaluations Funding Time and personnel	Workshop participation Funding Expansion strategies, including providing trainers with sufficient training and resources Bring in new local TYN coordinators with “full plates”
Other Programs	Florida’s five Water Management Districts (WMD) can develop materials and programs supplemental to FFL™ but linked to FFL™ (e.g., “Florida-Friendly Irrigating” by Southwest WMD) Florida-Friendly Landscaping™ plus indoor water conservation component Master Gardener program	As part of <i>Carolina Clear</i> , each regional consortium develops own stormwater educational program (not always linked to CYN) to meet local needs A variety of publications describing various environmentally friendly landscaping techniques in online “Home and Garden Information Center” Master Gardener program	Master Gardener program designed for participants to education the public on landscaping practices University of Tennessee Gardens that provides year-round landscaping-related workshops for the public A variety of “Home, Garden, and Landscape” publications Ad hoc landscaping workshops for green industry professionals

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Web Links	Main Page http://fyn.ifas.ufl.edu For Homeowners Yard Recognition Checklist Interactive Yard Florida-Friendly Living Community Associations and Property Managers Building and Development Green Industry Success Stories Builder & Developer Program Success Stories Landscape Professionals	Main Page: http://www.clemson.edu/cyn CYN Workbook Home and Garden Information Center Carolina Clear Clemson Master Gardener	Main Page: https://ag.tennessee.edu/tnyards TYN Workbook Educational Materials Success Stories
<p>*The Mission for each program is to <i>Help communities meet their sustainable landscaping needs while also helping to conserve and protect water resources; Goals include Low-cost, low-maintenance, attractive landscapes that add value to communities; conserve water and natural resources; and reduce the chance of polluting the water supply.</i></p> <p>**The Carolina Yard & Neighborhood (CYN) program was adapted from the University of Florida program for both South Carolina and North Carolina. CYN is run independently in each state. In North Carolina, the North Carolina State University (NCSU) coordinates CYN.</p>			