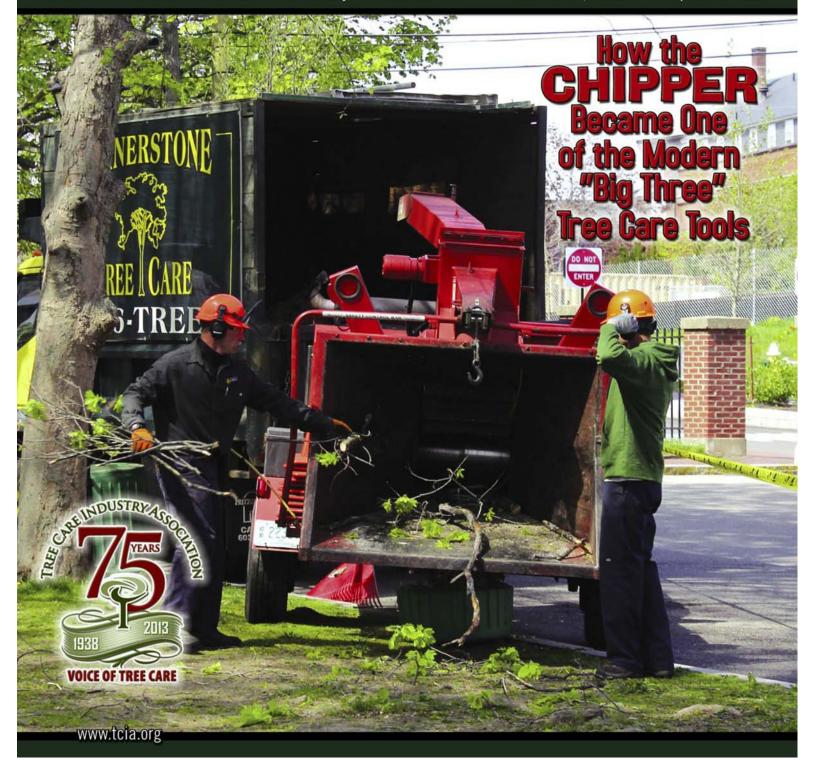
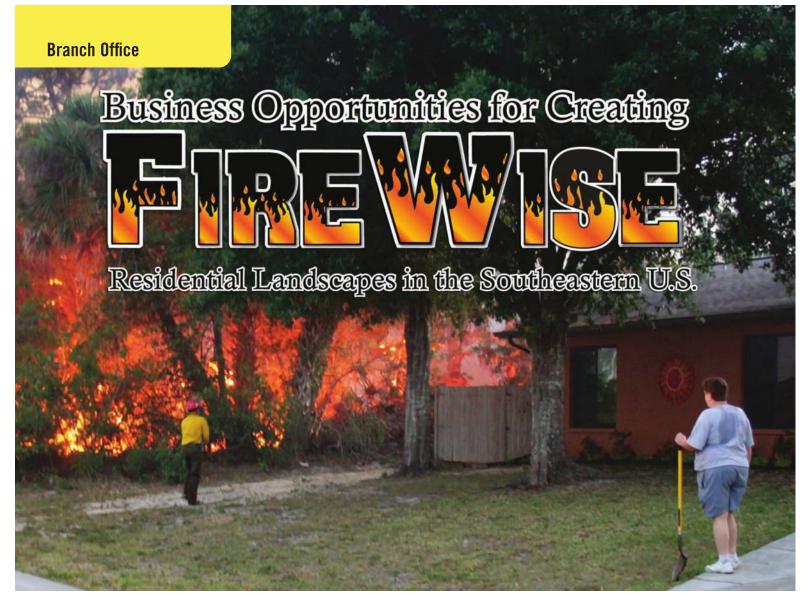
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This homeowner, with shovel in hand, could only watch as firefighters battled this blaze right next to his Florida home. Photo by lionpro2006@flickr.com

By Eric Wiseman

he wildland-urban interface (WUI) is the landscape where human development merges with outlying natural ecosystems. In the southeastern U.S., the WUI is growing larger as land development expands to accommodate an influx of residents from other regions of the country and beyond. The predominant natural ecosystem in the southeastern U.S. is forestland. As such, the southern WUI is typified by developments surrounded by and immersed in forests. While retaining a forested character in these developed lands is desirable from an ecological and amenity standpoint, there are several potential risks that exist when forests and people are in close proximity.

One of the greatest risks that communi-

ties face is forestland wildfire. While wildfires can be unpredictable and devastating, there are numerous practices that can be utilized to minimize the risk. Chief among these practices is managing trees and remnant forests in developed landscapes. In this article, I will briefly discuss the basic concepts of wildfire threats to developed landscapes and the opportunities for arborists and commercial tree care companies to expand their businesses by helping clients safeguard their properties against wildfire.

Wildfires erupt when there is an ignition source, combustible materials, and conducive environmental conditions. In the southeastern U.S., a common cause of wildfire is dry lightning – that is, lightning in the absence of precipitation – but other accidental and intentional causes are

numerous. Combustible materials include built structures, live vegetation, and coarse woody debris. The type, amount, density, and proximity of vegetation and debris are major determinants of how easily the material will ignite, burn, and spread to adjacent areas. Intuitively, wildfires are most likely to ignite and spread uncontrollably under conditions of prolonged drought, low humidity, and high winds. The prevailing topography and connectivity of the forestlands can also dictate the intensity of wildfire spread. Steep terrain and expansive tracks of forestland unbroken by roads or other open spaces contribute to wildfire spreading quickly and uncontrollably.

Although a comprehensive wildfire suppression strategy requires addressing all three of the above factors, arborists and tree care companies are most qualified to plan and manage the vegetation and coarse woody debris component. With that said, arborists may need additional training or self-education on wildfire management to thoroughly understand the principles and practices of safeguarding dwellings and other property against wildfire.

There are numerous resources that arborists can use for their education on wildfire. One of the best is Firewise Communities (www.firewise.org), which is a nationwide program lead by the National Fire Protection Association and co-sponsored by the USDA Forest Service, the U.S. Department of the Interior, and the National Association of State Foresters. Another good resource is the Fire Adapted Communities Coalition (www.fireadapted.org). Its mission is to help people and communities in the WUI adapt to living with wildfire and reduce their risk for damage, without compromising firefighter or civilian safety. The websites of both of these organizations have numerous news stories, informational resources, and announcements about upcoming workshops and webinars.

Before discussing the services that an arborist or tree care company might offer in the realm of landscape wildfire defense, some business and liability considerations are worth briefly mentioning. As alluded to in the previous paragraph, an arborist will likely require some additional education, training, or certification to become qualified to provide wildfire suppression services. This will obviously require an investment of time and money. Moreover, specialized equipment may need to be purchased or production employees may require specific training to provide services. These investments must obviously be made with a positive notion that there will be a return on the investment through new business opportunities. Thus a company should carefully consider the demand and prevailing market price of wildfire suppression services within their operating area. Preliminary market research might be possible through discussions with existing clients, state agency foresters, local extension agents, municipal emergency planning officials, or companies that insure homes and other real estate.

Finally, arborists should be aware of any

liabilities that they may expose themselves to in providing services that might be outside the scope of their routine arboriculture business. A discussion with a lawyer and/or insurance agent might help clarify how service contracts should be written and/or whether additional insurance is needed to minimize liability in the event of a destructive wildfire on a client's property.

There are two main areas where arborists or tree care companies might develop their service line for landscape wildfire defense: planning the landscape and maintaining the landscape. As the WUI expands, development typically creeps into forestlands. In many cases, land owners and developers retain native trees and forest stands on parcels because it increases the curb appeal of the properties. However, in wildfire prone areas, poor choices on tree and stand retention could possibly elevate the wildfire risk on developed parcels. This is an opportunity for arborists.

Acting as a consultant, an arborist might work with land owners and developers to identify trees and delineate stands that are suitable for preservation and flag others for culling that represent a wildfire risk. At the individual tree level, this might entail identifying trees that are highly flammable species or that are situated too close to



All this Palm Bay, Florida, police officer could do was to direct the traffic by this blaze that took only seconds to ignite. Photo by lionpro2006@flickr.com

dwellings or other buildings and could spark a structure fire if they were engulfed by an encroaching wildfire. At the stand level, the arborist might help identify risk factors such as high stem density, pure stands of flammable species, accumulation of standing dead trees or fallen woody debris due to weather or pests or historical



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A helicopter works a hot spot on the Deep Fire at Florida Panther NWR in 2009. Photo by Josh O'Connor - USFWS.

fire suppression, and stands on dry or steep ridges. In these cases, the arborist might help the land owner choose a location for construction away from high-risk stands or might recommend fuel-reduction practices in high-risk stands. Apart from the existing forest, the arborist might also assist the land owner with designing what is known as a "firewise" landscape. The main tenants of these designs are selecting appropriate woody plant species, situating them carefully in



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the landscape, and utilizing appropriate landscape groundcovers. Assisting with land development planning for wildfire defense can be done at multiple scales, from an individual parcel to an entire community. However, these plans are generally most effective when they are developed at a larger scale, so arborists should seek to work with developers designing entire subdivisions or commercial parks.

There are many existing developments in the WUI that were not designed with wildfire defense in mind. Thus arborists may be called upon to maintain trees and forests around existing homes at risk of wildfire. Even in these cases, a vegetation and fuel maintenance plan should be written to prioritize and implement services through time. Services that might be included in this plan are removing excessive trees to create defensible space around structures, pruning trees back that overhang structures, clearing excessive underbrush, thinning forest stands to remove dead trees and create canopy gaps, and chipping downed woody debris. The arborist might also monitor forest stands periodically for invasive pests that could kill trees and lead to an accumulation of fuel wood.

Continued population growth in the southern WUI will put more people and property at wildfire risk. Although the presence of trees and forests increase the risk of wildfire, there are many effective practices that can be used in planning and maintaining vegetation such that forests can be enjoyed while not creating an undue hazard. If the frequency and severity of forestland fires continues to grow, there may be new opportunities for arborists and tree care companies to likewise grow their business and to help keep this serious threat in check.

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