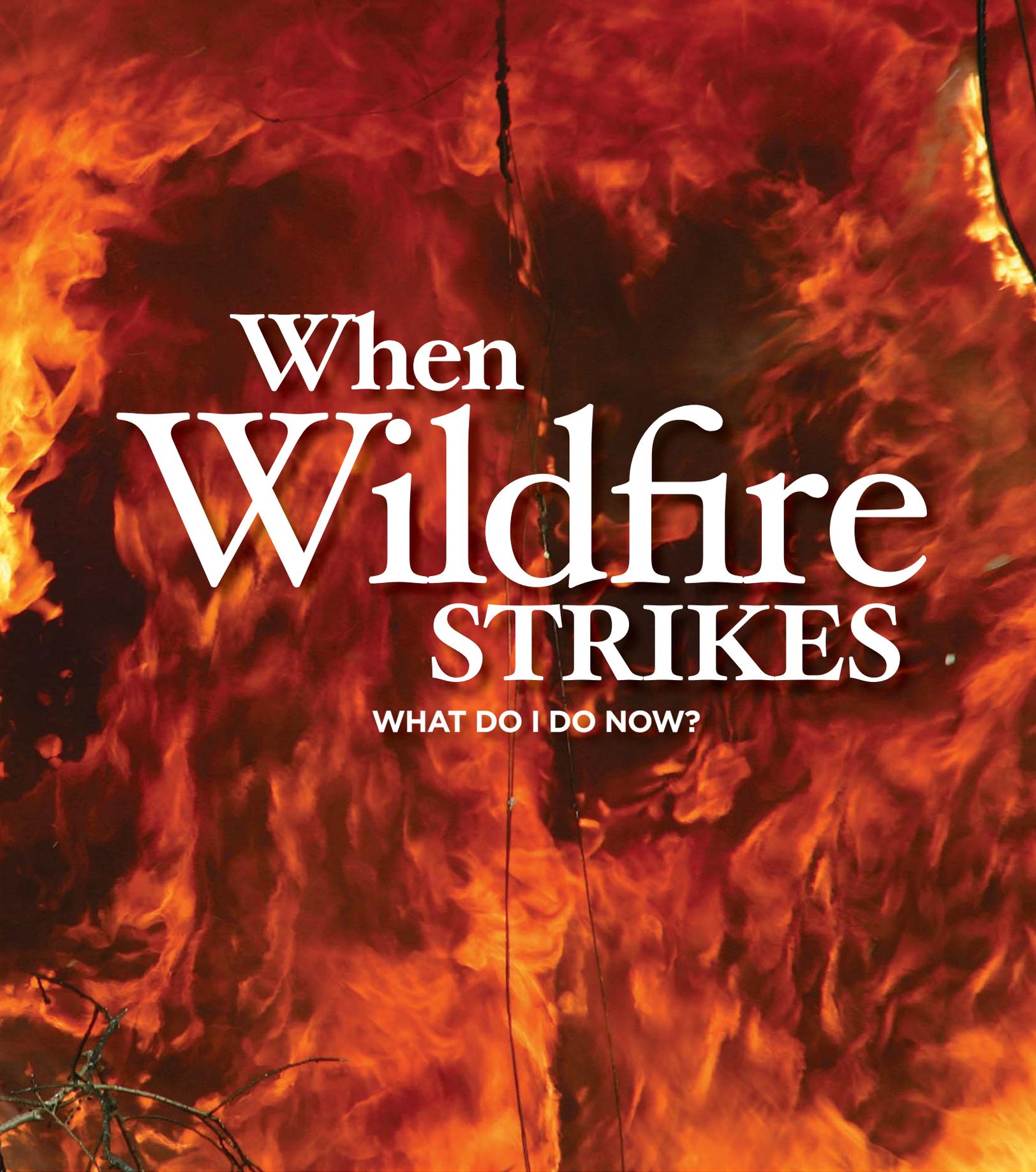




BY: ALAN LONG, JAMES JOHNSON AND MICHAEL WETZEL



When Wildfire STRIKES

WHAT DO I DO NOW?

Periodic natural disasters are almost inevitable in the South—from wildfires and floods in spring to hurricanes in summer and ice storms in winter. Each disaster presents a unique set of challenges for landowners.



ASSESSING THE DAMAGE

AFTER A FIRE, IT PAYS TO KEEP PERSPECTIVE AND KNOW THE FACTS. VEGETATION IN THE SOUTH IS GENERALLY ADAPTED TO FIRE — IT HAS BEEN A NATURAL PROCESS FOR THOUSANDS OF YEARS. THE FIRST THING TO RECOGNIZE WHEN YOU LOOK ACROSS THAT BLACKENED LANDSCAPE IS THAT MOST OF WHAT WAS GROWING BEFORE WILL VERY SOON BE GROWING AGAIN. UNDERSTORY SHRUBS, GRASSES, HERBS, AND EVEN MOST YOUNG HARDWOOD TREES HAVE A REMARKABLE ABILITY TO RESPROUT FROM ROOTS AND STEMS. LARGE DIAMETER AND OLDER HARDWOOD TREES WILL SURVIVE IF THE BARK IS THICK ENOUGH TO PROTECT THE GROWING CAMBIUM INSIDE THE BARK. MANY HARDWOOD SPECIES, THOUGH, DO NOT HAVE THICK BARK WHICH LEADS TO STEM MORTALITY. OTHER HARDWOOD TREES MAY SURVIVE THE FIRE BUT WITH RESULTING STEM SCARS THAT ALLOW INSECTS AND DISEASE TO TAKE HOLD AND DEGRADE TREE QUALITY AND VIGOR.



Response of pine trees to fire is also variable, depending on species, tree age, season burned, and fire intensity. Although fire temperatures may scorch (brown up) all needles on mature, and even younger, longleaf, slash, and shortleaf pine trees, timing significantly impacts tree response. If the buds or growth tissue at the end of the branches are undamaged, otherwise healthy trees should survive if the fire occurs in winter to late spring; the buds at the end of the branches will generally flush out a new set of needles, and the trees will look relatively normal in another year. Fires occurring in summer or fall are problematic because higher average temperatures during this time of year lead to more fire-related

damage to needles, stems, and roots. If needles are consumed or scorched then the trees must endure the winter without any needles, and many may die. More information on specific tree sizes and fire mortality are available in the Fire Effects Information System (<http://www.fs.fed.us/database/feis/plants/tree/index.html>).

The Georgia Forestry Commission offers detailed information about assessing forest conditions after a fire on its website at (<http://www.gfc.state.ga.us/ForestManagement/PostFireTimberAssessment.cfm>).

Although assessment of your timber is first priority, post-fire is also a good time to evaluate other features that might have



been damaged: fences and gates, animal feeders, boundary and other posted signs, trail markers, fire lines, and structures.

MARKETING YOUR BURNED TIMBER

If your timber assessment indicates you will be left with dead trees, it is a good time to contact a consulting forester or your local state forestry representative, unless you have traditionally marketed the wood yourself. A consultant is very familiar with current markets for timber of different sizes and conditions and can be particularly useful in helping you estimate salvage timber value and finding a timber buyer and logging contractor. When landscape-level wildfires strike, a glut of timber always comes to the market in a short period of time. Enlisting a consulting forester's assistance is frequently a private landowner's best strategy to get timber salvaged for the highest possible price. If the fire burned across property boundaries, which is typical, your neighbors may have suffered similar losses and a consultant can help you develop a combined sale which may provide higher sale values because of economies of scale. A combined sale is

especially helpful for forest owners with small woodlots or wildland-urban interface property.

A critical consideration in planning a salvage of fire-killed trees is how much to harvest. In a stand with only small pockets of fire-killed trees there is no need to clearcut. Carefully evaluate how much of your stand needs to be removed and how much can be retained for continued growth and value accumulation. If crowns have been consumed and it is apparent that most trees were killed by the fire then immediate salvage will be needed and a clearcut may be your only option.

Whether you are able to salvage fire-damaged timber at full value or have to take a monetary loss, tax issues must be considered and may provide some small benefit in case of a casualty loss. Because of their complexity and dependence on individual situations, particular tax strategies are not covered here. Remember that dealing with taxes requires good records on what you already have invested in your stands up to the time of the wildfire, as well as an appraisal of your fire-caused timber loss. Even if you are only dealing with a few rural acres or several large trees on a wildland-urban interface lot, it may



be worth seeking outside help. Definitely seek the assistance of consultants and tax specialists for larger acreages. Helpful resources are available on the National Timber Tax Website (<http://www.timbertax.org/>), including an annually updated circular on income tax deductions for timber casualty losses.

ASSESSING LONG-TERM FOREST HEALTH

Although your trees may survive the fire, it is possible they have become vulnerable to longer-term health problems. The most critical of these are insects, especially bark beetles, and soil heating that kills roots. Even with only a small portion of the crown scorched, an already drought stressed tree may attract nearby bark beetles. Once bark beetles attack stressed trees, additional mortality can be expected in other surviving trees during the next one to three years. If you can verify that bark beetles are already in the surviving trees at the time of salvage harvesting, cut them as well. Your consultant or county forester should be able to identify the particular bark beetles that are present and differentiate between those that can spread

rapidly from one tree to another versus those that may only be a problem in a few trees.

If your assessment indicated that root damage occurred on a few scattered trees as a result of consumption of duff and soil organic matter, you might simply leave those trees alone. However if it is characteristic of a large number of trees, consider including them in your harvest plans rather than waiting for them to die over the next few years.

PLANNING FOR REGENERATION

If your trees are too young or too small to be merchantable, a decision about what to do with them depends on how widespread the damage is throughout the plantation and how close they are to being merchantable. Scattered dead trees can be left alone if the majority of the trees still have green needles and look like they will survive. If at least 100-200 trees per acre will remain and they are reasonably well spaced across the plantation, then you might want to let them continue growing and not replace the whole plantation. If fewer than that, and if the trees



are not uniformly spaced, it will probably be necessary to start over with site preparation and planting.

SITE REHABILITATION

If your property has considerable slopes, one other consideration will be taking steps to minimize erosion after the fire, especially in fire lines that run up and down slopes. Water bars, turnouts, or other water diversions should be constructed in the fire lines, following your state Best Management Practices. Rapid greenup on most slopes will reduce the likelihood of surface erosion between fire lines and roads, unless you have areas that were not

well vegetated before the fire (such as gullies and drainages). In such cases, contact your local NRCS office for assistance with planning treatment alternatives (<http://offices.sc.egov.usda.gov/locator/app?agency=nrscs>) or refer to the Burned Area Emergency Response Treatments Catalog developed by the US Forest Service (Napper 2006).

MANAGING SO IT DOESN'T HAPPEN AGAIN

With the rapid regrowth of understory plants common to the South, your forest could be at risk of another fire within a few years. You can use the recent wildfire as a starting point for

reducing that risk. A new plantation with high density spacing will be vulnerable to fire in its early years, but as it grows older the trees shade out the understory, greatly reducing the fire risk. After initial crown closure, thinning several times will reduce tree density and improve stand quality. Thinning followed by fuel treatments, such as herbicide applications, mowing, or regular prescribed burning, will maintain fire risk at low levels. Check with your state forestry agency to determine if there are any cost-sharing programs for fuel treatments.

Regular prescribed burning in surviving stands is perhaps the most important wildfire prevention tool you can use because it prevents fuel buildup, promotes succulent understory growth for wildlife habitat, and is generally low cost compared to mechanical or herbicide fuel treatments. Prescribed burns must be conducted carefully and state guidelines must be followed to ensure they don't become the next wildfire or create smoke problems for your neighbor! Prescribed burn requirements for each state can be accessed through the Southern Fire Exchange (<http://www.southernfireexchange.org/BurnPlanning/permits.html>).

Maintain clean, disked fire lines around your property and stand boundaries for protection from low to moderate intensity wildfires. Combining fire lines with other fuel treatments in the forest stands adjacent to the lines adds an extra line of defense

and access for fire suppression crews. These "fuel breaks" in existing forests may not stop an active fire, but they can slow down a low or moderate intensity wildfire.

SOME OTHER HELPFUL RESOURCES

Glasgow, S and T Bidwell. Management after wildfire. Oklahoma State Cooperative Extension Service Fact Sheet NREM-288I. 4 p.

Wade, DD and JD Lunsford. 1989. Guide for prescribed fire in southern forests. USDA Forest Service Technical Publication R8-TP11. 57 p.

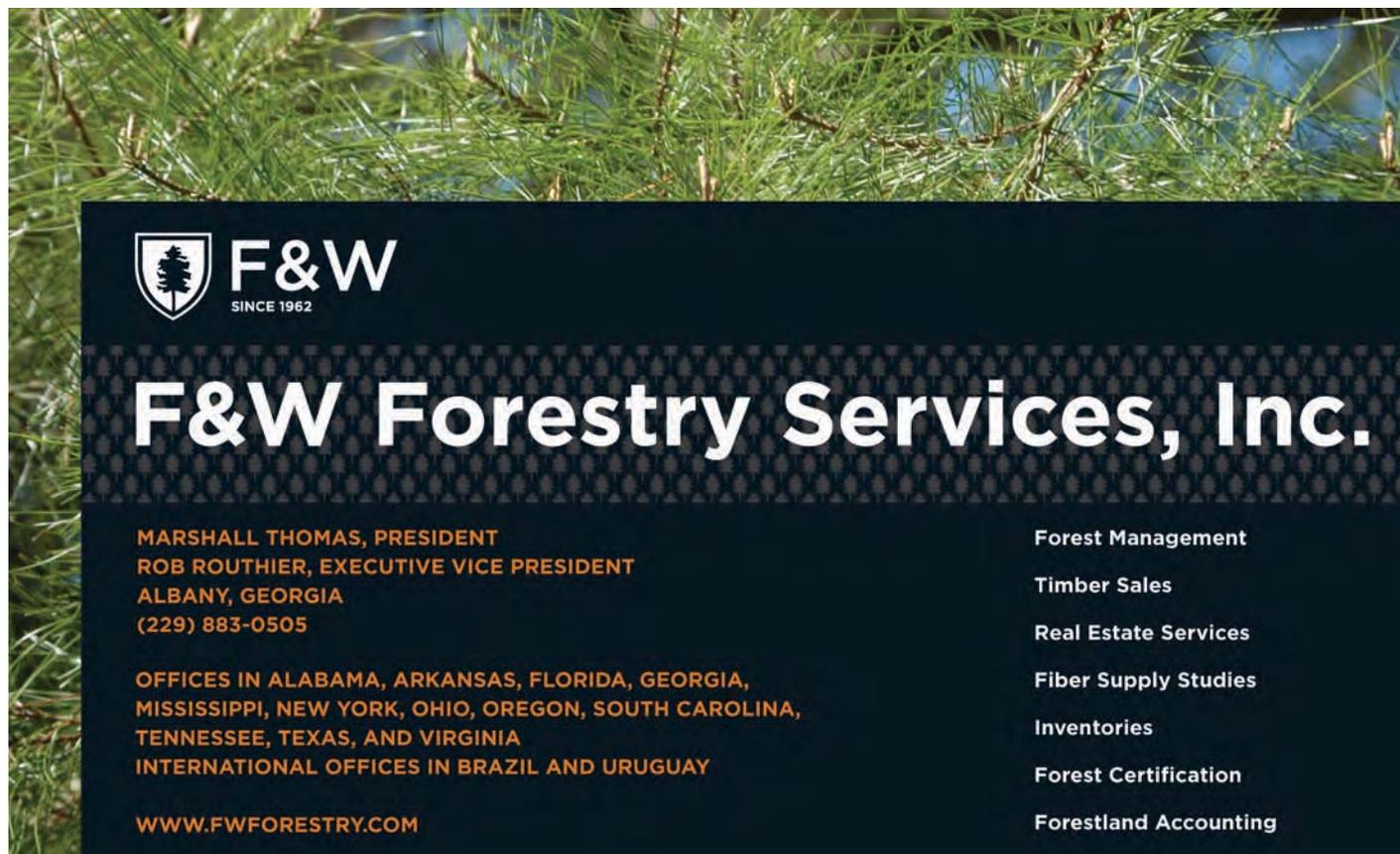
Napper, C. 2006. Burned Area Emergency Response treatments catalog. USDA Forest Service Watershed, Soil, Air Management 0625 1801—SDTDC. 254 p. (http://www.fs.fed.us/eng/pubs/pdf/BAERCAT/lo_res/lo_res.shtml)

Authors:

Alan Long, Administrative Director, Southern Fire Exchange

James Johnson, Forest Management Chief, Georgia Forestry Commission

Michael Wetzel, Consulting Forester, Richardson, Bell, McLeod & Wetzel



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