The Florida Forest Steward

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225 fires impacted private lands in 2007, photo by Dale Wade, Rx Fire Doctor, Bugwood.org.

Lessons from the 2007 Wildfire Season – Reduce Damage, Prevent Future Wildfires and Protect Your Property

Between January 1 and June 7, 2007, 2,731 wildfires burned 305,347 acres in Florida. Approximately 182,787 of those acres (225 wildfires) were on public land and 122,560 (2,506 wildfires) on private land. 534 structures (homes, businesses or outbuildings) were damaged or destroyed. 2,208 structures were saved by firefighters.

For those with property affected by these fires, the information in this article is intended to help you evaluate fire damage in your forest stands and decide what actions may be necessary and minimize your risk of future damage. The tips for wildfire prevention and protecting your home and property below should be helpful to all readers.

If You Burn it They Will Come – Prevent Insect Damage

Insect activity is a normal part of the forest system so we expect to see insects responding to a damaging fire, but we can take some

actions to prevent significant losses of timber from insect damage. Several factors influence the buildup of insect populations after wildfires: the severity of fire damage to trees, the rate at which trees recover and the removal of damaged trees.

Evaluate tree damage

Identification of dead, dying and stressed trees will be important for salvaging heavily damaged stands but keep in mind that readily visible fire damage may be misleading. Pines can recover from significant crown scorch if the roots, trunk, and buds in the crown are uninjured. By the same token, pines with full, green crowns may die if significant portions of their roots and bark were destroyed by fire. If the food and water transport system beneath the bark (cambium) is severely damaged the tree will likely die. Evidence of any one of the following factors indicates a dead, dying, or severely stressed tree:

- Bark is charred on more than 75% of stem height.
- No green needles are present in the crown two months following the fire.
- Resin "weeping" or "bleeding" occurs around the entire circumference of the tree.
- Any sign of ambrosia, wood-boring or bark beetles is observed on or around the trunk. See http://www.fl-dof.com/forest_management/fh_index.html for information about these insects and detecting them. Your DOF County Forester can help you evaluate possible insect problems. Find your county forester here: http://www.fl-dof.com/field_operations/county_foresters/index.html

Any combination of two or more of the following factors also indicates a dead, dying, or severely stressed tree:

- Bark is charred on more than 50% of stem height.
- Resin "bleeding" occurs on more than 25% of trunk circumference.
- All organic matter (needles, duff, humus) is absent at the tree's base, creating a sunken ring around the tree.
- Large lateral roots are exposed and charred in two or more quadrants around the tree.

Recommendations

Salvage: If necessary and if possible, remove dead, dying, severely damaged and stressed trees as soon as possible. Removing these trees will lower populations of damaging insects, such as southern pine beetle, by reducing the number of highly susceptible host trees which they would use to reproduce. Harvest severely damaged areas of sawtimber first, and then remove smaller patches of smaller trees. If finding a logger or buyer is a problem it may help to coordinate the sale with a nearby landowner who also has trees to harvest. For steps to selling timber, see http://edis.ifas.ufl.edu/FR130. Seek the services of a consulting forester if you need assistance. See this publication for tips on selecting a consultant: http://edis.ifas.ufl.edu/FR125.

Reinspect: Frequently revisit all remaining areas of burned residual forest and investigate any new or enlarging pockets of mortality or stress. If bark beetles are present, try to identify the species so you can determine the appropriate response. Southern pine beetles should be given high priority for

control because of their potentially aggressive nature. See link above to find your DOF County Forester for assistance with beetle identification.

Delay some activities: Delay planting pine seedlings within or adjacent to burned areas for one planting season (until the winter of 2009 or 2010) because seedlings planted earlier may be killed by debarking weevils. If you can't delay planting, seedlings should be treated with an approved insecticide labeled for use against regeneration weevils.

Finally it is best to avoid forest disturbance (e.g., thinning, burning) within one-half mile of significant wildfire activity because such disturbances can greatly increase the risk of insect outbreaks.

Beware of other stressing factors: The timely removal of fire-damaged trees, and trees that are already infested by insects, is an important step in reducing the threat of insect outbreaks. However, other factors will play a role as well. Insect outbreaks are more likely to increase if fire-damaged trees suffer additional stress in the months following fire. Drought, poor soil fertility, severe storms, and other disturbances can further weaken a tree, increasing the amount of time it requires to regain its resistance to insect attack. Many parts of Florida have experienced an extended drought over the last year so trees in these areas may be particularly vulnerable to insect outbreaks.

Prevent Wildfires on Your Property

Forest fuels accumulate rapidly in pine stands. It only takes four to six years for heavy understory fuels to grow up to hazardous levels. Regular prescribed fire is the most cost-effective and practical way to maintain low fuel loads under pine stands. But fire may not be an option due to proximity to urban or residential areas, prolonged drought conditions, or already high fuel levels. Mechanical and/or chemical alternatives may be used in those situations, after which prescribed fire may be introduced.

Prevent fire with fire

Wildfires that burn into areas where fuels have been reduced by prescribed burning cause less damage and are much easier to control than those that burn in areas where fire has been excluded for an extended period. A fuel reduction burn in a pine stand, especially a young one, requires very specific wind conditions, humidity, and temperature. Higher wind speeds and cooler temperatures can minimize scorch damage to trees. The appropriate interval between prescribed burns for fuel reduction depends on the rate of fuel accumulation, past wildfire occurrence, property values at risk and risk of a fire. A two- to three-year fire cycle is usually adequate after the initial fuel-reduction burn.

After the initial fuel reduction burn it is best to break up fuel continuity by burning patches of the property. Another advantage of patchy burns is habitat diversity for wildlife. Unburned patches provide cover and food for wildlife. Note that these unburned areas could become a hot spot during the next fire, especially if a head fire is used in dry conditions. As always contact your local DOF Field Office to obtain a burn permit before you burn: http://www.fl-dof.com/field_operations/index.html.

For more information on prescribed fire see http://fireinflorida.ifas.ufl.edu/

What if I can't burn?

Using fire to reduce hazardous fuels is not always an option, especially on smaller ownerships, near residential or urban areas, or when conditions are simply not appropriate for using fire for an extended period.

Hand or machine piling and burning or chipping is effective and causes minimal site disturbance but can be labor or equipment intensive depending on the fuels. If burning piles, they should be small enough to burn in a day. Resprouting will occur so this treatment will likely need to be repeated in three to five years.

Mowing or bush-hogging changes the structure of forest fuels by reducing shrubs to the ground. This practice generally causes minimal impact to the soil and roots so hardwoods will resprout. Mowing can encourage herbaceous browse if done at the right time of year. Fall is generally a good time to mow. Avoid mowing in April through August so nesting birds are not killed or disturbed. Mowing in winter and spring can lead to rapid resprouting of shrubs.

Chopping, disking and harrowing also reduce fuels to the ground but have more soil impact so they can also disrupt resprouting of some plants such as palmettos. Disking and harrowing expose bare soil and can limit fire potential until regrowth occurs. Root damage can result if tree overstory is present and erosion may be a problem on slopes.

Thinning reduces the risk of crown fire by separating trees and is very beneficial for other objectives such as growing higher value timber products and wildlife habitat improvement. Thinning does not remove ground level fuels, although it may crush down shrubs temporarily, and residual slash may increase fire potential for a period following the treatment.

Livestock grazing defoliates most shrubs from the ground to about 5 feet, converts the fuel to organic waste and encourages herbaceous plants and grasses. This can be a costly option if other infrastructure such as fencing, shelter and water are not already available and may not be compatible with other objectives such as habitat for some wildlife species.

Herbicides are relatively easy to apply, provide more long-term control, and result in no soil disturbance. However, the fuels are not removed and the remaining dead shrubs or trees are very flammable for one to two years after treatment. Herbicides can be costly although they are usually less so than mechanical treatments.

Combine treatments: You may find that some of these treatments may be combined for the best results. For example, an herbicide treatment can be followed by mowing or chopping to reduce the dead fuel to the ground and then perhaps a prescribed fire cycle can be introduced to maintain control. Or you may wish to follow a chop or thin with an herbicide treatment to gain longer control after reducing the fuel to the ground. The right treatment or combination of treatments will depend on your particular ownership situation, management objectives, equipment or labor availability and other factors.

Protect Your Property

People who live in the Wildland-urban interface (people whose home or neighborhood is within ¼ mile of a forested or wildland area) should take action to make their property less likely to ignite from the flames or flying embers from a wildfire. Modify your landscape to better withstand a wildfire with relatively simple improvements:

- Create a "lean, clean and green" landscape within 30 feet of the home by removing highly flammable plants (such as palmetto, gallberry and juniper), trimming low hanging limbs and limbs within 15 feet of the home, replacing pine straw or other organic mulches within one to three feet of the house with lava rock or gravel, and generally cleaning up dry combustible materials in this area of defensible space.
- Clean leaves, pine straw and other debris from roofs and gutters.
- Keep 100 feet of garden hose at an outside faucet.
- Screen the underneath portions of raised decks or floors so flammable materials cannot accumulate.
- Locate stacks of firewood at least 50 feet from the home.
- Install a section (8-10 feet) of non-combustible fencing between any wooden privacy fence and the home.
- Be sure the home address number is clearly visible at the nearest roadway (4" high, non-combustible, reflective letters) to help emergency vehicles find you.

Even if you live in an urban area we suggest that you move any organic mulches one to three feet away from walls or other structural elements constructed with wood or vinyl siding.

References

Anon. 2004. Wildfire Mitigation in Florida. Florida Department of Community Affairs, Department of Agriculture and Consumer Services (http://www.fl-dof.com/wildfire/wf_pdfs/Wildfire_Mitigation_in_FL.pdf)

Anon. 1998. Insects and the Wildfires of 1998. Southern Pine Beetle Working Group, appointed by the Florida Department of Agriculture and Consumer Services, Division of Forestry.

Latt, C (ed.). 1999. Insects and the Wildfires of 1998: Reducing the Risk of Additional Tree Losses. The Florida Forest Steward, vol. 7, no. 4, Forest Stewardship Publication, Florida Cooperative Extension Service, IFAS, University of Florida. Gainesville.

Wade, D. D. and J.D. Lundsford. 1989. A Guide for Prescribed Fire in Southern Forests. USDA Forest Service Technical Publication R8-TP 11 (http://www.pfmt.org/standman/prescrib.htm)

See these Web sites for more information and publications on these topics:

Fire in Florida Web page (http://fireinflorida.ifas.ufl.edu/)
Interface South (http://www.interfacesouth.org/fire/)

Call for Master Tree Farmers and/or Master Wildlifers to Host and Lead Stewardship Tours

This year we'd like to continue to give Florida's Master Tree Farmers and Wildlifers an opportunity to volunteer by hosting and leading a Stewardship tour at their property. Many of you reading this newsletter have completed one or more of the Master Tree Farmer or Master Wildlifer shortcourses offered through the Southern Forest Resources Extension Team, UF-IFAS, Florida Division of Forestry, Florida Fish and Wildlife Conservation Commission and

Florida Forestry Association. The certificate you received after completing one or more of these programs states that you have:

"completed 21 hours of forestry and/or wildlife management training and hereby given the title Master Tree Farmer (or Master Tree Farmer 2 or Master Wildlifer) for volunteering to work to advance forestry and/or wildlife management in Florida."

This is your chance to volunteer. Another objective for the tours this year is to visit properties in central and south Florida as we rarely get to these areas. If you own land in these regions and are interested in hosting a tour please contact us. As in past tours, agency and/or private natural resource professionals will facilitate the discussions by providing additional information as needed. We will continue to solicit funding from sponsoring organizations to cover the meals provided at the end of each tour.

If you have completed the Master Tree Farmer and/or Master Wildlifer courses or otherwise wish to volunteer by hosting and leading a landowner tour at your property during the 2007-2008 tour season, please contact Chris Demers at 352-846-2375 or cdemers@ufl.edu.

Southern Pine Beetle Prevention Program Offered Again

Beginning July 30, the Division of Forestry is re-offering the Southern Pine Beetle Prevention Cost-Share Program to eligible private forest landowners. The program offers up to 50 percent cost reimbursement for precommercial thinning and prescribed burning treatments, and a $50 per acre incentive payment for landowners who conduct a first pulpwood thinning. The program is limited to 44 northern Florida counties located within the range of the southern pine beetle. The minimum tract size requirement is 10 acres and funding requests may not exceed $10,000. For an application and more information on program requirements and procedures, contact your county forester. Applications will be evaluated on a first-come-first-serve basis.

FLRP Practice Deadline Approaching

The Division of Forestry requests that all remaining Forest Land Recovery Program (FLRP) grant recipients please ***complete all practices funded by FLRP by September 1, 2007***. The FLRP cost share program will end on September 30, 2007 and any additional extension of time to complete practices cannot be granted. Once completed, contact your County Forester so that they can coordinate the inspection of your project and submit your invoices no later than September 10, 2007 to prevent any chance of not being reimbursed due to late submission.

If you will not be able to complete your project or if you will only be able to complete part of your project prior to September 1, 2007, please contact your County Forester immediately and let him/her know exactly what your situation is.

Timber Price Update

The timber pricing information below is useful for observing trends over time, but does not necessarily reflect current conditions at a particular location. Landowners considering a timber sale are advised to solicit the services of a consulting forester to obtain current local market conditions. Note that price ranges per ton for each product are included in parentheses after the price per cord.

Stumpage price ranges reported across Florida in the **2nd Quarter 2007** Timber Mart-South (TMS) report were:

- Pine pulpwood: $16 - $28/cord ($6 - $11/ton), ↑slightly (on average from 1st Quarter)
- Pine C-N-S: $49 - $60/cord ($18 - $23/ton), ↓
- Pine sawtimber: $86 - $108/cord ($32 - $40/ton), ↓
- Pine plylogs: $83 - $110/cord ($31 - $41/ton), ↓
- Pine power poles: $114 - $183/cord ($43 - $68/ton), ↓
- Hardwood pulpwood: $7 - $23/cord ($2 - $8/ton), ↑

Trend Report

For the first time in a long while for Florida the only prices increasing on average from last quarter were those for pine and hardwood pulpwood. Decreases in average prices for for most products in the 2nd quarter are attributed to dry weather and a weakened housing market. Salvage harvesting following the fires during this time will likely result in lower prices into the next quarter, especially in northeast Florida where the Bugaboo fire took the largest tolls. The good news, according to the TMS Forest Business Optimism survey, is that the forest products industry is optimistic about the housing market recovering over the next year and there is much confidence in a steadily growing biomass market in the South. Also, with carbon markets emerging, there will soon be new ways for forestland owners to diversify their income portfolio.