

GEORGIA FORESTRY  
COMMISSION



# The Historic 2007 Georgia Wildfires

Learning from the Past –  
Planning for the Future



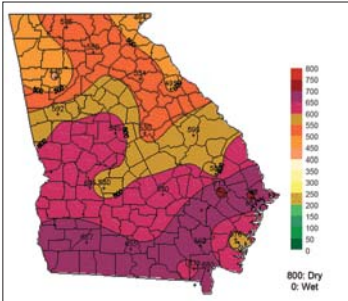
Cover photography by Jen Kolb

*Georgia experienced an unprecedented series of wildfires in 2007. The Georgia Forestry Commission led the effort to control Georgia's largest wildfire in history, which burned for more than two months and destroyed \$65 million in timber.*

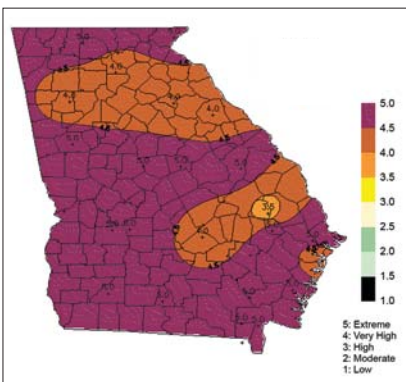


The Georgia Bay Complex was one of the largest fires in the nation's history.

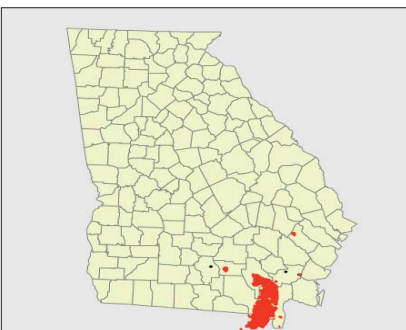
**Figure 1. KBDI May 30**



**Figure 2. Fire Danger Rating May 30**



**Figure 3. Georgia Fire Map**



### When and How the Georgia Bay Complex Fires Began

On April 16, a downed power line started the Sweat Farm Road fire southwest of Waycross, GA. When it entered the Okefenokee Wildlife Refuge on April 21, it was renamed Big Turnaround. Close by, the Bugaboo fire was ignited by lightning on May 5. By May 20, the fires converged and became the Georgia Bay Complex - one of the largest fires in the South and, indeed, in the nation.

### Extreme Drought

Figure 1 shows the Keetch-Byram Drought Index (KBDI) at the height of the fires. These dry conditions created extreme fire danger over most of Georgia, as shown in Figure 2.

### Excess Forest Fuels

In addition to parched conditions, prescribed burning had not been done on much of the land, which added to combustible fuels. Sparks from the downed power line ignited these fuels and the fire spread rapidly, consuming 20,000 acres within the first 48 hours.

### Acreage Consumed

The Georgia Bay Complex burned over 564,450 acres in Georgia and Florida as shown in Figure 3.

In Georgia, 441,705 acres burned on the following properties:

- Corporate Land: 70,529 acres
- Non-Industrial Private Land: 19,129 acres
- Dixon Memorial State Forest: 19,187 acres
- US Dept. of Interior Easements: 6,344 acres
- Okefenokee Wildlife Refuge: 326,516 acres

In the 21-County Governor Declared Emergency Area, an additional 21,048 acres burned.

### Total Estimated Losses:

- \$65 million in timber
- \$31 million for replanting
- 9 homes



Highly combustible, excess ground cover fueled the rapid spread of the fire.

## The Georgia Forestry Commission Coordinated the Largest Fire Siege in the State's History

The Georgia Forestry Commission (GFC), the agency responsible for protecting people, property and forests from wildfire, led the firefighting effort operating under the Incident Command System. The System provided Incident Management Teams of trained professionals who work together as a unit to manage an emergency or large incident.



Firefighters, led by the Georgia Forestry Commission, worked around the clock to contain the fires.

## Georgia Firefighters Were Aided by Colleagues from Across the Country and from Other Countries

More than 3,300 firefighters and other personnel from 44 states, Canada and Puerto Rico worked together to battle the blazes. The cooperative efforts of many state, federal and local organizations, community leaders, and volunteers helped ensure damage was kept to a minimum.

## Fighting These Historic Fires Required Experience, the Right Strategy, the Right People and Long, Hard Hours

Fighting the Georgia wildfires of 2007 was hard, dirty, and dangerous work.



Over 1,500 firefighters, supported by an armada of heavy equipment, simultaneously fought the fires during peak periods.

Fire behavior was extreme with frequent fire tornadoes and flame lengths of more than 100 feet. Normal fire suppression strategy did not work. Using crawler tractors and wildland fire engines, firefighters worked shifts of 10 to 12-plus hours constructing spaces in the fuel, or "firebreaks." They also slowed the spread of fires using backfires, fire engines, helicopters, air tankers, and other tools.

Firefighters worked on one of four crew types:

Tractor-Plow Crews installed firebreaks, a plowed 'road' of mineral soil, approximately 4–5 feet wide, to separate fire from additional fuel. Rangers set "backfires" at the edge of the firebreak to burn towards the main fire front. When the two fires met, flammable material was exhausted, thus extinguishing the fire.

Engine Crews launched initial attack on fires in their immediate area. Trucks equipped with water, pumps, hose, and tools were used to soak firebreaks and halt the spread of fire.

Hand Crews constructed fuel breaks using hand tools. They also "mopped-up" by attacking hot spots within fire containment lines.

Air Crews slowed advance of fast moving fires to allow more direct suppression on

the ground, performed initial attack on remote fires and conducted water drops with helicopter buckets. Air tankers dropped fire retardant and conducted FLIR (Forward Looking Infrared) imaging to identify fire perimeter and hotspots.



GFC heavy equipment was subjected to extreme wear and tear in these unprecedented conditions.

## How the Cost is Measured

While estimates have been made of the total cost of the Georgia Bay Complex and 21-county area fires, the real cost may not be known for quite a while. In addition to the known costs of firefighting, lost timber, reforestation and rehabilitation, and equipment depreciation, there are many hidden costs. They include lost jobs, lost days of work, lost homes and personal belongings, health problems, and lost productivity, as well as temporary loss of tourism and recreational opportunities.

To date, known costs for the fighting, lost timber and recovery include:

- Firefighting: \$44 million
- Lost timber: \$65 million
- Reforestation: \$31 million
- Rehabilitation: \$2.9 million

Additional losses are expected to emerge, thus adversely impacting the \$27.7 billion contributed annually to the state's economy by Georgia's forests, as well as the \$580 million in annual tax revenue contributions.



Near Folkston, GA, a long column of smoke stretches across the Okefenokee National Wildlife Refuge.



Both fixed wing aircraft and helicopters were necessary to suppress the fires. Here a helicopter catches a spot fire across the firebreak before it gains momentum.

## Impact of the Fires on People's Lives

During the peak of the fires, over 6,000 people were forced to evacuate their homes because of risks posed by wildfires and heavy smoke. Nine homes and many structures were destroyed, leaving several families homeless.

Fortunately, no lives were lost, but the impact of these fires will be remembered and felt for years:

- Residential, school and business evacuations
- School closures in Ware, Brantley and Pierce Counties
- Travel restrictions for residents, tourists and commercial traffic with multiple county, state and interstate road closures
- Inconvenience from smoke which spread across major cities in Georgia, Florida and Alabama

- Reduced business activity in important centers of commerce in Georgia's major cities



Precise teamwork kept helicopter water drops on target.

## What's Next?

Southeast Georgia forestland owners have suffered economically and psychologically by watching years of their investments in time and resources destroyed, some in a single day. Whether the fires burned thousands of acres of industrial timberland, or engulfed a family-owned forestland of less than one hundred acres, affected owners have been set back. Many are left with a sense of helplessness about what the future holds for their families.

The Georgia Forestry Commission is leading **Land Rehabilitation** efforts and is working to protect the watershed through reforestation. The GFC is helping landowners with reforestation efforts, providing information about erosion control methods, and coordinating efforts to provide **Emergency Temporary Repairs** to the affected land. The repairs focus on eliminating hazards created by fire and firebreak construction.



*The GFC conducted meetings in counties affected by the fires and is providing on-going support*

At the request of GFC and the Georgia Forestry Association, the Georgia Department of Transportation temporarily increased the legal load limit for log trucks to help with **Timber Salvage**. GFC and GFA are also matching wood buyers with landowners to provide a market for burned and beetle-killed timber. Landowner meetings were conducted in most communities affected by the fires.



*Both homeowners and timberland property owners experienced a sense of helplessness as the fires destroyed years of investment and hard work.*

Restoration and rehabilitation may take years to complete and for results to be seen. The GFC is helping local communities with restoration work. With the support and help of the residents, along with the advice of natural resource professionals, restoration and rehabilitation work can be successful.

The destruction caused by these historic wildland fires is only part of the story. Nature will eventually restore the burned areas, but when communities and local, state and federal agencies team up, it virtually assures the legacy of the land will continue.

The Natural Resources Conservation Service acted quickly to secure federal funds to help affected landowners with reforestation efforts.

Additional federal and state funds are being sought, and a 501(C)3 account is being established to accept private donations to help with restoration and recovery efforts.



*Restoration of Georgia's burned timberlands will take years and will require the partnership of government, forest landowners and local communities.*

## The Fires of 2007 Sparked Innovative Ways to Fight, Manage and Prevent Wildfires

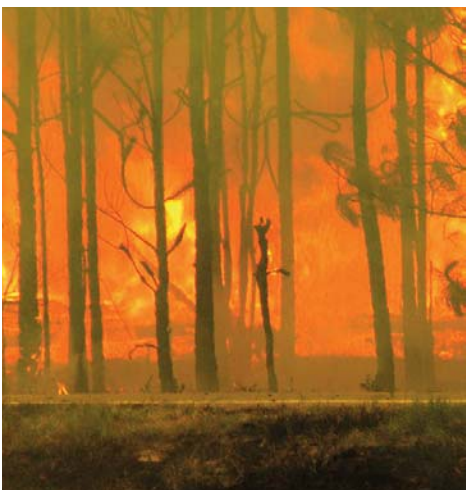
There were several “firsts” for the GFC in dealing with the wildfires of 2007. The most significant of these have merited further development as effective tools in wildfire fighting, management, prevention and recovery.



*The Fires of 2007 gave birth to a new generation of firefighting techniques and concepts.*

### The GFC Mop-Up Command

This group was created to manage the time-consuming process of extinguishing burning materials around firebreak perimeters. Teams used hand tools and water to stop fire jumps and hot spots. They serviced the 21-county declared emergency area to free initial attack resources for new fires.



*Over 70 fires were started by arsonists during the fire siege and spread quickly in the explosive forest fuels.*



*Instant communication and coordination helped control the fire by containing the spread of new burns.*

### The Joint Information Center

This strategic organization was established to provide critical and accurate information to the appropriate authorities and media. It ensured that fire and smoke advisories, road closings and weather updates were transmitted on a timely basis.

### The Wildfire Arson Task Force

This first of a kind force was established and composed of investigators from forestry agencies in 8 states, GFC, GBI, Georgia Department of Corrections, Department of Homeland Security, county sheriffs' deputies, and four bloodhounds. The purpose was to maintain a strategic focus on wildfire arson within the 21-county area.

Accomplishments include:

- 12 arrests for arson & related crimes
- Over 100 other leads on more than 70 wildfires
- Effective investigation, detection and prosecution of offenders
- Prevention of new wildfires

### Wildfire Prevention Teams

These critical advance teams provided information and education for property and homeowners regarding wildfire status, risk, and prevention. The teams' accomplishments include:

- Traveling to threatened communities ahead of the fire to educate homeowners about Firewise practices
- Assisting with town meetings, attending public events, and working with the media
- Going door-to-door in threatened neighborhoods,

recommending specific actions to make it easier for firefighters to protect homes

- Producing wildfire prevention public service announcements and media materials

### Atlanta Journal Constitution

GEORGIA'S WILDFIRES:  
\$100 MILLION UP IN SMOKE  
By Dan Chapman  
The Atlanta Journal-Constitution  
Published on: 07/11/07

Jimmy Brown hoped he'd seen the last of the Great Fire of '07, the largest wildfire ever to burn Georgia. "It was putting up some pretty good smoke Sunday. We still have some hot spots in the Okfefenokee," Brown, fire chief for Ware County, said Tuesday. "But it's not likely to come out of the swamp."

For two months, starting in mid-April, the fire in Southeast Georgia raged, waned, raged anew and spilled into Florida before heavy rains and firefighters from 44 states, Puerto Rico and Canada put it out. Even Atlantans, 215 miles to the north, awoke a couple of mornings to hazy, smoky skies.

Local and state officials say the destruction tops \$100 million so far in Georgia alone. Remarkably, nobody died. And less than two dozen structures — houses, trailers and sheds — burned.

"When the challenge came, we met it," Brown said. "But we hope we never see that kind of fire again." - \$44.1 million (estimate) to fight the fire - \$11 million (estimate) covered by state of Georgia - \$33.1 million (estimate) expected to be covered by Federal Emergency Management Agency - Firefighters came from 44 states, Puerto Rico and Canada - Main counties affected: Ware, Charlton, Clinch - 3,326 people fought the fire - \$60 million estimated value of timber lost - 440,732 acres burned in Georgia - 560,000 total acres burned, including Florida

*A July, 2007, editorial in the Atlanta Journal Constitution summed up the devastation of the fires: \$100 Million Up In Smoke."*

## Climate Change Makes Planning for Future Needs Even More Critical

As drought and warmer temperatures become more frequent, the likelihood of wildfires increases. The GFC is committed to developing programs and resources to more effectively deal with prevention, management and suppression of wildfires, as well as improve recovery and rehabilitation efforts.

It is the GFC's mission to sustainably manage forests to meet the social, economic, ecological, and cultural needs of present and future generations. These needs include forest products and services such as wood products, water, fuel, shelter, employment, recreation, habitats for wildlife, and scenic diversity. To sustain these full, multiple values, appropriate measures must be taken to protect forests against harmful effects of fires, pests and diseases.

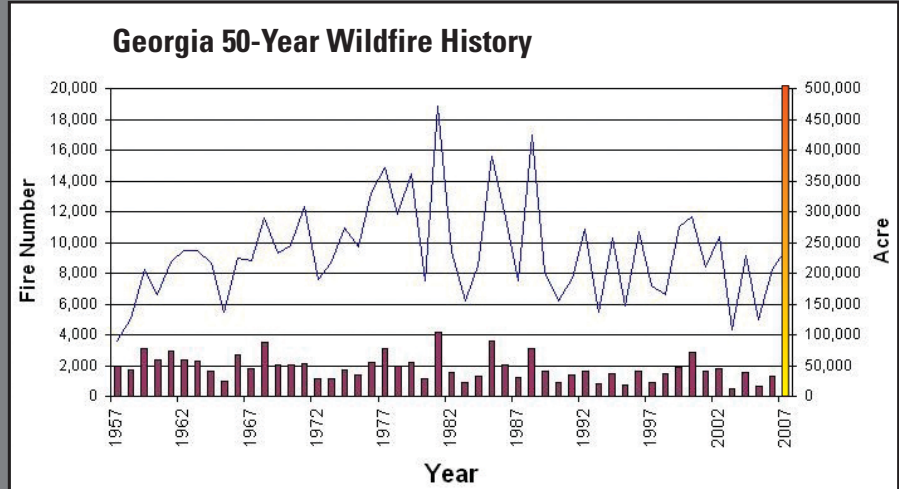
## GFC Recommended Actions to Mitigate Future Fire Losses:

Create a more fire resistant landscape by reducing dangerous fuel loading through:

- Prescribed burning
- Herbicide and mechanical treatments
- Pine straw harvesting practices
- Firebreak management
- Linear wildlife food plots, silvopasture, and openings
- Wider unplanted buffers adjacent to wetland areas
- Wider road shoulders managed as openings
- GIS mapping of all fuel mitigation zones (lines of defense)



GFC prescribed burning professionals work to reduce the risks posed by excess forest fuel accumulations.



The wildfires of 2007 were the largest and costliest ever recorded - underscoring the need for better planning and additional resources.

### Support reforestation efforts by planting:

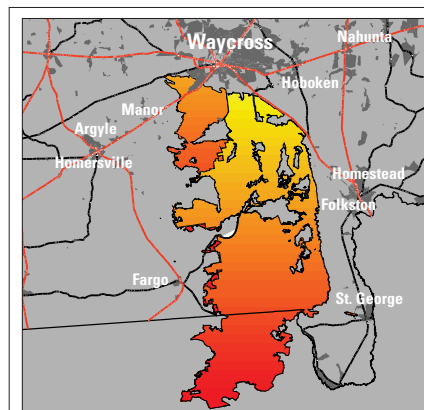
- Longleaf pine on appropriate sites for a more fire tolerant species
- Rows along wetland contours, allowing more effective fire suppression breaks
- Wider-spaced rows in fuel mitigation zones

### Develop options that help forest landowners manage and keep their property:

- Prescribed burning teams to treat high risk areas
- Short and long-term conservation easements

### Support critical programs:

- GFC operations
- Fire department cooperators training
- Incident management training for industry cooperators and heavy equipment contractors
- Greater Okefenokee Association of Landowners (GOAL)
- Swamp Perimeter Road and Swamp Perimeter Firebreaks enhancement
- Community Wildfire Protection Plans and Firewise Communities
- Georgia Recognizes Our Woodland Stewards (GROWS) program
- Wetland Reserve Program
- Wildfire Prevention Education



Many dwellings in the Wildland Urban Interface areas (shown in dark gray), where development meets the forest, could have been destroyed if the suppression efforts had not been successful.

- Conservation Use Valuation Assessment
- Tax options for landowners participating in conservation and fuel mitigation practices
- Practices and markets that utilize forest brush and pre-merchantable trees (i.e. biomass to energy)
- Cost-share programs that promote fuel reduction, fire management, fire recovery, and conservation practices

*"The wildfires of 2007 stretched the resources of state and federal agencies, industry, and private landowners. The extreme fire behavior should not be considered an isolated, one time event. We can expect these conditions to occur again. However, with enhanced support, funding, and cooperative actions of all our partners, the enormous suppression costs and devastating losses can be greatly reduced."*

*-Robert Farris, Interim GFC Director*



P.O. Box 819  
Macon, Ga. 31202  
Toll-free 1-800-GA-TREES  
GaTrees.org

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**GFC District Offices**

<p><b>Rome</b> 3086 Martha Berry Hwy NE Rome GA 30165 706-295-6021/6022 706-295-6921</p>	<p><b>Newnan</b> 187 Corinth Rd Newnan GA 30263 770-254-7218 770-254-7371</p>	<p><b>Americus</b> 243 US Hwy 19 North Americus GA 31709 229-931-2436/2437 229-931-2762</p>	<p><b>Statesboro</b> 18899 US Hwy 301 North Statesboro GA 30461 912-681-0490/0496 912-871-1719</p>
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<p><b>Washington</b> 1465 Tignall Rd Washington GA 30673 706-678-2015 706-678-1766</p>	<p><b>McRae</b> Route 1 Box 67 Helena GA 31037 229-868-3385 229-868-3387</p>	<p><b>Camilla</b> 3561 Hwy 112 Camilla GA 31730 229-522-3580/3581 229-522-3583</p>	

**The Bottom Line**

- **The total GFC 2007 State appropriation was \$39.7 million for all programs** (including \$29.2 million for forest protection)
- **GFC 2007 expenditures totaled \$81.5 million** (including an unappropriated \$36.3 million for unprecedented wildfire suppression activities)
- **A total of 9,532 fires** burned a total of 504,000 acres
- **Over \$65 million worth of timber was lost** (not including the other economic, environmental and social losses)
- **Adequate funding for preventative measures** could have saved thousands of acres of timberland and millions of dollars in fire protection and suppression

