



# **N.C. DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES**

## **NORTH CAROLINA FOREST SERVICE**



## **ANNUAL LEGISLATIVE REPORT ON WILDFIRES**

October 1, 2015

Agriculture Commissioner Steve Troxler  
Assistant Commissioner Scott Bissette

Pursuant to G.S. 106-911, the North Carolina Department of Agriculture and Consumer Services, North Carolina Forest Service respectfully submits this annual report on wildfire in North Carolina for Fiscal Year 2015.

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## **STATUTORY REQUIREMENT**

### **§ 106-911. Annual report on wildfires**

No later than October 1 of each year, beginning October 1, 2012, the Commissioner shall submit a written report on wildfires in the State to the chairs of the House Appropriations Subcommittee on Natural and Economic Resources and the Senate Appropriations Committee on Natural and Economic Resources, the Joint Legislative Commission on Governmental Operations, and the Fiscal Research Division of the General Assembly. The report shall include the following information for all major or project wildfires during the prior fiscal year:

- (1) The date, location, and impacts (property damage and any casualties) from the wildfire.
- (2) The following data for firefighters and related support personnel involved in fighting the wildfire:
  - a. Total overtime hours worked.
  - b. Total compensation paid for overtime.
  - c. The portion of compensation paid that was reimbursed to the State.
- (3) The fiscal impact of the wildfire, including total costs, reimbursable costs, and costs incurred by the State.

## **OVERVIEW OF FIRE CONTROL**

There are more than 18 million acres of woodland in North Carolina. Wildfire is one of the greatest threats to this important and valuable natural resource. The North Carolina Forest Service (NCFS) is responsible for protecting state and privately-owned forestland from wildfires. The NCFS forest fire protection program is managed on a cooperative basis with the State's county governments. All one hundred counties participate in the program. Emphasis in the fire program includes fire prevention efforts, pre-suppression activities (including extensive training of personnel and cooperators), aggressive suppression efforts on all wildfires, and law enforcement follow-up.

NCFS, local fire departments, and communities across the State are working together to prevent, prepare for, and lessen the impact of wildfires. Maintaining a well-trained, proficient forest fire control organization is very similar to maintaining a well-trained army. Fire training occurs year-round. New personnel are constantly being trained to maintain capabilities. Veteran fire fighters regularly undergo refresher training in suppression tactics, strategy, organization, and management.

A study conducted by the U.S. Forest Service and the University of Wisconsin-Madison indicated that North Carolina leads the nation in the amount of area classified as wildland-urban interface (WUI). The WUI is the area where structures and other human development meet or intermingle with undeveloped wildland, forest, or vegetative fuels. While North Carolina has the most WUI acres, it also ranks fifth in most housing units within the WUI. The interface creates great challenges for fire

managers, as nearly every fire or its associated smoke may impact homes, roads, farms, or other development.

Table 1 illustrates the need to keep fires as small as possible through early detection and rapid response, which are critical to reducing fire size, protecting property, and minimizing overall loss.

From FY06-15, 273,624 acres of woodland burned in North Carolina wildfires. Of these, 146,900 acres, or 53.7% were burned in fires larger than 100 acres. However, 100+ acre fires only made up 0.53% of the total fires for this 10-year period.

Table 1: Historical Wildfire Activity

<b>FY</b>	<b>Fires</b>	<b>Acres</b>	<b>100+ Acre Fires</b>	<b>100+ Acres Burned</b>	<b>Percent of Total Fires</b>	<b>Percent of Acreage Burned on 100+ Ac. Fires</b>
2005/06	5,778	27,943.00	13	2,835.00	0.22%	10.1%
2006/07	5,528	28,331.30	42	13,862.90	0.76%	48.9%
2007/08	6,086	59,377.50	63	38,113.40	1.04%	64.2%
2008/09	3,723	14,966.20	18	5,056.00	0.48%	33.8%
2009/10	3,023	10,903.60	16	3,346.80	0.53%	30.7%
2010/11	5,701	85,857.40	36	70,165.60	0.63%	81.7%
2011/12	3,259	11,958.00	14	2,779.00	0.43%	23.2%
2012/13	3,542	11,026.30	14	3,647.00	0.40%	33.1%
2013/14	4,624	13,357.90	14	4,448.00	0.30%	33.3%
2014/15	3,991	9,902.90	9	2,647.00	0.23%	26.7%
<b>Total</b>	<b>45,255</b>	<b>273,624.10</b>	<b>239</b>	<b>146,900.70</b>	<b>0.53%</b>	<b>53.7%</b>
Average	4,526	27,362.00	23.9	14,690.07	0.53%	53.7%

## SUMMARY OF ALL WILDFIRE DATA FOR FY 14/15

From July 1, 2014 through June 30, 2015, there were 3,991 State jurisdictional wildfires<sup>1</sup> that burned on 9,902.9 acres. The average fire size was 2.48 acres with the largest fire being 738 acres (Weed Lane Fire).

### Effects of Weather

Weather plays a very important role in determining wildfire activity and severity in North Carolina. FY15 was generally average for temperature and precipitation when

<sup>1</sup> NCFS has the statutory (G.S. 106-895) requirement of prevention and control of forest fires in any and all parts of this State with the exception of Federal Government owned property. Through administrative decision, areas within municipal limits are considered beyond the jurisdiction of the Forest Service.

compared to the same time period going back to 1895. Weather patterns that included regular, widespread rains for the majority of the state kept fire numbers below average (3,991 fires) and fire acreage well below average (9,902 acres burned).

The months of February and March received below average precipitation and the average temperature in June was much above normal. February, March and April had the highest level of fire activity during the 12 month period. March had the highest number of fires for the year (678 fires) and the second highest acreage (2,117 acres). March also had the highest number of homes lost due to wildfire (4 homes) during FY15. A total of 11 homes were lost in FY15, eight were lost in the first half of 2015 alone. April saw the most acreage burned during the year (2478 acres) on 572 reported fires.

Tables 2 through 6 outlines all FY15 wildfires occurring by region, including estimated damages and causes.

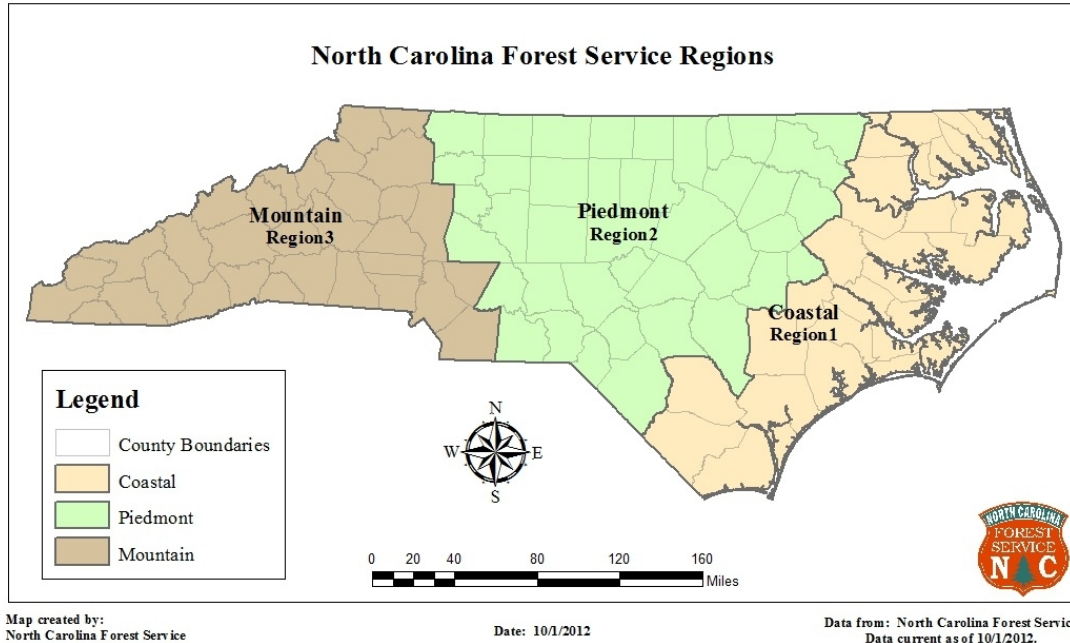


Table 2: Wildfires by Region (All Fires FY15)

NCFS Region	# of Wildfires	Wildfire Acres
Coastal	510	1,401.30
Piedmont	2,119	5,079.00
Mountains	1,362	3,422.60
<b>Total</b>	<b>3,991</b>	<b>9,902.90</b>

Table 3: Property Protected /Damaged by Region (All Fires FY15)

NCFS Region	Homes and Structures Protected	Est. Value of Homes and Structures Protected	Homes and Structures Damaged or Destroyed	Est. Value of Homes And Structures Damaged or Destroyed	Est. Value of Other Property Damaged (Timber, Livestock, Crops, Vehicles)
Coastal	1,249	\$172,286,400	248	\$290,300	\$955,975
Piedmont	4,227	\$359,363,431	428	\$1,595,927	\$384,122
Mountains	2,106	\$282,519,131	106	\$641,475	\$3,077,235
<b>Total</b>	<b>7,582</b>	<b>\$814,168,962</b>	<b>782</b>	<b>\$2,527,702</b>	<b>\$4,417,332</b>

Table 4: Wildfire Causes FY15

Wildfire Cause	# of Wildfires	Wildfire Acres
Camping	41	123.9
Children	231	311.7
Debris Burning	1,791	4,076.1
Fireworks	28	9.8
Incendiary	553	1,835.4
Lightning	63	615
Machine Use	401	654.7
Miscellaneous	772	1,640.1
Railroad	32	519.3
Smoking	79	116.9
Unknown	0	0
<b>Total</b>	<b>3,991</b>	<b>9,902.9</b>

Table 5: Top Five Counties With The Most Fire Response in FY15

County	NCFS Region	# of Wildfires	Wildfire Acres	Suppression Cost
Richmond	Piedmont	158	729.6	\$101,230
Moore	Piedmont	131	113.2	\$64,100
Caldwell	Mountain	114	80.9	\$51,925
Scotland	Piedmont	105	669.7	\$76,615
Guilford	Piedmont	97	56.8	\$65,375
<b>Total for the 5 counties</b>		<b>605</b>	<b>1650.2</b>	<b>\$359,245</b>
% of annual total		15%	17%	8%

Table 6: Top Five Counties with Most Acres Burned by Wildfire FY15

County	NCFS Region	# of Wildfires	Wildfire Acres	Suppression Cost
Robeson	Piedmont	88	1,102.7	\$88,285
Buncombe	Mountains	64	931.2	\$553,270
Richmond	Piedmont	158	729.6	\$101,230
Scotland	Piedmont	105	669.7	\$76,615
Brunswick	Coastal	29	497.2	\$66,825
<b>Total for the 5 counties</b>		<b>444</b>	<b>3,930.4</b>	<b>\$886,225</b>
% of annual total		11%	40%	21%

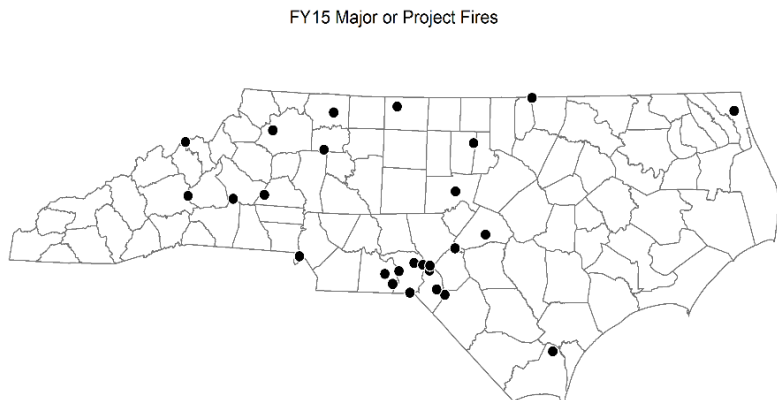
## MAJOR OR PROJECT WILDFIRE DATA FOR FY15

Twenty-six (26) major or project fires had a start date of July 1, 2014 through June 30, 2015.

NCFS classifies a major or project fire when any of the following occurs:

- A wildfire is 100 acres or more in size.
- Any inhabited or inhabitable dwelling has been destroyed.
- Any structure valued at \$15,000 or greater has been destroyed.
- A firefighter is killed.
- Any significant firefighter injury occurs that requires an emergency room visit or hospitalization.
- An Incident Management Team (Type 1, 2, or 3) is assigned to the incident.
- Other significant events in which a significant commitment of wildland fire resources has occurred.
- Central Office funding is requested.<sup>2</sup>

Table 7 shows the dates, locations, and impacts of each of the 26 major or project wildfires. It is important to note that while Table 7 shows approximately \$1,278,100 in property damage/loss to homes and structures, on those same wildfires 343 homes and structures with an estimated value of \$54,915,800 were protected.



<sup>2</sup> When the cost of responding to an incident is projected to be more than the field unit can afford, financial support from the NCFS Raleigh Headquarters (Central Office) budget can be requested. Recently, the NCFS Central Office "fire contingency budget" has been limited to \$200,000. This has proven to be insufficient for multiple project or major fires, as shown in FY13.

Of the 26 fires 10 were considered major fires due to the fire size, 14 were considered major due to the value of structures lost or damaged and two fires were considered project fires due to the cost and difficulty of control. Project fires are shown in bold in Tables 7 through 9.

Table 7: FY15 Major or Project Fires - Dates, Locations, and Impacts

County	Fire Name	Fire Start Date	Days to Control	Area Burned Total	Homes And Structures Damaged Or Destroyed	Estimated Value Of Homes And Structures Damaged Or Destroyed	Estimated Value Of Other Property Damaged (Timber, Livestock, Crops, Vehicles)
Richmond	Gibson Mill Road	7/21/2014	4	115.00	0	\$0	\$0
Robeson	White Oak	11/12/2014	7	207.00	0	\$0	\$0
Surry	Johnson Rd	11/15/2014	2	1.00	3	\$61,000	\$0
Rockingham	Wild Turkey Lane	11/22/2014	1	1.00	4	\$53,000	\$0
Burke	Silver Creek	12/13/2014	3	300.00	0	\$0	\$150,000
Yadkin	Pearly Drive Two	12/19/2014	1	1.50	1	\$50,000	\$0
Harnett	Temple Road	1/20/2015	1	2.00	3	\$26,100	\$0
Richmond	Douglas Road	1/21/2015	1	1.00	1	\$60,000	\$0
Scotland	Sally McNair #2	1/30/2015	1	0.50	1	\$100,000	\$0
Orange	Terry Road	2/1/2015	1	1.50	2	\$155,000	\$0
Moore	Barrel	2/7/2015	1	0.40	1	\$125,000	\$0
Anson	Pit Road	2/8/2015	1	19.00	2	\$25,000	\$0
Chatham	Hwy 902	2/8/2015	1	4.50	2	\$177,000	\$0
Lincoln	Deer Track	2/8/2015	1	5.00	1	\$225,000	\$2,578,000
<b>Buncombe</b>	<b>Weed Lane</b>	<b>3/31/2015</b>	<b>7</b>	<b>738.00</b>	<b>9</b>	<b>\$65,000</b>	<b>\$105,500</b>
Yancey	Poplar	3/31/2015	6	36.70	0	\$0	\$18,350
Richmond	Crappie Lake	4/2/2015	1	148.00	0	\$0	\$0
Currituck	Water Lily	4/3/2015	2	243.00	1	\$1,500	\$0
Brunswick	Compass Point	4/6/2015	11	465.00	7	\$108,000	\$808,000
Scotland	Scotland Lake Lane	4/12/2015	1	387.00	0	\$0	\$0
Warren	Appletree Lane	4/12/2015	1	1.00	2	\$46,500	\$0
Wilkes	Baker Fire	4/29/2015	3	121.00	0	\$0	\$20,000
Anson	Gumtree Road	5/6/2015	1	1.00	0	\$0	\$0
Richmond	Dockery Lake Road	5/22/2015	4	63.00	0	\$0	\$0
Richmond	Special Forces Way	6/25/2015	1	166.00	0	\$0	\$0
<b>Catawba</b>	<b>Baker's Mountain</b>	<b>6/29/2015</b>	<b>7</b>	<b>35.70</b>	<b>0</b>	<b>\$0</b>	<b>\$600</b>
<b>TOTALS</b>				<b>3,064.80</b>	<b>40</b>	<b>\$1,278,100</b>	<b>\$3,680,450</b>



## Overtime Data

Employee's record time worked on an incident with a BEACON charge object. Charge objects are assigned for project fires and major fires. Due to budgetary reductions NCFS pays seasonal employees overtime (per FSLA and OSHR policy) and provided all permanent employee's with compensatory time. Table 8 shows the overtime hours worked, hours paid out, reimbursements and compensatory time. All major and project fires that started July 1, 2014 through June 30, 2015 were non-reimbursable.

Table 8: Overtime/Compensatory Time for Major or project fires FY15

County	Fire Name	Area Burned Total	Overtime Hours Worked	Overtime Paid	Reimbursement	Comp. Time
Richmond	Gibson Mill Road	115.00	1.00	\$0.00	0.00	1.50
Robeson	White Oak	207.00	46.00	\$0.00	0.00	69.00
Surry	Johnson Rd	1.00	0.00	\$0.00	0.00	0.00
Rockingham	Wild Turkey Lane	1.00	4.00	\$0.00	0.00	6.00
Burke	Silver Creek	300.00	379.50	\$0.00	0.00	526.25
Yadkin	Pearly Drive Two	1.50	4.00	\$0.00	0.00	6.00
Harnett	Temple Road	2.00	0.00	\$0.00	0.00	0.00
Richmond	Douglas Road	1.00	0.00	\$0.00	0.00	0.00
Scotland	Sally McNair #2	0.50	21.00	\$0.00	0.00	31.00
Orange	Terry Road	1.50	4.00	\$0.00	0.00	6.00
Moore	Barrel	0.40	0.00	\$0.00	0.00	0.00
Anson	Pit Road	19.00	27.00	\$0.00	0.00	40.50
Chatham	Hwy 902	4.50	20.00	\$0.00	0.00	30.00
Lincoln	Deer Track	5.00	0.00	\$0.00	0.00	0.00
<b>Buncombe</b>	<b>Weed Lane</b>	<b>738.00</b>	<b>3,178.83</b>	<b>\$2,233.64</b>	<b>0.00</b>	<b>4,159.38</b>
Yancey	Poplar	36.70	63.00	\$256.66	0.00	69.75
Richmond	Crappie Lake	148.00	5.00	\$0.00	0.00	7.5
Currituck	Water Lily	243.00	56.60	\$0.00	0.00	84.90
Brunswick	Compass Point	465.00	228.00	\$106.98	0.00	312.25
Scotland	Scotland Lake Lane	387.00	3.75	\$0.00	0.00	5.63
Warren	Appletree Lane	1.00	6.00	\$0.00	0.00	9.00
Wilkes	Baker	121.00	35.00	\$0.00	0.00	43.50
Anson	Gumtree Road	1.00	5.50	\$0.00	0.00	8.50
Richmond	Dockery Lake Road	63.00	42.75	\$0.00	0.00	62.13
Richmond	Special Forces Way	166.00	0.00	\$0.00	0.00	0.00
<b>Catawba</b>	<b>Baker's Mountain</b>	<b>35.70</b>	<b>496.05</b>	<b>\$67.37</b>	<b>0.00</b>	<b>691.33</b>
<b>TOTAL</b>		<b>3,064.80</b>	<b>4,626.98</b>	<b>\$2,664.65</b>	<b>0.00</b>	<b>6,169.85</b>

## Fiscal Impacts

NCFS tracks cost information for reimbursable<sup>3</sup> and billable<sup>4</sup> fires. All major and project fires that started between July 1, 2014 and June 30, 2015 were non-reimbursable/non-billable. Actual fiscal impact data could not be gathered for fires as they were all handled within local county budgets. However, our fire reporting system does track estimated costs. These estimated costs include employee salary (based on an average salary of \$20/hour) and equipment use rates. The State's out-of-pocket expenses for project fire cost are tracked in individual budget centers. The two project fires for FY15 had out-of-pocket expenses of \$41,427.00 for Weed Lane and \$6,584.66 for Baker's Mountain, totaling \$48,011.66.

Table 9 shows the estimated cost of each of the 26 non-reimbursable/non-billable fires based on cost estimates provided in the NCFS Fire Reporting System. The cost shown for the two project fires includes the State's out-of-pocket expenses and the fire report cost estimates.

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<sup>3</sup> Reimbursable Fires – A fire where NCFS may obtain a reimbursement of funds from FEMA, U.S. Forest Service, or other agencies.

<sup>4</sup> Billable Fires – Fires where NCFS has a cost share or cooperative agreement, or provided suppression services to a Federal Agency.

Table 9: FY15 Estimated Fiscal Impacts

County	Fire Name	Days to Control	Area Burned Total	Suppression Cost	Reimbursement	State Costs
Richmond	Gibson Mill Road	4	115.00	\$2,400.00	\$0.00	\$2,400.00
Robeson	White Oak	7	207.00	\$6,960.00	\$0.00	\$6,960.00
Surry	Johnson Rd	2	1.00	\$1,800.00	\$0.00	\$1,800.00
Rockingham	Wild Turkey Lane	1	1.00	\$3,800.00	\$0.00	\$3,800.00
Burke	Silver Creek	3	300.00	\$84,800.00	\$0.00	\$84,800.00
Yadkin	Pearly Drive Two	1	1.50	\$3,725.00	\$0.00	\$3,725.00
Harnett	Temple Road	1	2.00	\$1,900.00	\$0.00	\$1,900.00
Richmond	Douglas Road	1	1.00	\$1,900.00	\$0.00	\$1,900.00
Scotland	Sally McNair #2	1	0.50	\$2,575.00	\$0.00	\$2,575.00
Orange	Terry Road	1	1.50	\$4,400.00	\$0.00	\$4,400.00
Moore	Barrel	1	0.40	\$2,250.00	\$0.00	\$2,250.00
Anson	Pit Road	1	19.00	\$9,480.00	\$0.00	\$9,480.00
Chatham	Hwy 902	1	4.50	\$16,476.00	\$0.00	\$16,476.00
Lincoln	Deer Track Fire	1	5.00	\$1,875.00	\$0.00	\$1,875.00
<b>Buncombe</b>	<b>Weed Lane</b>	<b>7</b>	<b>738.00</b>	<b>\$40,900.00</b>	<b>\$0.00</b>	<b>\$40,900.00</b>
Yancey	Poplar	6	36.70	\$25,703.00	\$0.00	\$25,703.00
Richmond	Crappie Lake	1	148.00	\$1,305.00	\$0.00	\$1,305.00
Currituck	Water Lily	2	243.00	\$4,500.00	\$0.00	\$4,500.00
Brunswick	Compass Point	11	465.00	\$44,190.00	\$0.00	\$44,190.00
Scotland	Scotland Lake Lane	1	387.00	\$525.00	\$0.00	\$525.00
Warren	Appletree Lane	1	1.00	\$3,200.00	\$0.00	\$3,200.00
Wilkes	Baker Fire	3	121.00	\$22,130.00	\$0.00	\$22,130.00
Anson	Gumtree Road	1	1.00	\$2,160.00	\$0.00	\$2,160.00
Richmond	Dockery Lake Road	4	63.00	\$15,155.00	\$0.00	\$15,155.00
Richmond	Special Forces Way	1	166.00	\$2,160.00	\$0.00	\$2,160.00
<b>Catawba</b>	<b>Baker's Mountain</b>	<b>7</b>	<b>35.70</b>	<b>\$386,120.00</b>	<b>\$0.00</b>	<b>\$386,120.00</b>
<b>TOTALS</b>			<b>3,064.80</b>	<b>\$675,913.00</b>	<b>\$0.00</b>	<b>\$963,510.00</b>

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