



**A G E N D A**  
**LAW ENFORCEMENT, PUBLIC SAFETY,**  
**HEALTH & WELFARE COMMITTEE MEETING**

**April 10, 2018**

**5:00 PM**

**County Council Chambers, Oconee County Administrative Offices**  
**415 South Pine Street, Walhalla, SC**

**1. Call to Order**

**2. Approval of Minutes**

- January 9, 2017

**3. Presentation to Increase School Safety – Sheriff Mike Crenshaw**

**4. Presentation of Community Wildfire Protection Plan – Chief Charlie King**

**5. Discussion Items**

*[to include Vote and/or Action on matter brought up for discussion, if required]*

- Update on Law Enforcement Cleanup Efforts
- Update on Medical Services Plan
- Discussion regarding lithium battery safety
- Discussion regarding dumping limbs & brush into County landfill

**6. Other Business**

*[to include Vote and/or Action on matter brought up for discussion, if required]*

**7. Adjourn**

**[This agenda is not inclusive of all issues which the Committee may bring up for discussion at this meeting.]**

**Assisted Listening Devices [ALD] are available to accommodate the special needs of citizens attending meetings held in Council Chambers.**

**ALD requests should be made to the Clerk to Council at least 30 minutes prior to the meeting start time.**

Oconee County Council & Committee meeting schedules and agendas are posted at the Oconee County Administration Building and are available on the County Council Website [www.oconeesc.com/council.html](http://www.oconeesc.com/council.html)

[All upcoming meetings will be held in Council Chambers unless otherwise noted]

# Oconee County Council

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The Oconee County Council will meet in 2018 on the first and the third Tuesday of each month with the following exceptions:

- April meetings will be held on the second and fourth Tuesday;
- July & August which will be **only** on the third Tuesday of each of the two months;
- September's Council meetings will be held on the second and third Tuesday of the month.
- The Auditor's millage presentation will be held on September 4<sup>th</sup> at 6:00 p.m.

All Council meetings, unless otherwise noted, are held in Council Chambers, Oconee County Administrative Offices, 415 South Pine Street, Walhalla, South Carolina.

Oconee County Council will also hold a Planning Retreat at 9 a.m. on Friday, March 2, 2018 in Council Chambers to establish short and long term goals.

Council will also meet on January 8, 2019 at 6:00 p.m. in Council Chambers at which point they will establish their 2019 council and committee meeting schedules.

Additional Council meetings, workshops and/or committee meetings may be added throughout the year as needed.

Oconee County Council Committees will meet in 2018 on the following dates/times in Council Chambers, 415 South Pine Street, Walhalla, South Carolina unless otherwise advertised.

The Law Enforcement, Public Safety, Health & Welfare Committee at 5:30 p.m. on the following dates: April 10 [5pm prior to Council meeting], July 10 and October 9, 2018.

The Transportation Committee at 5:30 p.m. on the following dates: April 24 [5pm prior to Council meeting], July 10 and October 9, 2018.

The Real Estate, Facilities & Land Management Committee at 5:30 p.m. on the following dates: May 8, August 14 and November 13, 2018.

The Budget, Finance & Administration Committee at 5:30 p.m. on the following dates: April 17, May 8, May 29, August 14 and November 13, 2018.

The Planning & Economic Development Committee at 5:00 p.m. prior to the Council meeting on the following dates: February 27 [5:30 p.m.], June 5, September 4 and December 4, 2018.



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**THE OCONEE COUNTY COUNCIL** will meet in 2018 on the first and the third Tuesday of each month with the following exceptions:  
April meetings will be held on the second and fourth Tuesday;  
July & August which will be only on the third Tuesday of each of the two months;  
September's Council meetings will be held on the second and third Tuesday of the month.  
The Auditor's mid-year presentation will be held on September 4<sup>th</sup> at 8:00 p.m.  
All Council meetings, unless otherwise noted, are held in Council Chambers, Oconee County Administrative Offices, 415 South Pine Street, Walhalla, South Carolina. Oconee County Council will also hold a Planning Retreat at 9 a.m. on Friday, March 2, 2018 in Council Chambers to establish short and long-term goals. Council will also meet on January 9, 2019 at 6:00 a.m. in Council Chambers at which

## LEGAL NOTICES

## LEGALS

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**IN RE: OCONEE COUNTY COUNCIL MEETING SCHEDULE & EXCEPTIONS FOR 2018**

**BEFORE ME** the undersigned, a Notary Public for the State and County above named, This day personally came before me, Hal Welch, who being first duly sworn according to law, says that he is the General Manager of **THE JOURNAL**, a newspaper published Tuesday through Saturday in Seneca, SC and distributed in Oconee County, Pickens County and the Pendleton area of Anderson County and the notice (of which the annexed is a true copy) was inserted in said papers on 02/21/2018 and the rate charged therefore is not in excess of the regular rates charged private individuals for similar insertions.

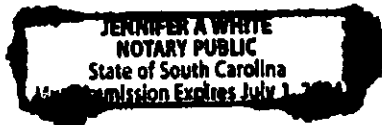


Hal Welch  
General Manager

Subscribed and sworn to before me this  
02/21/2018



Jennifer A. White  
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# Oconee County

## South Carolina



# Community Wildfire Protection Plan

## August 2016

Oconee County

Emergency Services



Oconee County



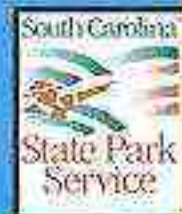
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The Nature Conservancy



South Carolina State Park Service



United States Forest Service



## Forward

The Community Wildfire Protection Plan (CWPP) is a unique opportunity to address the challenges of wildland fire protection in the mountains of South Carolina. This CWPP is authorized by the Healthy Forest Restoration Act of 2003, providing communities an opportunity to greatly influence how federal funds are distributed for hazardous fuels reduction treatments on non-federal lands. This CWPP gives counties and local communities, priority standings when applying for federal funding (grants) for wildfire mitigation projects.

This CWPP includes a detailed risk assessment utilizing state-of-the-art computer modeling, providing the community with clarity to their wildfire problem and those actions that can be used to mitigate them. This plan addresses those risks with achievable goals and recommended actions to:

The CWPP action plan addresses:

- ❖ Wildland Fuel Management,
- ❖ Community Outreach and Education,
- ❖ Fire Resistance Building Retrofit and Landscaping,
- ❖ Policy and Regulation Recommendations, and
- ❖ Wildland Fire Response Improvements.

This CWPP meets the minimum requirements of the Healthy Forests Restoration Act, as well as ties to existing landscape initiatives and comprehensive plans. It was developed collaboratively with input from local, state, and federal partners and other relevant stakeholders and was designed to be implemented through a unified effort.



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## Acronyms and Abbreviations

CERT	Community Emergency Response Team
CPZ	Community Protection Zone
CWPP	Community Wildfire Protection Plan
DNR	Department of Natural Resources
EMD	Emergency Management Department
EOC	Emergency Operations Center
FBPS	Fire Behavior Prediction System
EOP	Emergency Operations Plan
ESF	Emergency Support Function
FD	Fire Department
EMA	Federal Emergency Management Agency
FM	Fuel Model
FRCC	Fire Regime Condition Class
GAP	Gap Analysis Program
GIS	Geographic Information System
HIZ	Home Ignition Zone
HFRA	Healthy Forests Restoration Act
HOA/POA	Homeowners Association / Property Owners Association
MOU	Memorandum of Understanding
NFPA	National Fire Protection Association
NWCG	National Wildfire Coordinating Group
SCFC	South Carolina Forestry Commission
SWRA	Southern Wildfire Risk Assessment

TNC	The Nature Conservancy
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WUI	Wildland Urban Interface



## Introduction

### 1.1 Role of Community Wildfire Protection Plans

The process of developing a Community Wildfire Protection Plan (CWPP) can help a community clarify and refine its priorities for the protection of life, property, and critical infrastructure in the wildland-urban interface on both public and private land. It also can lead community members through valuable discussions regarding management options and implications for the surrounding land base. Local fire service organizations help define issues that may place the county, communities, and/or individual homes at risk. Through the collaboration process, the CWPP planning committee discusses potential solutions, funding opportunities, and regulatory concerns and documents their resulting

recommendations in the CWPP. The CWPP planning process also incorporates an element for public outreach. Public involvement in the development of the document not only facilitates public input recommendations, but also provides an educational opportunity through interaction of local wildfire specialists and an interested public [CWPP Handbook, p. 2].

### 1.2 Benefits to Communities

The incentive for communities to engage in comprehensive forest planning and prioritization was given new and unprecedented impetus with the enactment of the Healthy Forests Restoration Act (HFRA) signed into law by President George Bush in 2003. This landmark legislation includes the first meaningful statutory incentives for the US Forest Service (USFS) to give consideration to the priorities of local communities as they develop and implement

forest management and hazardous fuel reduction projects. There are several great reasons to develop a Community Wildfire Protection Plan (CWPP). First and foremost, a successful Community Wildfire Protection Plan provides a community with a set of objectives and actions specifically designed to address the threat of wildfire, regardless of land ownership. These objectives and actions can help:

- ❖ Enhance public safety
- ❖ Improve community sustainability
- ❖ Protect ecosystem health
- ❖ Raise public awareness of wildfire hazards and wildfire risk
- ❖ Educate landowners on how to reduce home ignitability
- ❖ Build and improve collaboration at multiple levels

Under the Healthy Forests Restoration Act of 2003, communities that seek grants from the federal government for hazardous fuels reduction work are required to prepare a Community Wildfire Protection Plan. By doing so, communities can tap into hazard mitigation grants and funding through the National Fire Plan, FEMA mitigation grants, and others. These earmarked grants can help communities with fire planning, hazardous fuels reduction, and wildfire prevention while providing communities the flexibility in defining their own Wildland Urban Interface (WUI) specifications [CWPP Handbook, p. 2].

### 1.3 z ] u v ( ) t w w [

The minimum requirements for a CWPP as described in the HFRA are:

- ❖ **Collaboration:** A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
- ❖ **Prioritized Fuel Reduction:** A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
- ❖ **Treatment of Structural Ignitability:** A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

The HFRA requires that three entities must mutually agree to the final contents of a CWPP:

- ❖ The applicable local government (i.e., counties or cities);
- ❖ The local fire department(s); and
- ❖ The state entity responsible for forest management.

In addition, these entities are directed to consult with and involve local representatives of the USFS and other interested parties or persons in the development of the plan. The process is intended to be open and collaborative, involving local and state officials, federal managers, and the broad range of interested stakeholders [CWPP Handbook, p. 3]



## 2. Community Background and Existing Situation

### 2.1 Description of Community

Unique to South Carolina due to its Mountainous terrain, Oconee County is the westernmost county in the state, covering 674 square miles. The Blue Ridge Mountains and its foothills provide magnificent landscapes for residents and tourists while providing attractive commercial business opportunities due to its close proximity to Clemson University and the I-85 Corridor connecting Greenville-Spartanburg, South Carolina to Atlanta, Georgia. The town of Walhalla is the County seat with a population of almost 4,000 residents. Covering over 7 square miles, Seneca, the largest town in Oconee County has a population of just over 8,000 residents and is host to the majority of businesses and commercial activity.

Public lands not only provide an abundance of recreational opportunities to both residents and visitors, but also serve as a safe haven for unique mountain ecosystems and wildlife habitats. Additionally, the County has rich historical and cultural significance, with sixteen sites on the National Register of Historical Places. Oconee County has had moderate population growth in recent years, a trend that is expected to continue. The County offers scenic views and high quality of living.

### 2.2 Land Ownership

Table 1 provides acres of ownership distribution, whereas Figure 1 (next page) shows ownership location within Oconee County.

Table 1 Land Ownership (Acres)

Ownership	Acres	Percentage
United States Forest Service	84,161	19.5%
Municipality (Seneca)	21,826	5.1%
Private/Other	318,161	73.8%
South Carolina Department of National Resources	4,763	1.1%
South Carolina Department of Parks	1,887	0.4%
South Carolina Forestry Commission	572	0.1%
<b>Total</b>	<b>431,368</b>	<b>100%</b>





## 2.3 Community Demographics

Table 2 Community Census Data

Census Data **	South Carolina	Oconee County
Population estimates, July 1, 2015	4,896,146	75,713
Persons under 5 years, percent, July 1, 2015	6	5
Persons 65 years and over, percent, July 1, 2015	16	22
White alone, percent, July 1, 2015	68	89
Black or African American alone, percent, July 1, 2015	28	8
American Indian and Alaska Native alone, percent, July 1, 2015	1	0
Asian alone, percent, July 1, 2015	2	1
Two or More Races, percent, July 1, 2015	2	2
Hispanic or Latino, percent, July 1, 2015)	6	5
Median value of owner-occupied housing units, 2010-2014	137,600	138,700
Persons per household, 2010-2014	3	2
High school graduate or higher, percent of persons age 25 years+, 2010-2014	85	83
Bachelor's degree or higher, percent of persons age 25 years+, 2010-2014	25	22
With a disability, under age 65 years, percent, 2010-2014	10	15
Persons without health insurance, under age 65 years, percent	16	17
Median household income (in 2014 dollars), 2010-2014	45,033	41,197
Persons in poverty, percent	18	18
Population per square mile, 2010	154	119

Source: \*\* Census Quick Facts

## 3. Planning Process

### 3.1 Planning Overview

The CWPP planning process is a collaborative effort among local, regional, state, and federal government agencies that have a role in protecting the community and residents from wildfire. Non-Governmental Organizations, businesses, and private landowners can provide valuable input and services to the creation of the CWPP and its implementation.

### 3.2 CWPP Planning Steps

In keeping with the strategy of the Oconee County CWPP, the CWPP Development Group revisited the planning outline in *Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities* (Communities Committee, Society of American Foresters, National Association of Counties, and National Association of State Foresters 2005).

Eight steps are outlined within this guide that the development group used as a tool to guide the CWPP planning process:

#### ❖ Step one: Convene the decision makers.

The CWPP development group was assembled to review the purpose and need of developing a CWPP for Oconee County in Fall of 2015.

#### ❖ Step two: Involve state and federal agencies.

As mentioned previously, the Healthy Forest Restoration Act (HFRA) directed communities to collaborate with local and state government representatives, in consultation with federal

agencies and other interested parties in the development of a CWPP. Oconee County, South Carolina Forestry Commission, South Carolina State Park Service, USDA Forest Service and The Nature Conservancy are members of the CWPP development group bringing resource capacity in the development of the plan. The membership of the development group is diverse, involving not only county, state, and federal partners, but also non-governmental organizations as well, i.e. The Nature Conservancy. Each agency brought a wealth of information, expertise and skill sets in

#### ❖ Step three: Engage interested parties.

In addition to the agencies identified above, the intent and development of the plan was shared with the Oconee County Community Development Group, a collaborative initiative, whose representatives include local governments, leaders from conservation and community development groups, as well as public and private landowners. This group has been working to meet the future challenges of regional development while maintaining the unique values of the natural resources, people, and culture of the low country.

#### ❖ Step four: Establish a community base map.

The CWPP development group utilized Oconee County's coverage area as the boundary for the CWPP analysis and map which then allowed for a detailed risk assessment to be undertaken.

#### ❖ Step five: Develop a community assessment.

A state of the art wildfire vulnerability assessment was conducted for Oconee County utilizing the Southern Wildfire Risk Assessment



and its Wildfire Analysis program, SouthWRAP. Additionally, County data was infused with SouthWRAP assessment results to provide a further refined and more robust wildfire risk assessment. Section 4.3 of this plan details the methodology and tools that were used to conduct the assessment.

- ❖ **Step six: Establish community hazard reduction priorities and recommendations to reduce structural ignitability.**

Once the vulnerability assessment was complete, the development group was able to identify specific land areas and infrastructure that were at elevated risk from wildfires. As a result of identifying areas of elevated risk, goals and objectives were set forth by the development group to provide priorities in mitigating the identified hazards.

- ❖ **Step seven: Develop an action plan and assessment strategy.**

Using the goals and objectives identified in establishing priorities of the CWPP, the development group identified an action plan for key projects; roles and responsibilities for carrying identified tasks; potential funding needs and the evaluation process for the CWPP itself.

- ❖ **Step eight: Finalize the Community Wildfire Protection Plan.** A draft of the Oconee County CWPP was available for public comment for 30 days prior to the final signing and approval of the plan. Community meetings were conducted to educate the public and interested parties about the CWPP. After the comment period, representatives from the Oconee County,

South Carolina Forestry Commission, and Local Governments jointly approved the plan with concurrence from Federal partners (USFS and USFWS).

### 3.3 Existing and Tiered Plans and Policies

The CWPP is non-regulatory in nature, meaning it does not set forth any new policy, but rather provides a framework of recommendations for communities and stakeholders to pursue to minimize the threat of destructive wildfires. The plan does provide (1) a foundation for coordination and collaboration among agencies and the public within Oconee County (response area), (2) identification and prioritization of areas for hazardous fuel reduction projects and other mitigation activities, and (3) assistance meeting federal and state planning requirements and qualifying for assistance programs. During development of this Community Wildfire Protection Plan, several planning and management documents were reviewed in order to avoid conflicting goals and objectives. Additionally, existing programs and policies were reviewed in order to identify those that may weaken or enhance the mitigation objectives outlined in this document. The following sections identify and briefly describe some of the existing planning documents that provided critical input to the development of the CWPP.

#### *Oconee County Comprehensive Plan:*

The comprehensive plan is a statement of Oconee County's goals for setting the course for the future. The comprehensive plan inventories existing conditions, states the needs and goals of the community, and provides implementation strategies for reaching the goals stated in the plan. Each local plan must include the following elements (chapters):



population, economic development, natural resources, cultural, community facilities, housing, land use, transportation, and a priority investment element. State law requires that Comprehensive Plan be reviewed at least every five years and updated every ten years. The Comprehensive Plan represents a long-term view, 10-20 years, or a strategic approach to making the community's vision for the future a reality.

The CWPP is directly tiered to the Comprehensive Plan. Preserve, protect and enhance the quality and objectives to the Natural Resource element. Additionally, the CWPP will further strengthen Community Facilities/Priority Investment elements that focus on public safety and building emergency response capacity.

**The Western Piedmont Regional Emergency Management Task Force (WPREMTF) Regional Natural Hazards Mitigation Plan:** The Oconee County CWPP is essentially tiered to the wildfire portions of the WPREMTF, providing a more robust vulnerability assessment utilizing wildfire specific Geographical Information System (GIS) information and enhanced wildfire modeling tools. As a result, an action plan can be tailored specifically for Oconee County expanding on wildfire specific mitigation and preventive activities. It will further assist Oconee County in helping to reduce its risk from natural hazards by identifying resources, information, partnerships, and strategies for wildfire risk reduction in and around fire-prone areas of each Fire Department Response Area. The CWPP should serve as the wildfire annex for the WPREMTF Regional Natural Hazard Mitigation Plan.

**Oconee County Emergency Operations Plan:** The Emergency Operations Plan (EOP), maintained by Oconee County Emergency Management Department, serves as the framework for addressing prevention, mitigation, response, and recovery for a variety of hazards including wildfires within the county. The CWPP will serve as a supplementary tool to the EOP to better plan for and clarify specific agency capacity regarding wildfire response and coordination relating to Emergency Support Function (ESF) 4 Firefighting within the County.

**South Carolina Hazard Mitigation Plan:** Developed by the South Carolina Emergency Management Division, the South Carolina Hazard Mitigation Plan is a systematic evaluation of the nature and extent of vulnerability to the effects of natural hazards present across the State of South Carolina and includes actions needed to minimize future vulnerability to those hazards. Like the WPREMTF Regional Hazard Mitigation Plan, the Oconee County CWPP is essentially tiered to the wildfire portions of the WPREMTF, providing a more robust vulnerability assessment utilizing wildfire specific Geographical Information System (GIS) information and enhanced wildfire modeling tools. As a result, an action plan can be tailored specifically for Oconee County expanding on wildfire specific mitigation and preventive activities. It will further assist Oconee County in helping to reduce its risk from natural hazards by identifying resources, information, partnerships, and strategies for wildfire risk reduction in and around fire-prone areas of each Fire Department Response Area. The CWPP should serve as the wildfire annex for the WPREMTF Regional Natural Hazard Mitigation Plan.

**Sumter National Forest Land and Resource Management Plan:** The Forest Plan provides a decision framework for management direction for the Sumter National Forest and outlines Forest Goals and Desired Future Conditions, Forest Objectives, Standards and Guidelines, as well specific direction



for management areas of the Forest. The CWPP which covers a variety of land ownership within the Fire District, including all of Forest Service property within Oconee County, a significant portion of the total land ownership. The CWPP not only identifies many of the Forest Plan and natural resource conservation, but also addresses the importance of using local community resources to improve hazardous fuels conditions and wildfire risk, and in doing so, can provide direct economic benefit to surrounding communities.

**South Carolina Forestry Commission Strategic Plan:**

The Strategic Plan addresses the Forestry the State of South Carolina with emphasis on enhancing, protecting, and managing natural resources. The CWPP addresses and expands on many of the ideals set forth in the Strategic Plan including those goals and actions set forth in the *Protect the Resource* Chapter which includes:

- ❖ **Goal 1:** Ensure prompt and effective response to wildfires and other natural disasters.
- ❖ **Goal 2:** Evaluate wildfire protection strategies, priorities and capabilities as urban development into forested areas creates additional hazards.
- ❖ **Goal 3:** Lead in law enforcement services in wildfire and forest product theft and fraud arenas.

- ❖ **Goal 6:** Promote the responsible use of prescribed fire.

## 4. Vulnerability Assessment

### 4.1 Wildland Urban Interface (WUI) Area

The South is one of the fastest growing regions in the nation, with an estimated population growth of 1.5 million people per year. The South also consistently has the highest number of wildfires per year. Population growth is pushing housing developments further into natural and forested areas where most of these wildfires occur. This situation puts many lives and communities at risk each year.

In particular, the expansion of residential development from urban centers out into rural landscapes, increases the potential for wildland fire threat to public safety and the potential for damage to forest resources and dependent industries. This increase in population across the region will impact counties and communities that are located within the Wildland Urban Interface (WUI). The WUI is described as the area where structures and other human improvements meet and intermingle with undeveloped wildland or vegetative fuels. Population growth within the WUI substantially increases the risk from wildfire.

Communities within the WUI face substantial risk to life, property, and infrastructure. Wildland fire within the WUI is one of the most dangerous and complicated situations firefighters face. The January 2001 *Federal Register* 66-3, defines three types of Wildland

Urban Interface that are depicted in Figure 2 and described as the following:

- ❖ **Boundary or Interface**-areas where development is adjacent to public or private wildlands.
- ❖ **Intermix**-structures are scattered and interspersed among wildland areas.
- ❖ **Island or occluded**-area of wildland surrounded by development, i.e. a subdivision preserve.

Figure 2 WUI Types





## 4.2 Southern Wildfire Risk Assessment

In 2005, a large scale, wildfire risk assessment, known as the Southern Wildfire Risk Assessment (SWRA) was completed to

wildfires. Spearheaded by the Southern Group of State Foresters, this collaborative effort, consisted of 13 southern states, including several federal agencies, such as the U.S. Forest Service, U.S. Fish and Wildlife Service, National Park Service, Bureau of Indian Affairs, and the Department of Defense pooled their resources to create the first comprehensive wildfire risk assessment of its kind in the nation. The SWRA report, entitled *Fire in the South 2*, details the efforts and mechanics of the wildfire risk assessment in addition to providing the framework of

the main objectives identified below:

- ❖ Identify areas most likely to have wildfires;
- ❖ identify communities most susceptible to wildfire damage;
- ❖ Identify areas in need of Community Wildfire Protection Plans;
- ❖ Prioritize fuel reduction treatment programs;
- ❖ Provide information to justify budget requests and spending;
- ❖ Make it possible for agencies to work together to improve emergency response across jurisdictions;
- ❖ Increase communication with local residents and address community needs and priorities;
- ❖ Plan for fire response and suppression resource needs; and

- ❖ Establish a database and software tools that allow for continued monitoring and analysis of wildfire risk across the South.

## 4.3 SouthWRAP

The SWRA spatial analysis by-product, known as the SouthWRAP web portal can define a specific project area and summarize wildfire related information for a given area. A detailed risk summary report is generated using a set of predefined map products developed by the Southern Wildfire Risk Assessment project which have been summarized explicitly for the user defined project area. Oconee County boundary was used as the project area for the SouthWRAP analysis with the risk summary report being utilized as the main component of the Oconee

SouthWRAP provides a consistent, comparable set of scientific results and usable products displaying information that Oconee County can use to help prioritize areas where mitigation treatments, community interaction and education, or tactical analyses might be necessary to reduce risk from wildfires.

## 4.4 SouthWRAP Products

At a minimum, each product in this report is accompanied by a general description, table, chart and/or map. A list of available SouthWRAP products in this report is provided in [Table 3](#) on the following page.

Table 3 SouthWRAP Product/Description

SouthWRAP Product	Description
Wildland Urban Interface (WUI)	Depicts where humans and their structures meet or intermix with wildland fuel
WUI Risk Index	Represents a rating of the potential impact of a wildfire on people and their homes
Community Protection Zones	Represents those areas designated as primary and secondary priorities for community protection planning
Burn Probability	Probability of an area burning given current landscape conditions, percentile weather, historical ignition patterns and historical fire prevention and suppression efforts
Wildfire Ignition Density	Likelihood of a wildfire starting based on historical ignition patterns
Characteristic Rate of Spread	Represents the speed with which a fire moves in a horizontal direction across the landscape
Characteristic Flame Length	Represents the distance between the tip and base of the flame
Fire Intensity Scale	Quantifies the potential fire intensity for an area by orders of magnitude
Fire Type Extreme	Represents the potential fire type (surface or canopy) under extreme percentile weather conditions
Surface Fuels	Contains the parameters needed to compute surface fire behavior characteristics
Dozer Operability Rating	Level of difficulty to operate a dozer in an area based on limitations associated with slope and vegetation type



#### 4.5 SouthWRAP: Wildland Urban Interface

For the Oconee project area, it is estimated that 72,805 people or 98 percent of the total project area population (74,265) live within the WUI.



The Wildland Urban Interface (WUI) layer reflects housing density depicting where humans and their structures meet or intermix with wildland fuels.

WUI housing density is categorized based on the standard Federal Register and U.S. Forest Service SILVIS data set categories, long considered a de facto standard for depicting WUI. However, in the SWRA WUI data the number of housing density categories is extended to provide a better gradation of housing distribution to meet specific requirements for fire protection planning activities. While units of the actual data set are in *houses per sq. km.*, the data is presented as the *number of houses per acre* to aid with interpretation and use by fire planners in the South.

In the past, conventional wildland urban interface data sets, such as USFS SILVIS, have been used to

reflect these concerns. However, USFS SILVIS and other existing data sources do not provide the level of detail for defining population living in the wildland as needed by Southern state WUI specialists and local fire protection agencies.

The new SWRA WUI 2012 dataset is derived using advanced modeling techniques based on the SWRA Where People Live (housing density) dataset and 2012 LandScan population count data available from the Department of Homeland Security, HSIP Freedom Data Set. WUI is simply a subset of the Where People Live dataset. The primary difference between the WPL and WUI is that populated areas surrounded by sufficient non-burnable areas (i.e. interior urban areas) are removed from the Where People Live data set, as these areas are not expected to be directly impacted by a wildfire. Simply put, the SWRA WUI is the SWRA WPL data with the urban core areas removed.

Data is modeled at a 30-meter cell resolution, which is consistent with other SWRA layers. The following table shows the total population for each WUI area within the project area.

Table 4 WUI Acres

Housing Density	WUI Population	Percent of WUI Population	WUI Acres	Percent of WUI Acres
LT 1hs/40ac	1,106	1.5%	66,525	29.6%
1hs/40ac to 1hs/20ac	2,101	2.9%	40,686	18.1%
1hs/20ac to 1hs/10ac	4,063	5.6%	35,660	15.8%
1hs/10ac to 1hs/5ac	7,136	9.8%	29,881	13.3%
1hs/5ac to 1hs/2ac	18,416	25.3%	31,946	14.2%
1hs/2ac to 3hs/1ac	38,689	53.1%	20,276	9.0%
GT 3hs/1ac	1,294	1.8%	120	0.1%
<b>Total</b>	<b>72,805</b>	<b>100.0%</b>	<b>225,095</b>	<b>100.0%</b>



Figure 3 WUI Population

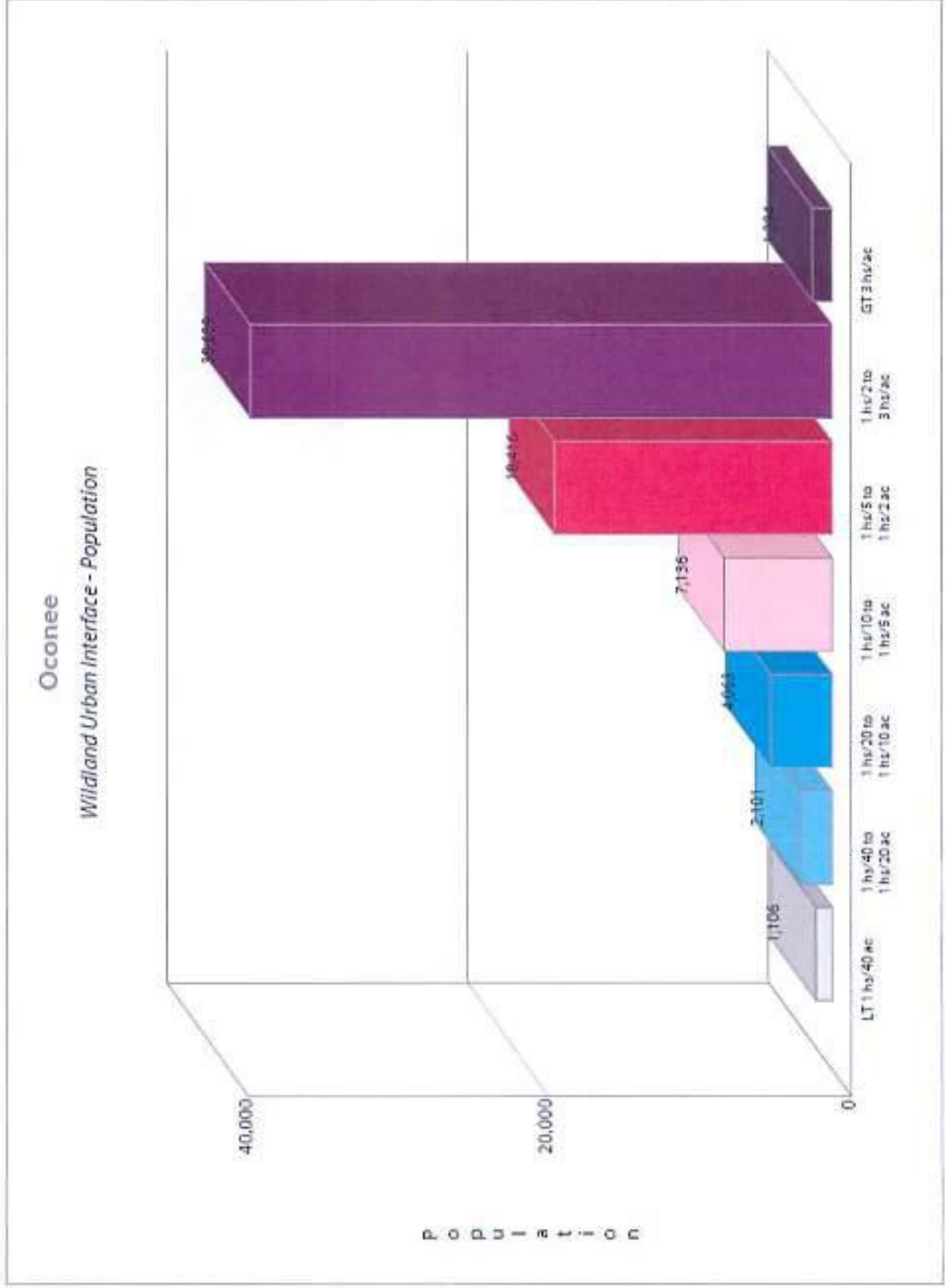


Figure 4 WUI Acres

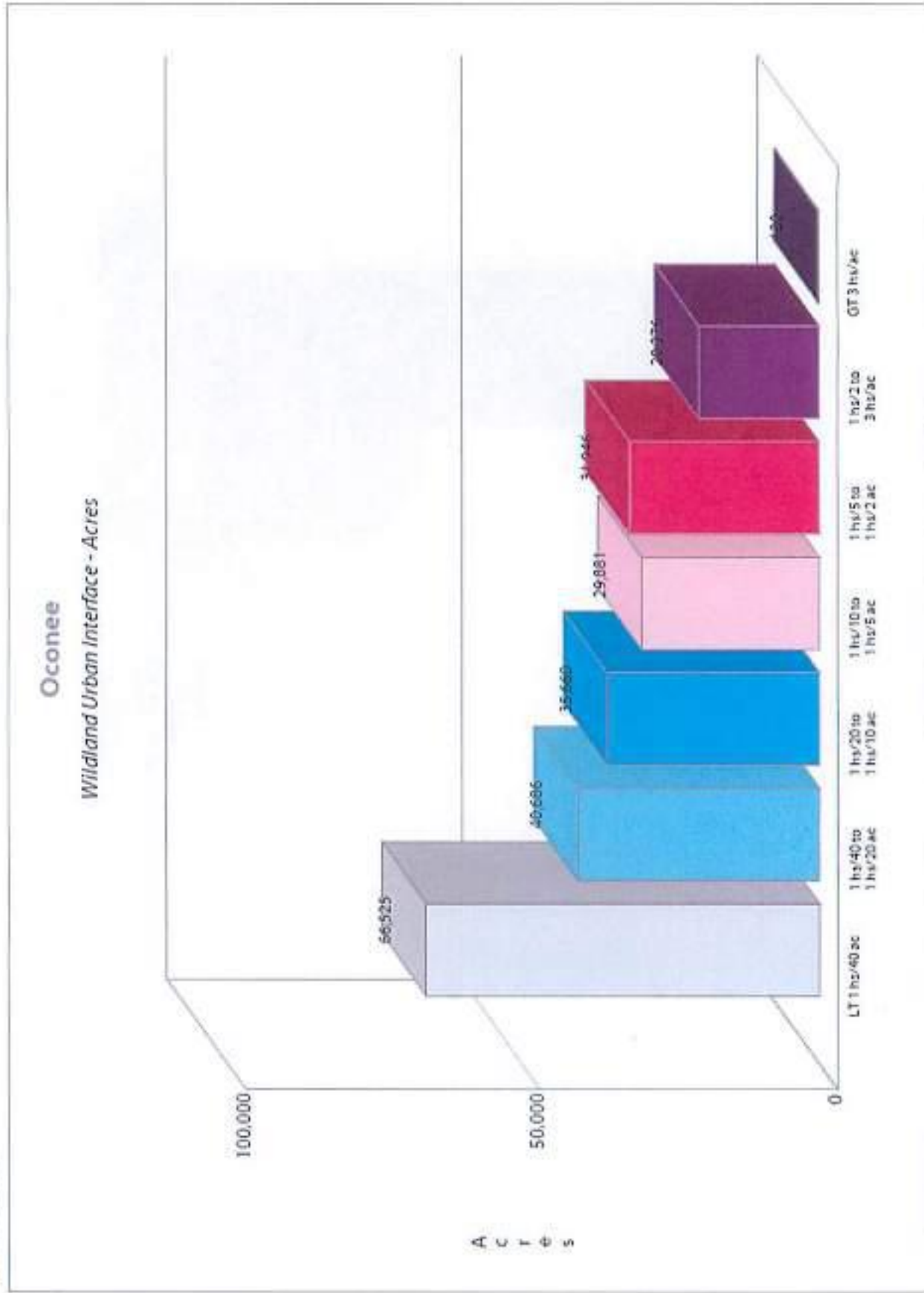
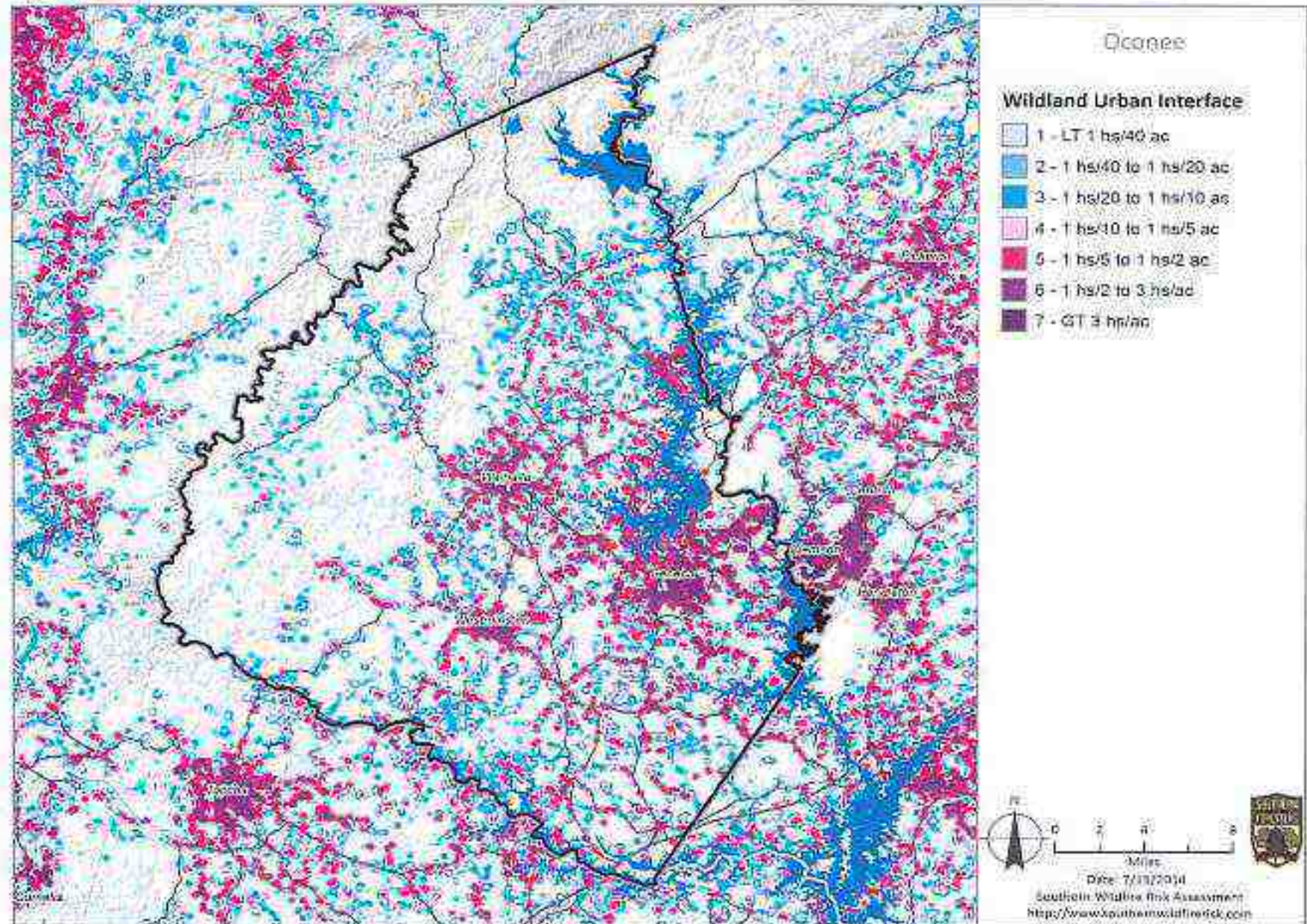




Figure 5 WUI Map





defined to represent potential impacts. The response functions were defined by a team of experts based on values defined by the SWRA Update Project technical team. By combining flame length with the WUI housing density data, you can determine where the greatest potential impact to homes and people is likely to occur.

Fire intensity data is modeled to incorporate penetration into urban fringe areas so that outputs better reflect real world conditions for fire spread and impact in fringe urban interface areas. With this enhancement, houses in urban areas adjacent to wildland fuels are incorporated into the WUI risk modeling. All areas in the South have the WUI Risk Index calculated consistently, which allows for comparison and ordination of areas across the entire region. Data is modeled at a 30-meter cell resolution, which is consistent with other SWRA layers.

Table 5 WUI Risk acreage

Class	Acres	Percent
-9 Major Impacts	4	0.0%
-8	1,551	0.7%
-7	6,991	3.2%
-6	7,306	3.3%
-5 Moderate	68,243	30.9%
-4	41,544	18.8%
-3	22,205	10.1%
-2	57,421	26.0%
-1 Minor Impacts	15,591	7.1%
<b>Total</b>	<b>220,856</b>	<b>100.0%</b>



Figure 6 WUI Risk acres

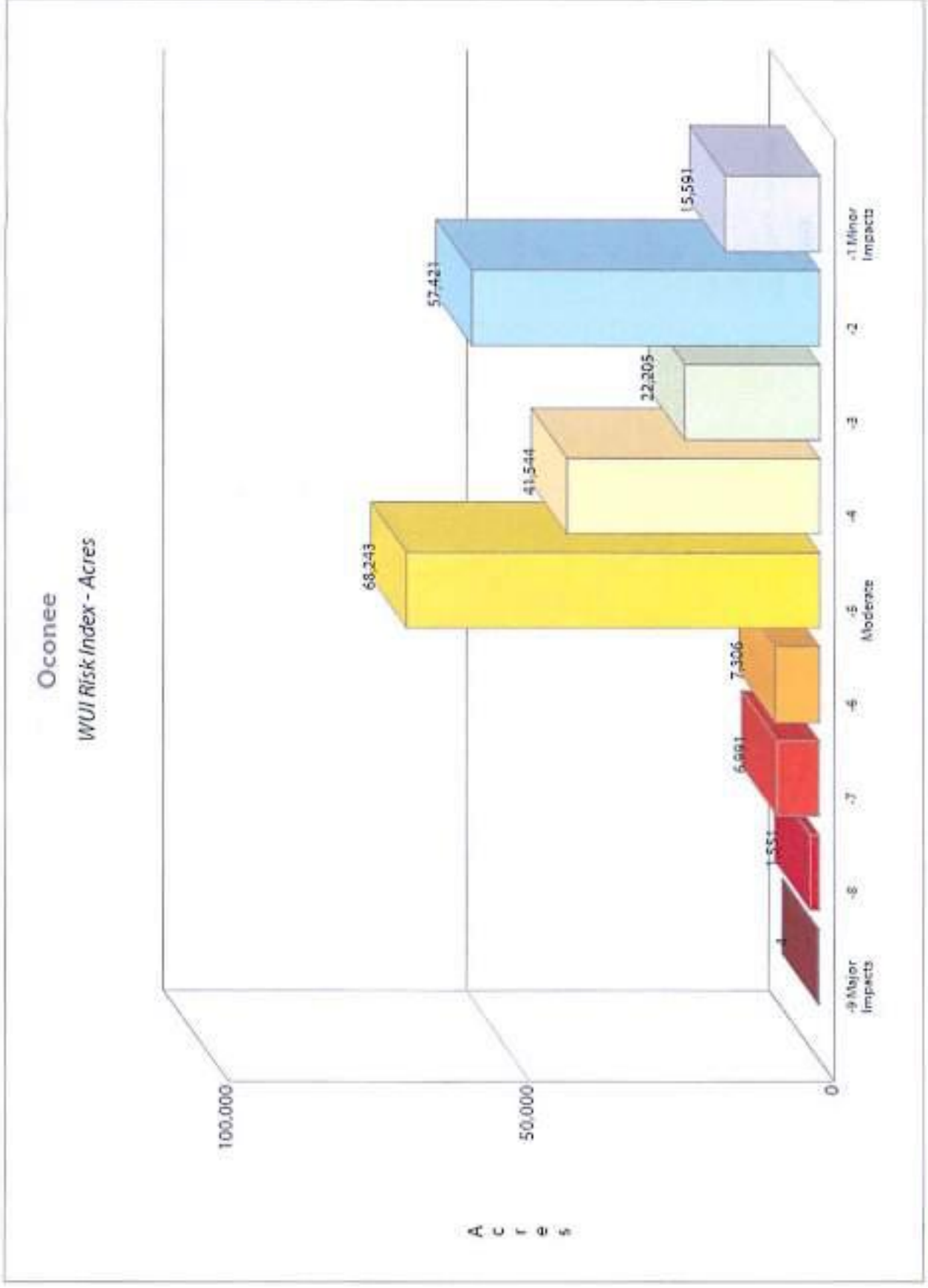
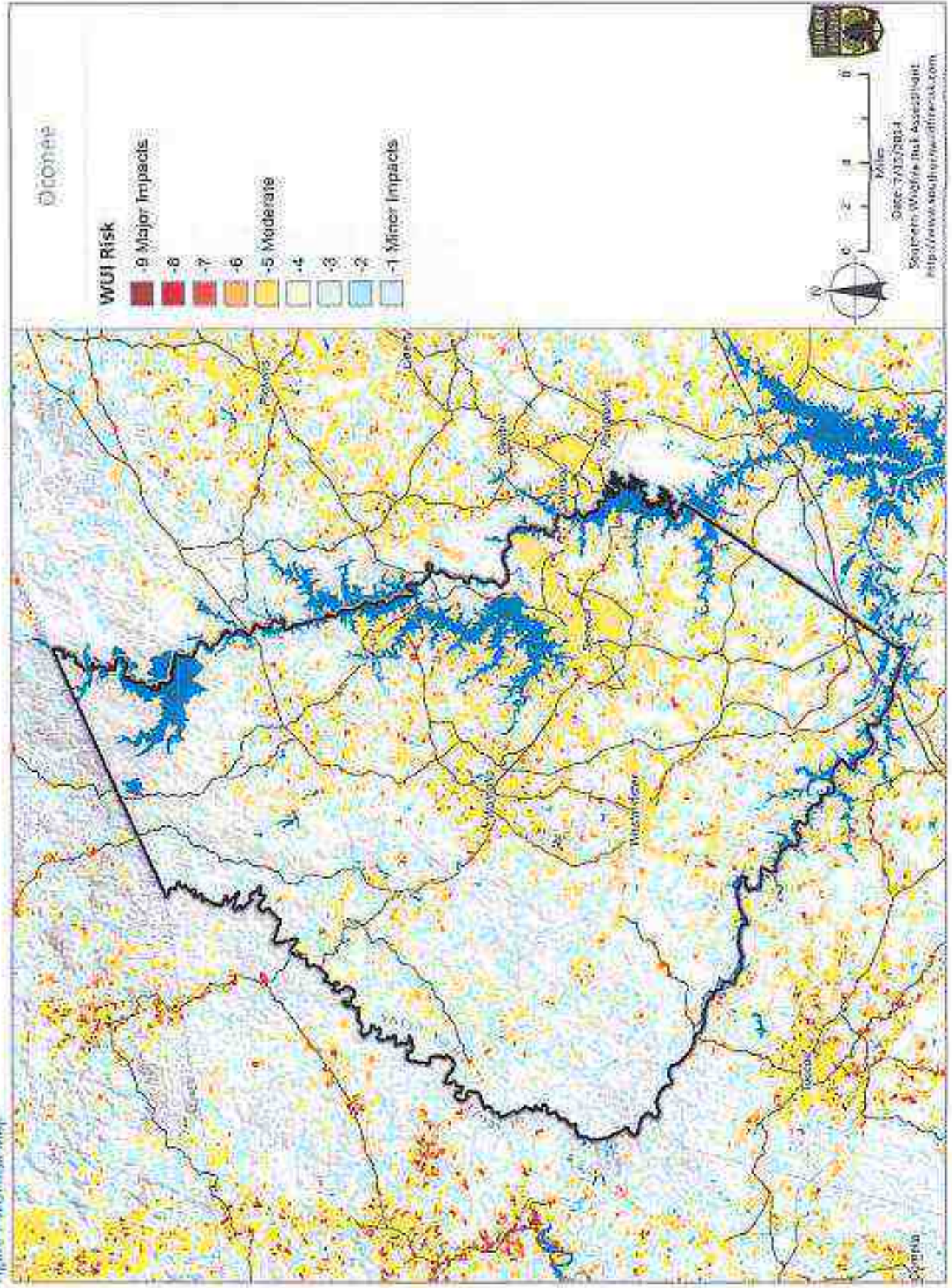


Figure 7 WUI Risk Map





#### 4.7 SouthWRAP: WUI Risk Index and County Data

The SouthWRAP WUI Risk Index map and corresponding data was used in conjunction with a variety of geospatial data and information supplied by Oconee County GIS and Tax Assessor Departments. Fire Department Response Areas (FDRA) or jurisdictions within the Oconee County were utilized as focus areas that could better inform not only local governments and Fire Departments, but also the County as a whole in providing the wildfire vulnerability snapshot.

Utilizing Oconee County GIS/Assessor Parcel and structure spatial data (GIS), an analysis was used to approximate the number of vulnerable structures, structure types, and parcel values (structures and land), per WUI Risk Level. The following tables provide the values generated when synthesizing the SouthWRAP WUI RISK Index output with this locally supplied data. In summary, the following the outputs were derived using this technique:

- ❖ Structures: 62,821 structures or 70% of all the structures within Oconee County reside in WUI Risk Index levels 4 through 9.
- ❖ General Ownership: 117,247 acres of land within Oconee County falls within WUI Risk Index 4 through 9.
- ❖ Private Land Ownership: 99,105 acres of private land falls within WUI Risk Index 4 through 9.
- ❖ Parcels: A total of 4.5 billion dollars, or 55% of the total assessed parcel values within the County fall within WUI Risk Index 4 through 9.

Table 6 WUI Risk-Parcel Values

WUI RISK	County Parcel Values
-9	\$ 30,115
-8	\$ 51,324,231
-7	\$ 205,621,475
<b>Subtotal</b>	<b>\$ 256,975,821</b>
-6	\$ 95,001,809
-5	\$ 3,413,673,016
-4	\$ 672,945,726
<b>Subtotal</b>	<b>\$ 4,181,620,550</b>
-3	\$ 390,885,135
-2	\$ 698,280,292
-1	\$ 277,086,177
0	\$ 2,260,921,515
<b>Subtotal</b>	<b>\$ 3,627,173,119</b>
<b>Grand Total</b>	<b>\$ 8,065,769,498</b>

Figure 8 WUI Risk-Parcel Overlay

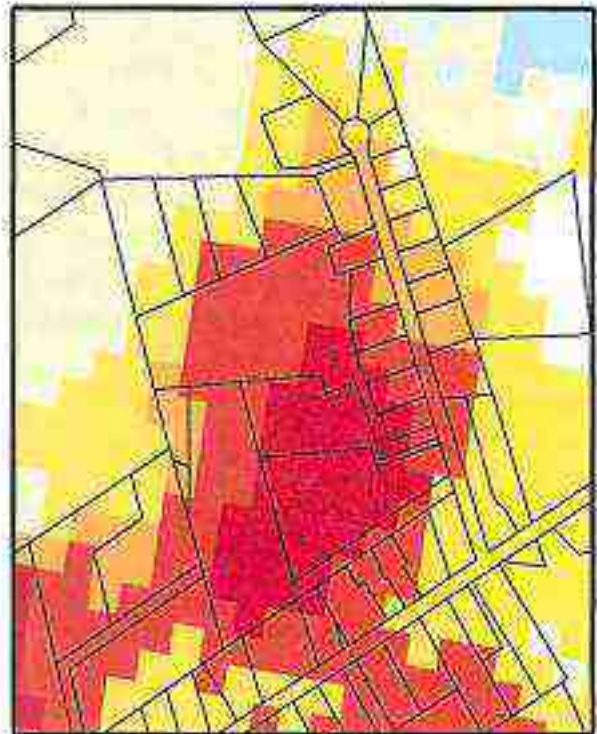


Table 7 WUI Risk Structures

WUI RISK	County Structures
-9	0
-8	510
-7	2,586
<b>SUBTOTAL</b>	<b>3,096</b>
-6	1,342
-5	49,485
-4	8,898
<b>SUBTOTAL</b>	<b>59,725</b>
-3	3,552
-2	9,567
-1	1,571
0	12,855
<b>SUBTOTAL</b>	<b>27,545</b>
<b>Grand Total</b>	<b>90,366</b>

Figure 9 WUI Risk-Structures Overlay

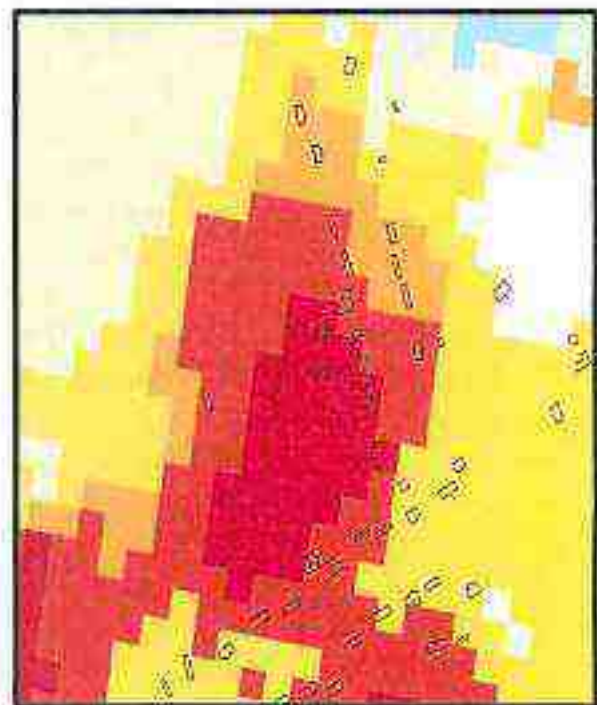




Table 8 Will Risk, average by Fire Department

RESPONSE AREA	HIGH			MODERATE						LOW					Grand Total
	-9	-8	-7	SUBTOTAL L	-6	-5	-4	SUBTOTAL L	-3	-2	-1	0	SUBTOTAL L		
Cleveland		57	240	297	257	1,174	1,502	2,933	1,396	4,374	1,568	16,296	23,635	26,866	
Corinth		143	318	461	189	4,766	1,068	6,023	600	782	320	6,160	7,862	14,346	
Shiloh		34	211	247	169	3,841	1,832	5,842	720	3,358	563	6,177	10,818	16,907	
Crossroads	2	16	268	284	239	2,295	1,001	3,536	491	1,385	853	7,214	9,442	13,261	
Fair Play		50	296	347	138	2,953	1,058	4,150	517	1,485	773	6,085	8,860	13,356	
Friendship	1	92	152	245	61	1,835	442	2,338	292	651	420	6,087	7,450	10,034	
Keowee															
Keowee															
Ebenezer	0	128	642	771	494	3,707	1,438	5,640	682	1,432	439	7,999	10,551	16,961	
Long Creek		26	186	212	402	2,200	4,235	6,838	2,022	5,742	1,014	28,888	37,665	44,715	
Mountain Rest		51	303	353	863	2,747	6,791	10,396	2,591	7,788	1,263	32,857	44,499	55,248	
Oakway		79	317	396	240	3,835	1,866	5,941	558	3,429	751	5,798	10,535	16,872	
Picket Post / Camp Oak		45	529	574	863	2,991	3,599	7,452	2,100	4,233	999	8,942	17,275	25,301	
Salem		81	562	643	1,12	3,152	5,101	9,381	3,382	6,627	2,156	31,488	45,653	55,676	
Seneca		191	467	658	171	3	1,317	11,531	583	1,149	356	4,714	6,801	18,991	
South Union		11	137	148	130	2,827	1,924	4,881	1,150	2,734	803	5,978	10,665	15,695	
Walhalla		248	904	1,152	578	7,482	2,360	10,420	1,260	3,747	1,042	10,710	16,759	28,331	
West Union		60	472	532	351	4,833	1,594	6,779	792	2,205	574	4,023	7,594	14,905	
Westminster	1	190	869	1,060	933	8,020	4,214	13,167	2,608	6,615	1,876	16,350	27,449	41,675	
Grand Total	4	1,504	6,874	8,382	6	7	3	117,247	2	5	0	5	303,512	429,141	



Table 3: WUI Risk Structures by Fire Department

RESPONSE AREA	HIGH				MODERATE				LOW				Grand Total	
	-9	-8	-7	SUBTOTAL	-6	-5	-4	SUBTOTAL	-3	-2	-1	0		SUBTOTAL
Cleveland		11	84	95	36	444	257	737	140	611	118	632	1,501	2,333
Corinth Shiloh		17	55	72	14	3,993	233	4,220	115	104	46	587	852	5,144
Crossroads		21	91	112	29	2,527	506	3,062	134	618	31	519	1,302	4,476
Fair Play			60	60	34	1,376	237	1,647	71	284	65	613	1,033	2,740
Friendship		18	157	175	98	2,381	415	2,894	139	436	94	622	1,291	4,360
Keowee		65	69	134	9	1,395	121	1,525	58	95	39	1,102	1,294	2,953
Keowee Ebenezer		25	228	253	107	2,642	485	3,234	209	395	110	1,467	2,181	5,668
Long Creek		7	117	124	52	544	287	883	204	618	48	368	1,238	2,245
Mountain Rest		13	108	121	182	827	666	1,675	317	609	57	392	1,375	3,171
Oakway		26	104	130	72	2,099	589	2,760	100	784	63	387	1,334	4,224
Pickett Post / Camp Oak		28	163	191	111	1,251	729	2,091	249	710	84	492	1,535	3,817
Salem		26	215	241	212	1,704	1,062	2,978	437	1,058	223	1,018	2,736	5,955
Seneca		86	188	274	42	10,651	478	11,171	126	274	84	1,365	1,849	13,294
South Union		1	80	81	30	1,718	685	2,433	456	587	153	758	1,954	4,468
Walhalla		89	366	455	124	6,759	636	7,519	206	636	47	703	1,592	9,566
West Union		19	184	203	52	3,305	443	3,800	162	519	120	602	1,403	5,406
Westminster		58	317	375	138	5,869	1,089	7,096	429	1,229	189	1,228	3,075	10,546
County Total		510	2,586	3,096	1,342	49,485	8,898	59,725	3,552	9,567	1,571	12,855	27,545	90,366



Table 10 WUI Risk Parcel Values by Fire Department-High

RESPONSE AREA	HIGH			SUBTOTAL
	-9	-8	-7	
Cleveland		\$621,635	\$2,796,488	\$3,418,124
Corinth Shiloh		\$3,555,230	\$12,836,712	\$16,391,942
Crossroads	\$5,832	\$312,181	\$4,418,505	\$4,736,517
Fair Play		\$83,561	\$5,954,858	\$6,038,419
Friendship		\$3,263,973	\$48,170,786	\$51,434,759
Keowee	\$19,781	\$17,829,925	\$22,374,501	\$40,224,206
Keowee Ebenezer	\$1,732	\$5,890,536	\$28,795,893	\$34,688,161
Long Creek		\$125,853	\$1,701,396	\$1,827,248
Mountain Rest		\$177,131	\$3,888,105	\$4,065,235
Oakway		\$696,268	\$2,647,189	\$3,343,457
Pickett Post / Camp Oak		\$280,264	\$5,411,882	\$5,692,146
Salem		\$1,397,333	\$9,090,223	\$10,487,556
Seneca		\$10,875,849	\$20,299,504	\$31,175,353
South Union		\$46,825	\$3,873,398	\$3,920,223
Walhalla		\$3,281,317	\$13,040,202	\$16,321,518
West Union		\$1,145,508	\$11,312,831	\$12,458,339
Westminster	\$2,770	\$1,740,843	\$9,009,003	\$10,752,616
<b>Grand Total</b>	<b>\$30,115</b>	<b>\$51,324,231</b>	<b>\$205,621,475</b>	<b>\$256,975,821</b>

Table 11 WUI Risk Parcel Values by Fire Department-Moderate

RESPONSE AREA	MODERATE			SUBTOTAL
	-6	-5	-4	
Cleveland	\$1,506,988	\$18,100,343	\$10,663,314	\$30,270,646
Corinth Shiloah	\$3,723,068	\$424,146,940	\$29,976,855	\$457,846,862
Crossroads	\$2,053,260	\$78,997,339	\$27,352,060	\$108,402,660
Fair Play	\$2,316,467	\$74,111,251	\$23,179,159	\$99,606,877
Friendship	\$2,457,428	\$80,162,678	\$20,435,718	\$103,055,824
Keowee	\$4,298,411	\$472,913,510	\$50,735,409	\$527,947,331
Keowee Ebenezer	\$15,639,718	\$344,379,631	\$85,983,528	\$446,002,878
Long Creek	\$1,835,860	\$12,657,475	\$14,415,739	\$28,909,074
Mountain Rest	\$7,342,850	\$22,707,308	\$28,898,278	\$58,948,436
Oakway	\$2,436,610	\$60,528,050	\$16,745,792	\$79,710,453
Pickett Post / Camp Oak	\$7,126,147	\$51,714,488	\$35,998,178	\$94,838,813
Salem	\$17,678,964	\$55,536,345	\$102,657,844	\$175,873,153
Seneca	\$8,355,863	\$977,430,996	\$62,559,305	\$1,048,346,164
South Union	\$1,071,413	\$125,701,172	\$61,985,445	\$188,758,030
Walhalla	\$5,175,593	\$254,429,276	\$24,676,889	\$284,281,757
West Union	\$5,071,900	\$156,931,687	\$33,777,357	\$195,780,944
Westminster	\$6,911,267	\$203,224,526	\$47,904,856	\$253,040,649
<b>Grand Total</b>	<b>\$95,001,809</b>	<b>\$3,413,673,016</b>	<b>\$672,945,726</b>	<b>\$4,181,620,550</b>



Table 12 WUI Risk Parcel Values by Fire Department-Low

RESPONSE AREA	LOW				SUBTOTAL
	-3	-2	-1	0	
Cleveland	\$7,712,599	\$24,276,957	\$8,580,910	\$63,263,739	\$103,834,204
Corinth-Shiloh	\$22,985,769	\$14,403,087	\$4,685,086	\$113,748,774	\$155,822,716
Crossroads	\$15,546,372	\$30,694,535	\$5,333,605	\$49,216,738	\$100,791,250
Fair Play	\$8,167,236	\$22,132,117	\$11,699,215	\$59,632,665	\$101,631,233
Friendship	\$8,078,870	\$26,949,108	\$13,113,718	\$83,248,355	\$131,390,051
Keowee	\$35,489,118	\$54,996,119	\$37,931,855	\$454,700,588	\$583,117,680
Keowee Ebenezer	\$50,101,014	\$69,030,695	\$45,690,235	\$288,935,794	\$453,757,738
Long Creek	\$9,081,244	\$25,919,455	\$3,294,991	\$50,102,928	\$88,398,618
Mountain Rest	\$13,583,815	\$26,829,049	\$2,545,714	\$33,763,260	\$76,721,837
Oakway	\$3,602,489	\$25,178,181	\$3,674,251	\$26,277,780	\$58,732,701
Pickett Post / Camp Oak	\$17,521,021	\$28,032,739	\$5,904,269	\$43,686,380	\$95,144,308
Salem	\$78,982,575	\$133,444,522	\$56,575,838	\$443,743,821	\$712,746,756
Seneca	\$25,904,177	\$41,431,861	\$17,680,087	\$244,754,637	\$329,770,764
South Union	\$37,406,270	\$42,596,347	\$17,396,114	\$42,106,206	\$139,504,937
Walhalla	\$9,595,473	\$28,244,593	\$5,244,256	\$77,457,764	\$120,542,087
West Union	\$22,043,611	\$50,923,307	\$22,210,287	\$105,105,624	\$200,282,828
Westminster	\$25,083,482	\$53,197,622	\$15,525,746	\$81,176,562	\$174,983,411
<b>Grand Total</b>	<b>\$390,885,135</b>	<b>\$698,280,292</b>	<b>\$277,086,177</b>	<b>\$2,260,921,515</b>	<b>\$3,627,173,119</b>

## 4.8 SouthWRAP: Community Protection Zones

Community Protection Zones (CPZ) represent those areas considered highest priority for mitigation planning activities. CPZs are based on an analysis of the Where People Live housing density data and surrounding fire behavior potential. Rate of Spread data is used to determine the areas of concern around populated areas that are within a 2-hour fire spread distance. This is referred to as the Secondary CPZ.

General consensus among fire planners is that for fuel mitigation treatments to be effective in reducing wildfire hazard, they must be conducted within a close distance of a community. In the South, the WUL housing density has been used to reflect populated areas in place of community boundaries (Primary CPZ). This ensures that CPZs reflect where people are living in the wildland, not jurisdictional boundaries.

Secondary CPZs represent a variable width buffer around populated areas that are within a 2-hour fire spread distance. Accordingly, CPZs will extend farther in areas where rates of spread are greater and less in areas where minimal rate of spread potential exists. Secondary CPZ boundaries inherently incorporate fire behavior conditions.

Primary CPZs reflect areas with a predefined housing density, such as greater than 1 house per 20 acres. Secondary CPZs are the areas around Primary CPZs within a 2-hour fire spread distance.

All areas in the South have the CPZs calculated consistently, which allows for comparison and ordination of areas across the entire region. Data is modeled at a 30-meter cell resolution, which is consistent with other SWRA layers.

Table 13 CPZ acreage

Class	Acres	Percent
Primary	116,971	55.8%
Secondary	92,781	44.2%
<b>Total</b>	<b>209,752</b>	<b>100.0%</b>



Table 14 CPZ acreage by Fire Department

Response Area	None	Primary	Secondary	Total Acreage
Cleveland	18,343	3,396	5,126	26,866
Corinth Shiloh	5,368	6,917	2,061	14,346
Crossroads	3,498	6,832	6,577	16,907
Fair Play	4,738	4,106	4,418	13,261
Friendship	5,795	4,865	2,697	13,356
Keowee	6,723	2,460	851	10,034
Keowee Ebenezer	7,126	6,544	3,290	16,961
Long Creek	34,602	2,314	7,799	44,715
Mountain Rest	42,243	4,049	8,956	55,248
Oakway	3,529	6,580	6,763	16,872
Pickett Post / Camp Oak	11,235	7,326	6,739	25,301
Salem	39,277	8,882	7,517	55,676
Seneca	3,890	12,783	2,317	18,991
South Union	4,991	6,058	4,645	15,695
Walhalla	10,596	11,681	6,053	28,331
West Union	3,185	7,484	4,237	14,905
Westminster	14,260	14,894	12,521	41,675
<b>County Total</b>	<b>219,399</b>	<b>117,173</b>	<b>92,570</b>	<b>429,141</b>

Figure 10 County CPZ acreage

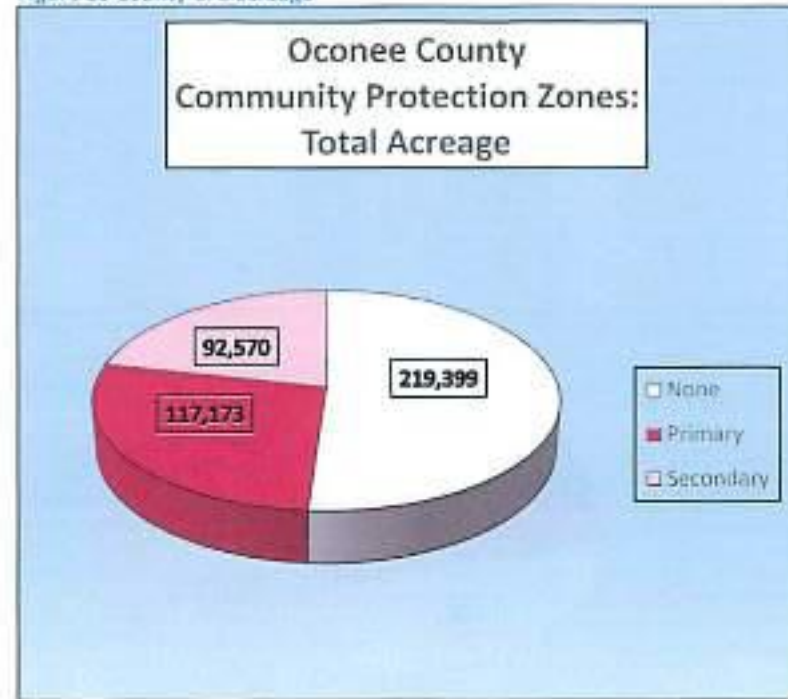


Table 15 CPZ % by Fire Department

Response Area	None	Primary	Secondary
Cleveland	28%	36%	36%
Corinth Shiloh	33%	33%	33%
Crossroads	27%	38%	35%
Fair Play	33%	33%	33%
Friendship	31%	35%	35%
Keowee	30%	37%	33%
Keowee Ebenezer	30%	37%	33%
Long Creek	28%	36%	36%
Mountain Rest	31%	35%	35%
Oakway	25%	38%	38%
Pickett Post / Camp Oak	31%	35%	35%
Salem	31%	35%	35%
Seneca	33%	33%	33%
South Union	29%	38%	33%
Walhalla	31%	35%	35%
West Union	25%	38%	38%
Westminster	30%	37%	33%
<b>County Total</b>	<b>30%</b>	<b>36%</b>	<b>35%</b>

Figure 11 County CPZ %

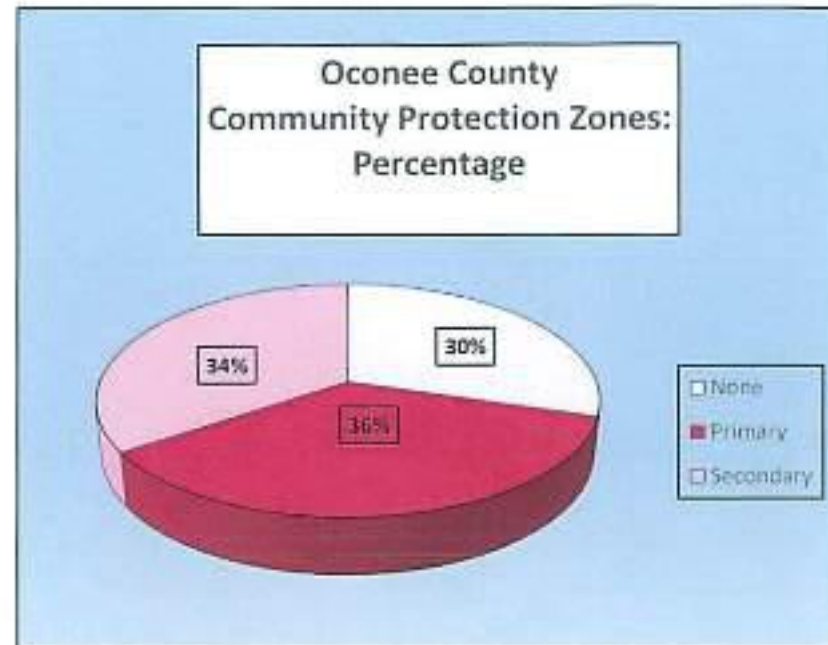
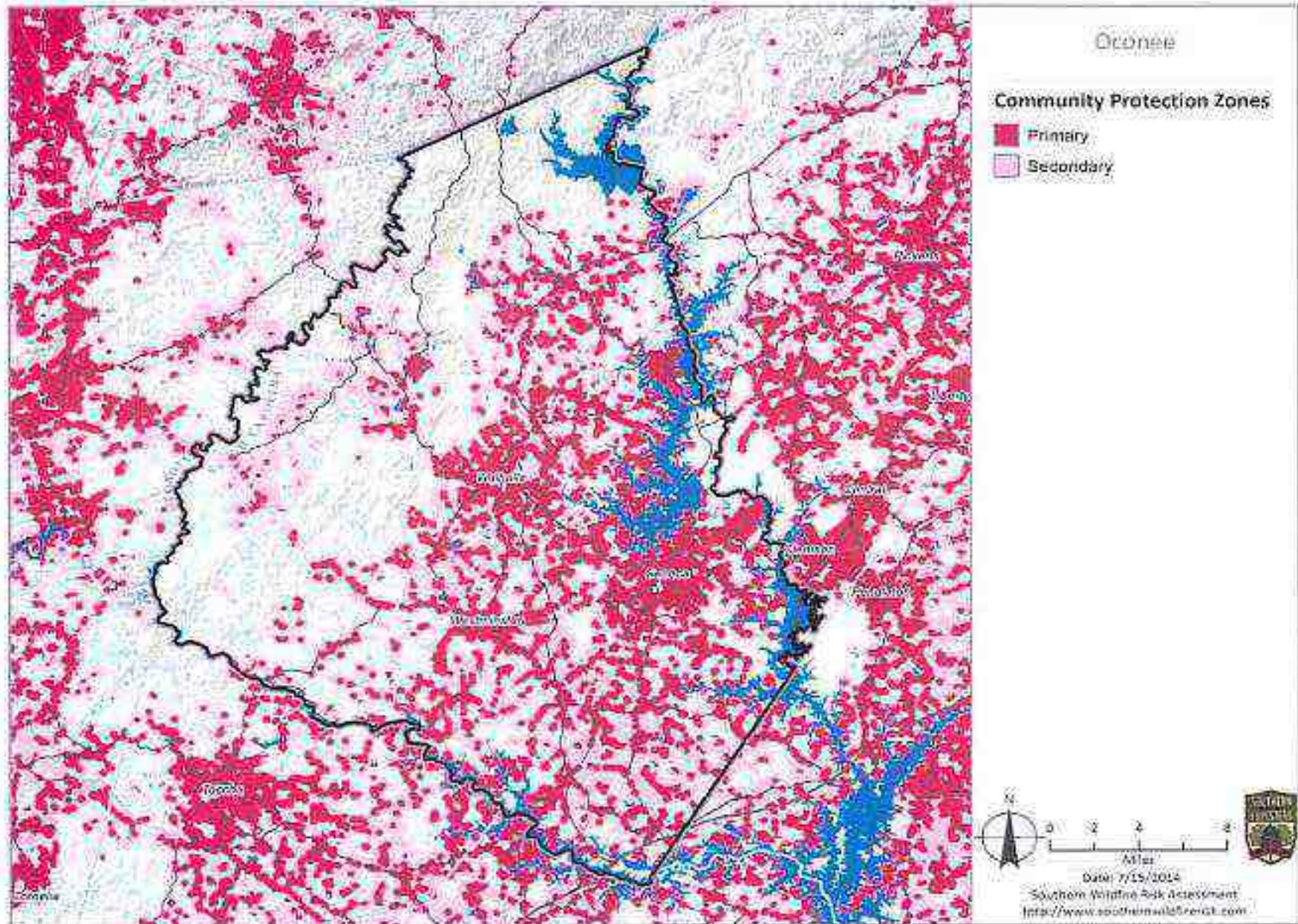




Figure 12. CPZ Map





## 4.9 SouthWRAP Burn Probability

The Burn Probability (BP) layer depicts the probability of an area burning given current landscape conditions, percentile weather, historical ignition patterns and historical fire prevention and suppression efforts.

In more detail, it is the tendency of any given pixel to burn, given the static landscape conditions depicted by the LANDFIRE Refresh 2008 dataset (as resampled by FPA), contemporary weather and ignition patterns, as well as contemporary fire management policies (entailing considerable fire prevention and suppression efforts).

The BP data does not, and is not intended to, depict fire-return intervals of any vintage, nor do they indicate likely fire footprints or routes of travel. Nothing about the expected shape or size of any actual fire incident can be interpreted from the burn probabilities. Instead, the BP data, in conjunction with the Fire Program Analysts FFL layers, are intended to support an actuarial approach to quantitative wildfire risk analysis (e.g., see Thompson et al. 2011).

Values in the Burn Probability (BP) data layer indicate, for each pixel, the number of times that cell was burned by an FSim-modeled fire, divided by the total number of annual weather scenarios simulated. Burn probability raster data was generated using the large fire simulator - FSim - developed for use in the Fire Program Analysis (FPA) project. FSim uses historical weather data and current landcover data for discrete geographical areas (Fire Planning Units - FPU) and simulates fires in these FPU. Using these simulated fires, an overall burn probability and marginal burn probabilities at four fire intensities

(flame lengths) are returned by FSim for each 270m pixel in the FPU.

The fire growth simulations, when run repeatedly with different ignition locations and weather streams, generate burn probabilities and fire behavior distributions at each landscape location (i.e., cell or pixel). Results are objectively evaluated through comparison with historical fire patterns and statistics, including the mean annual burn probability and fire size distribution, for each FPU. This evaluation is part of the FSim calibration process for each FPU, whereby simulation inputs are adjusted until the slopes of the historical and modeled fire size distributions are similar and the modeled average burn probability falls within an acceptable range of the historical reference value (i.e., the 95% confidence interval for the mean).

Table 16 Burn Probability Acres

Class	Acres	Percent
1	79,291	22.1%
2	115,081	32.1%
3	81,858	22.8%
4	46,335	12.9%
5	36,177	10.1%
6	0	0.0%
7	0	0.0%
8	0	0.0%
9	0	0.0%
10	0	0.0%
<b>Total</b>	<b>358,742</b>	<b>100.0%</b>



Figure 13 Burn Probability Acres

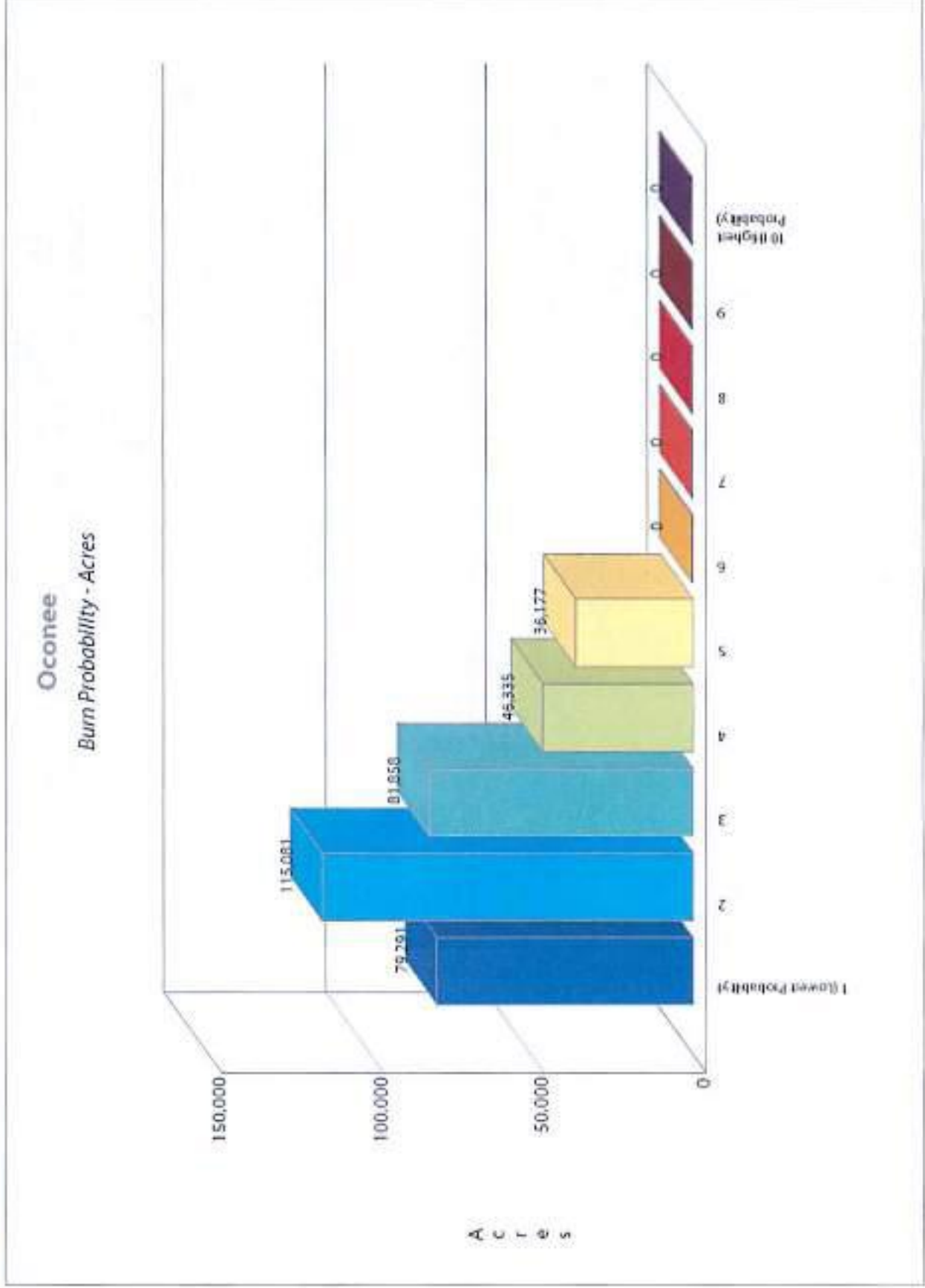
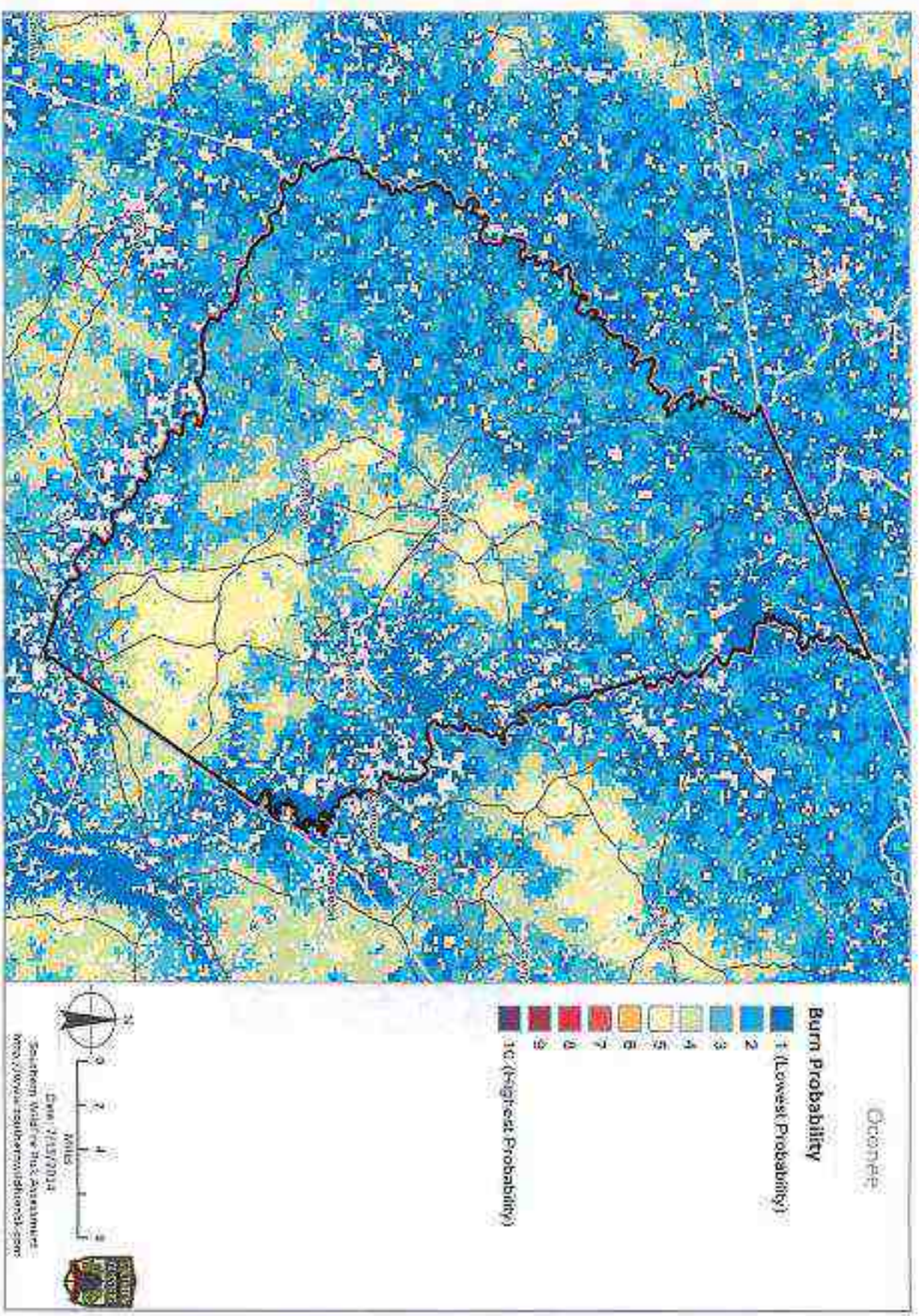


Figure 14 Burn Probability Map





#### 4.10 SouthWRAP: Wildfire Behavior Outputs

Fire behavior is the manner in which a fire reacts to the following environmental influences:

1. Fuels
2. Weather
3. Topography



Fire behavior characteristics are attributes of wildland fire that pertain to its spread, intensity, and growth. Fire behavior characteristics utilized in the Southern Wildfire Risk Assessment (SWRA) include fire type, rate of spread, flame length and fire intensity scale. These metrics are used to determine the potential fire behavior under different weather scenarios. Areas that exhibit moderate to high fire behavior potential can be identified for mitigation treatments, especially if these areas are in close proximity to homes, business, or other assets.

##### Fuels

The SWRA includes composition and characteristics for both surface fuels and canopy fuels. Significant increases in fire behavior will be captured if the fire has the potential to transition from a surface fire to a canopy fire.

Fuel datasets required to compute both surface and canopy fire potential include:

- **Surface Fuels**, generally referred to as fire behavior fuel models, provide the input parameters needed to compute surface fire behavior.
- **Canopy Cover** is the horizontal percentage of the ground surface that is covered by

tree crowns. It is used to compute wind reduction factors and shading.

- **Canopy Ceiling Height/Stand Height** is the height above the ground of the highest canopy layer where the density of the crown mass within the layer is high enough to support vertical movement of a fire. A good estimate of canopy ceiling height would be the average height of the dominant and co-dominant trees in a stand. It is used for computing wind reduction to midflame height and spotting distances from torching trees (Fire Program Solutions, L.L.C, 2005).
- **Canopy Base Height** is the lowest height above the ground above which there is sufficient canopy fuel to propagate fire vertically (Scott & Reinhardt, 2001). Canopy base height is a property of a plot, stand, or group of trees, not of an individual tree. For fire modeling, canopy base height is an effective value that incorporates ladder fuel, such as tall shrubs and small trees. Canopy base height is used to determine if a surface fire will transition to a canopy fire.
- **Canopy Bulk Density** is the mass of available canopy fuel per unit canopy volume (Scott & Reinhardt, 2001). Canopy bulk density is a bulk property of a stand, plot, or group of trees, not of an individual tree. Canopy bulk density is used to predict whether an active crown fire is possible.

### Weather

Environmental weather parameters needed to compute fire behavior characteristics include 1-hour, 10-hour, and 100-hour timelag fuel moistures, herbaceous fuel moisture, woody fuel moisture, and the 20-foot 10 minute average wind speed. To collect this information, weather influence zones were established across the region. A weather influence zone is an area where for analysis purposes the weather on any given day is considered uniform. Within each weather influence zone, historical daily weather is gathered to compile a weather dataset from which four percentile weather categories are created. The percentile weather categories are intended to represent low, moderate, high, and extreme fire weather days. Fire behavior outputs are computed for each percentile weather category to determine fire potential under different weather scenarios. The four percentile weather categories include:

- Low Weather Percentile (0 - 15%)
- Moderate Weather Percentile (16 - 60%)
- High Weather Percentile (61 - 97%)
- Extreme Weather Percentile (98 - 100%)

### Topography

Topography datasets required to compute fire behavior characteristics are elevation, slope and aspect.

## **FIRE BEHAVIOR CHARACTERISTICS**

Fire behavior characteristics provided in this report include:

- **Characteristic Rate of Spread**
- **Characteristic Flame Length**
- **Characteristic Fire Intensity Scale**
- **Fire Type - Extreme**



#### 4.11 SouthWRAP: Characteristic Rate of Spread

Characteristic Rate of Spread is the typical or representative rate of spread of a potential fire based on a weighted average of four percentile weather categories. Rate of spread is the speed with which a fire moves in a horizontal direction across the landscape, usually expressed in chains per hour (ch/hr) or feet per minute (ft/min). For purposes of the Southern Wildfire Risk Assessment, this measurement represents the maximum rate of spread of the fire front. Rate of Spread is the metric used to derive the Community Protection Zones.

Rate of spread is a fire behavior output, which is influenced by three environmental factors - fuels, weather, and topography. Weather is by far the most dynamic variable as it changes frequently. To account for this variability, four percentile weather categories were created from historical weather observations to represent low, moderate, high, and extreme weather days for each weather influence zone in the South. A weather influence zone is an area where, for analysis purposes, the weather on any given day is considered uniform.

Rate of Spread	Acres	Percent
Non-Burnable	57,630	13.4%
0 - 5 (ch/hr)	156,674	36.3%
5 - 10 (ch/hr)	67,544	15.7%
10 - 15 (ch/hr)	45,149	10.5%
15 - 20 (ch/hr)	34,676	8.0%
20 - 30 (ch/hr)	60,485	14.0%
30 - 50 (ch/hr)	8,763	2.0%
50 - 150 (ch/hr)	174	0.0%
150 + (ch/hr)	0	0.0%
<b>Total</b>	<b>431,096</b>	<b>100.0%</b>

Table 17 Rate of Spread Acres

Figure 15 Rate of Spread-Acres

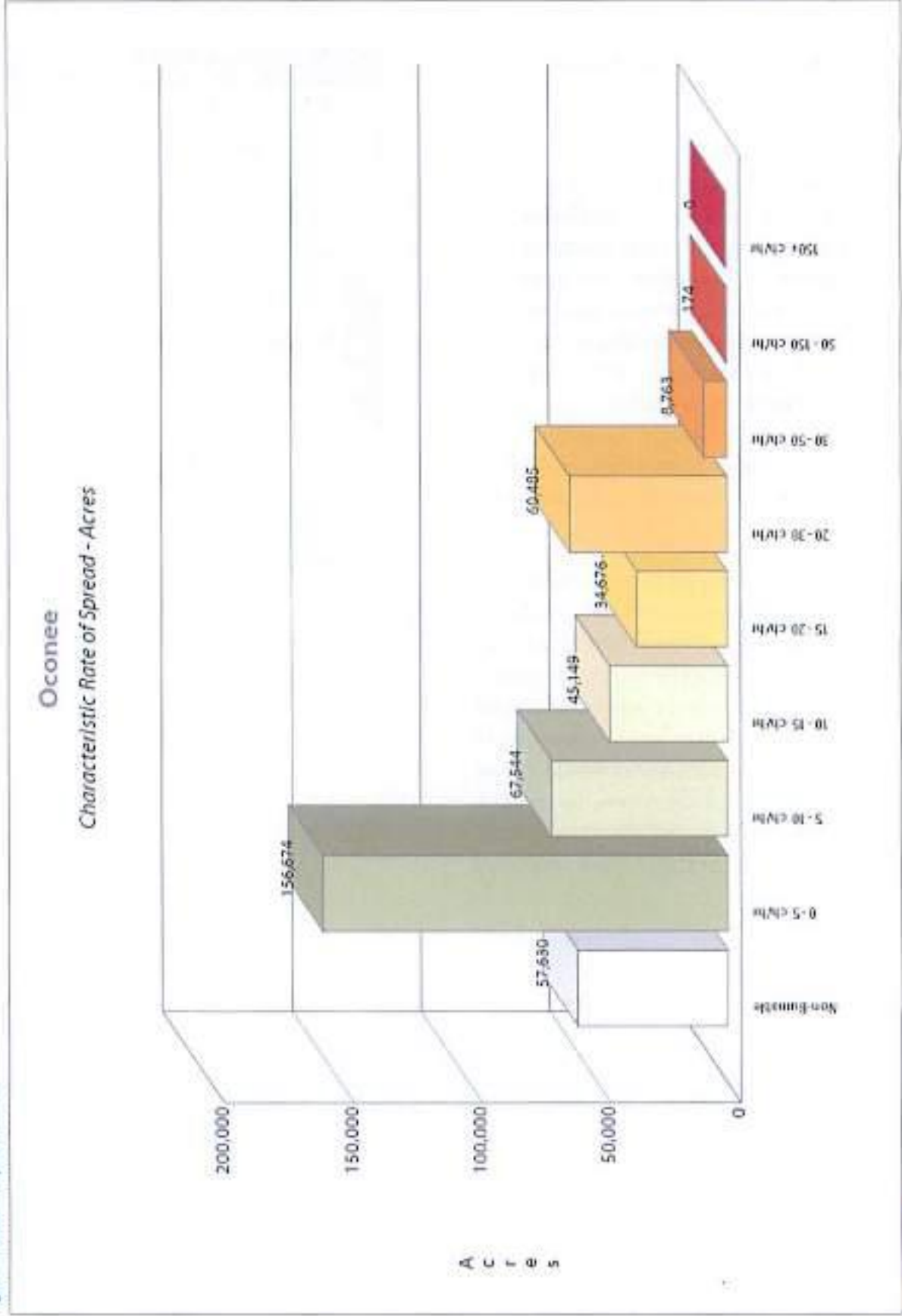
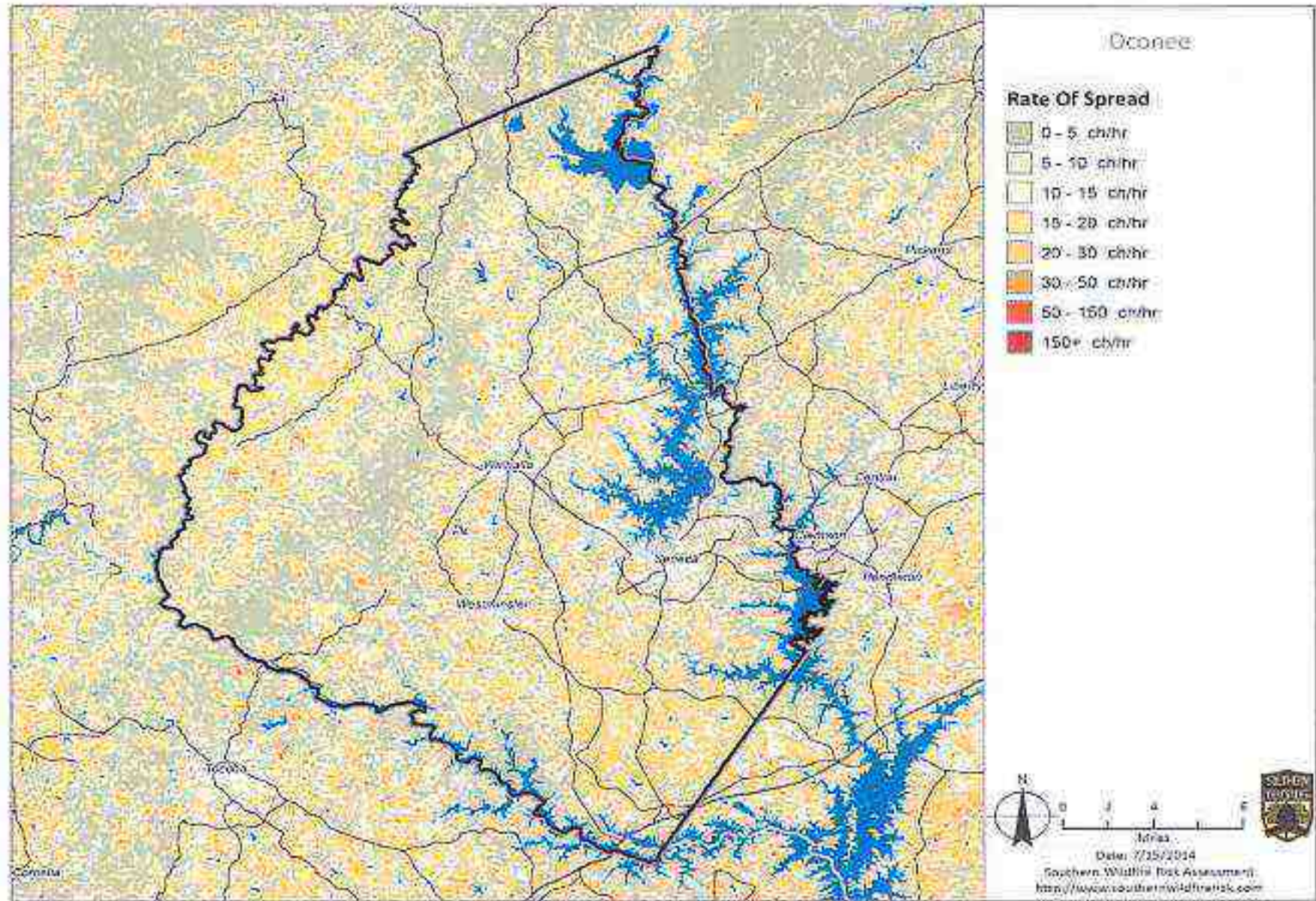




Figure 16 Rate of Spread Map





#### 4.12 SouthWRAP: Characteristic Flame Length

**Characteristic Flame Length** is the typical or representative flame length of a potential fire based on a weighted average of four percentile weather categories. Flame Length is defined as the distance between the flame tip and the midpoint of the flame depth at the base of the flame, which is generally the ground surface. It is an indicator of fire intensity and is often used to estimate how much heat the fire is generating. Flame length is typically measured in feet (ft). Flame length is the measure of fire intensity used to generate the response index outputs for the SWRA.

Flame length is a fire behavior output, which is influenced by three environmental factors - fuels, weather, and topography. Weather is by far the most dynamic variable as it changes frequently. To account for this variability, four percentile weather categories were created from historical weather observations to represent low, moderate, high, and extreme weather days for each weather influence zone in the South. A weather influence zone is an area where, for analysis purposes, the weather on any given day is considered uniform.

Table 18 Flame Length Acres

Flame Length	Acres	Percent
Non-Burnable	57,630	13.4%
0 - 2 ft	111,371	25.8%
2 - 4 ft	154,883	35.9%
4 - 8 ft	44,921	10.4%
8 - 12 ft	20,771	4.8%
12 - 20 ft	24,205	5.6%
20 - 30 ft	10,803	2.5%
30 + ft	6,511	1.5%
<b>Total</b>	<b>431,096</b>	<b>100.0%</b>



Figure 17 Flame Length-Acres

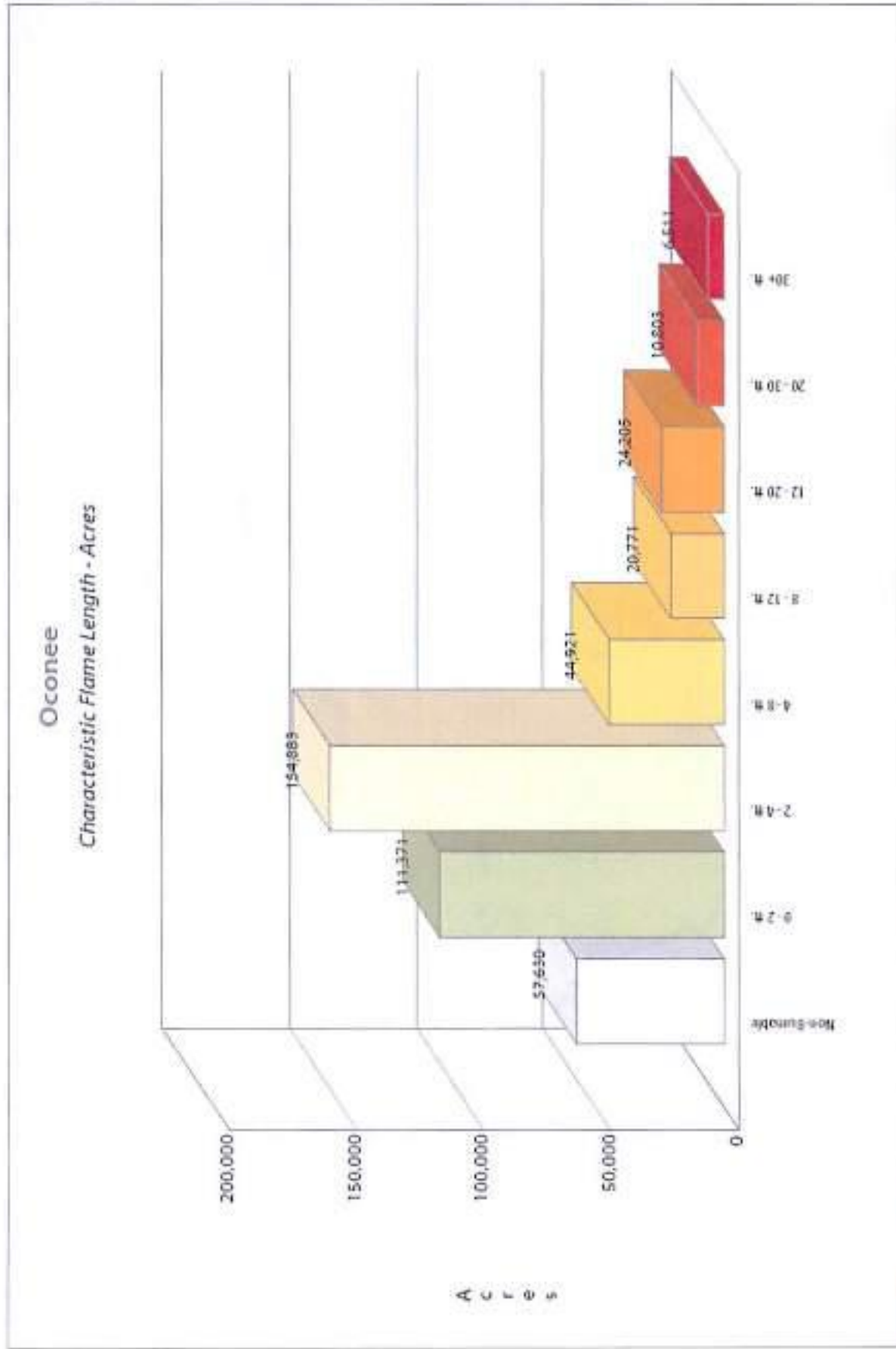
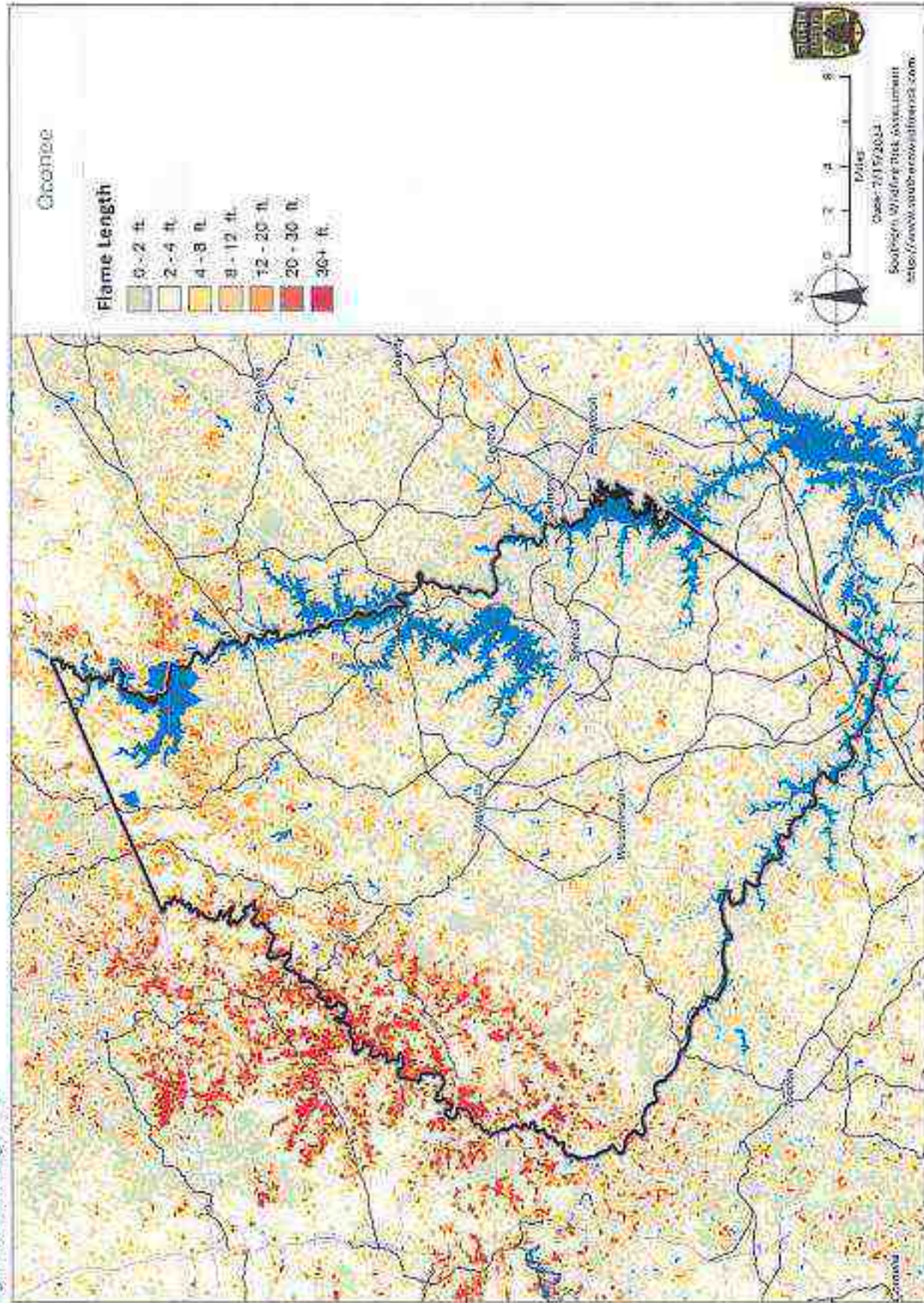


Figure 18 Flame Length Map





### 4.13 SouthWRAP: Characteristic Fire Intensity Scale

Characteristic Fire Intensity Scale (FIS) specifically identifies areas where significant fuel hazards and associated dangerous fire behavior potential exist based on a weighted average of four percentile weather categories. Similar to the Richter scale for earthquakes, FIS provides a standard scale to measure potential wildfire intensity. FIS consist of 5 classes where the order of magnitude between classes is ten-fold. The minimum class, Class 1, represents very low wildfire intensities and the maximum class, Class 5, represents very high wildfire intensities. Refer to descriptions below.

1. **Class 1, Very Low:**  
Very small, discontinuous flames; usually less than 1 foot in length; very low rate of spread; no spotting. Fires are typically easy to suppress by firefighters with basic training and non-specialized equipment.
2. **Class 2, Low:**  
Small flames; usually less than two feet long; small amount of very short range spotting possible. Fires are easy to suppress by trained firefighters with protective equipment and specialized tools.
3. **Class 3, Moderate:**  
Flames up to 8 feet in length; short-range spotting is possible. Trained firefighters will find these fires difficult to suppress without support from aircraft or engines, but dozer and plows are generally effective. Increasing potential for harm or damage to life and property.
4. **Class 4, High:**  
Large flames, up to 30 feet in length; short-range spotting common; medium

range spotting possible. Direct attack by trained firefighters, engines, and dozers is generally ineffective; indirect attack may be effective. Significant potential for harm or damage to life and property.

5. **Class 5, Very High:**  
Very large flames up to 150 feet in length; profuse short-range spotting, frequent long-range spotting; strong fire-induced winds. Indirect attack marginally effective at the head of the fire. Great potential for harm or damage to life and property.

Fire intensity scale is a fire behavior output, which is influenced by three environmental factors - fuels, weather, and topography. Weather is by far the most dynamic variable as it changes frequently. To account for this variability, four percentile weather categories were created from historical weather observations to represent low, moderate, high, and extreme weather days for each weather influence zone in the South. A weather influence zone is an area where, for analysis purposes, the weather on any given day is considered uniform.

The fire intensity scale map is derived at a 30-meter resolution. This scale of data was chosen to be consistent with the accuracy of the primary surface fuels dataset used in the assessment. While not appropriate for site specific analysis, it is appropriate for regional, county or local planning efforts.

Table 19 Fire Intensity Scale

Class	Acres	Percent
Non-Burnable	55,060	12.8%
1 Lowest Intensity	7,013	1.6%
2	110,392	25.6%
3	70,349	16.3%
4	103,680	24.1%
5 Moderate	6,828	1.6%
6	38,496	8.9%
7	30,639	7.1%
8	8,639	2.0%
9 Highest Intensity	0	0.0%
<b>Total</b>	<b>431,096</b>	<b>100.0%</b>



Figure 19 Fire Intensity Scale Map

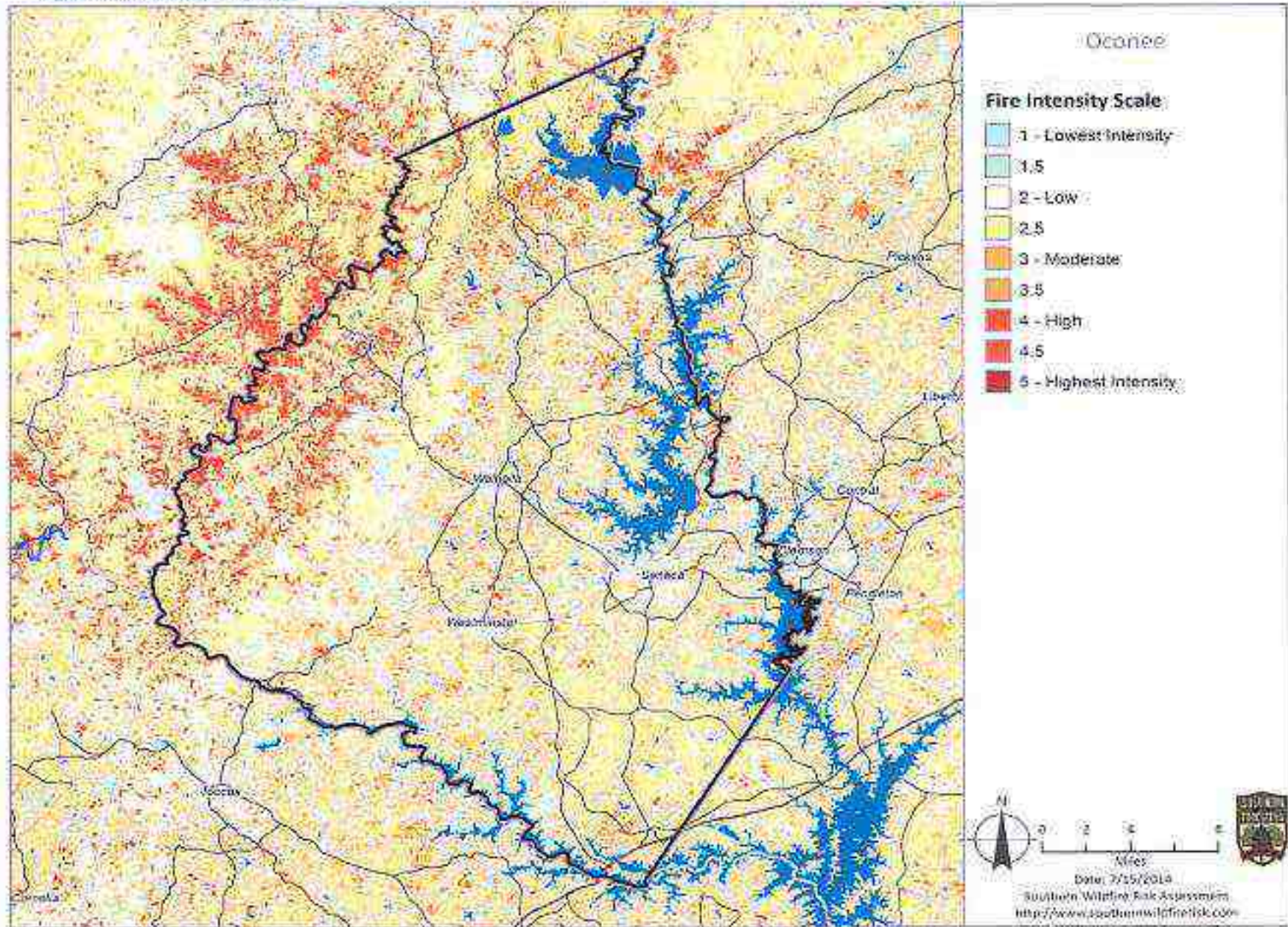
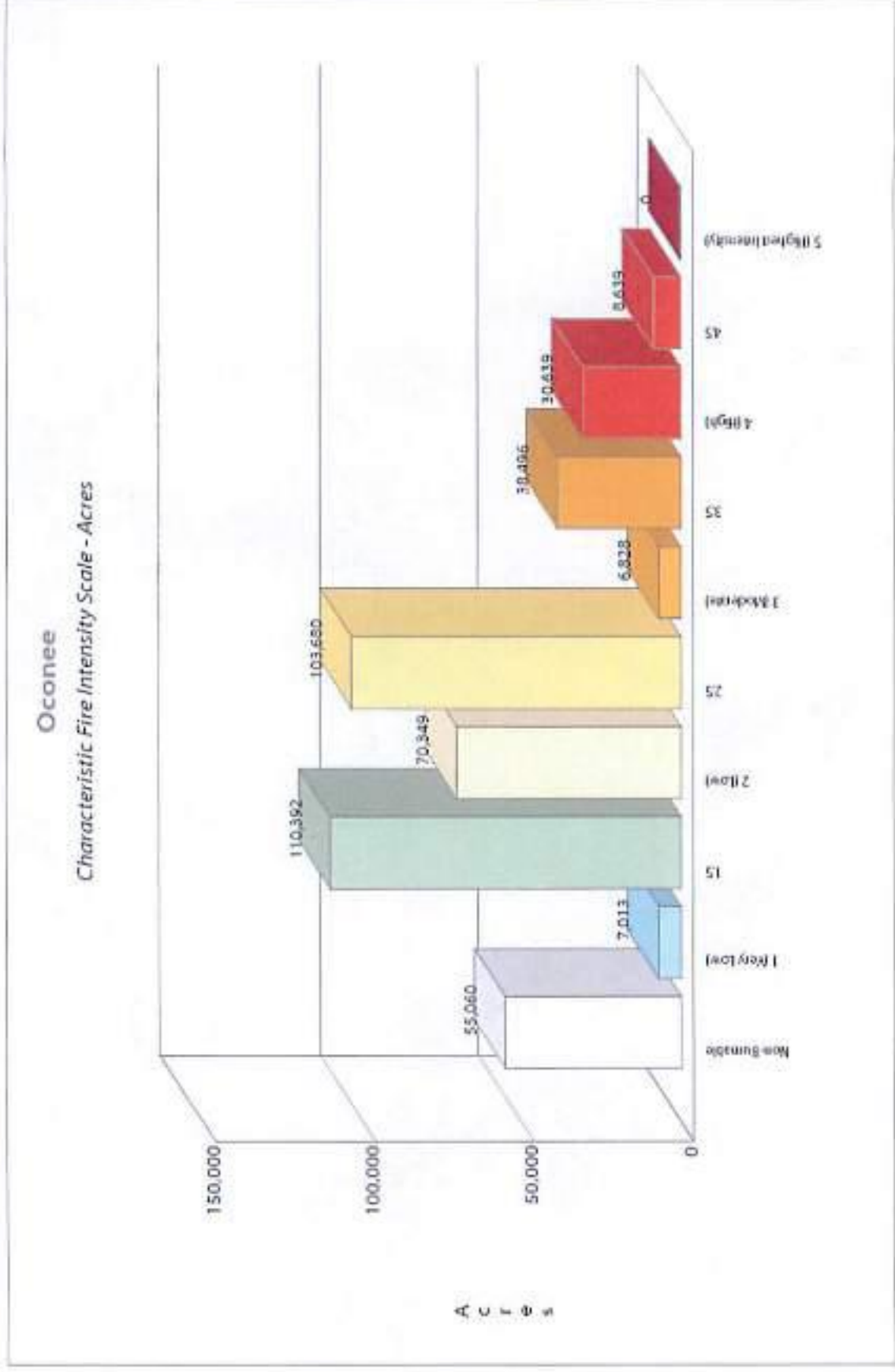



Figure 20 Fire Intensity Scale Acres





#### 4.14 SouthWRAP: Fire Type

Table 20 Fire Types

<p><b>Surface Fire</b> A fire that spreads through surface fuel without consuming any overlying canopy fuel. Surface fuels include grass, timber litter, shrub/brush, slash and other dead or live vegetation within about 6 feet of the ground.</p>		
<p><b>Passive Canopy Fire</b> A type of crown fire in which the crowns of individual trees or small groups of trees burn, but solid flaming in the canopy cannot be maintained except for short periods (Scott &amp; Reinhardt, 2001).</p>		
<p><b>Active Canopy Fire</b> A crown fire in which the entire fuel complex (canopy) is involved in flame, but the crowning phase remains dependent on heat released from surface fuel for continued spread (Scott &amp; Reinhardt, 2001).</p>		

**Fire Type Extreme** represents the potential fire type under the extreme percentile weather category. The extreme percentile weather category represents the average weather based on the top three percent fire weather days in the analysis period. It is not intended to represent a worst case scenario weather event. Accordingly, the potential fire type is based on fuel conditions, extreme percentile weather, and topography.

Canopy fires are very dangerous, destructive and difficult to control due to their increased fire intensity. From a planning perspective, it is important to identify where these conditions are likely to occur on the landscape so that special preparedness measure can be taken if necessary. The Fire Type Extreme layer shows the footprint of where these areas are most likely to occur. However, it is important to note that canopy fires are not restricted to these areas. Under the right conditions, it can occur in other canopied areas.

The fire type - extreme map is derived at a 30-meter resolution. This scale of data was chosen to be consistent with the accuracy of the primary surface fuels dataset used in the assessment. While not appropriate for site specific analysis, it is appropriate for regional, county or local planning efforts.

Table 21 Fire Type acres

Fire Type	Acres	Percent
Non-Burnable	55,009	12.8%
Surface Fire	324,292	75.2%
Passive Canopy	43,057	10.0%
Active Canopy	8,738	2.0%
<b>Total</b>	<b>431,096</b>	<b>100.0%</b>



Figure 21 Extreme Fire Type Acres

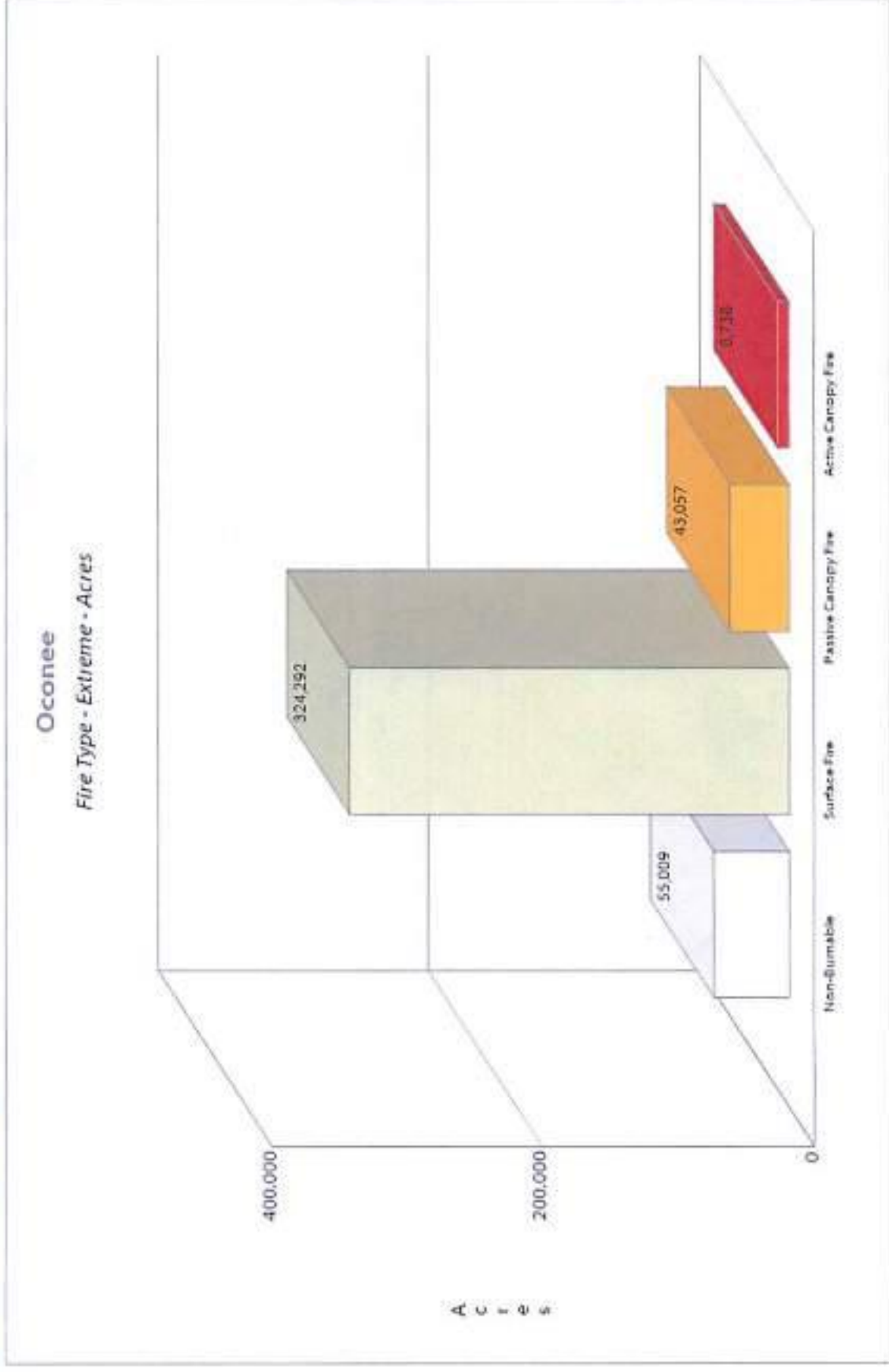
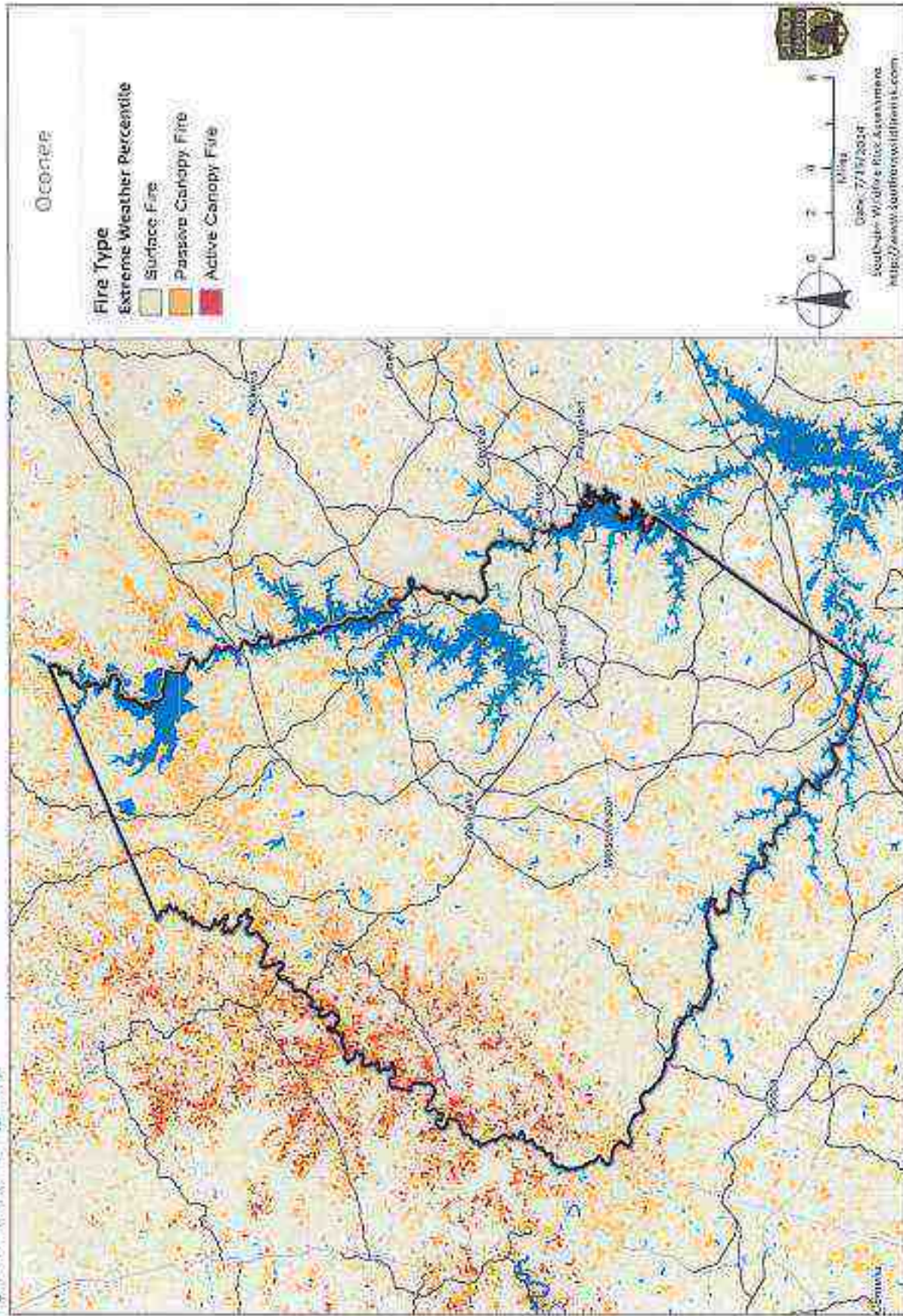


Figure 22: Extreme Fire Type Map





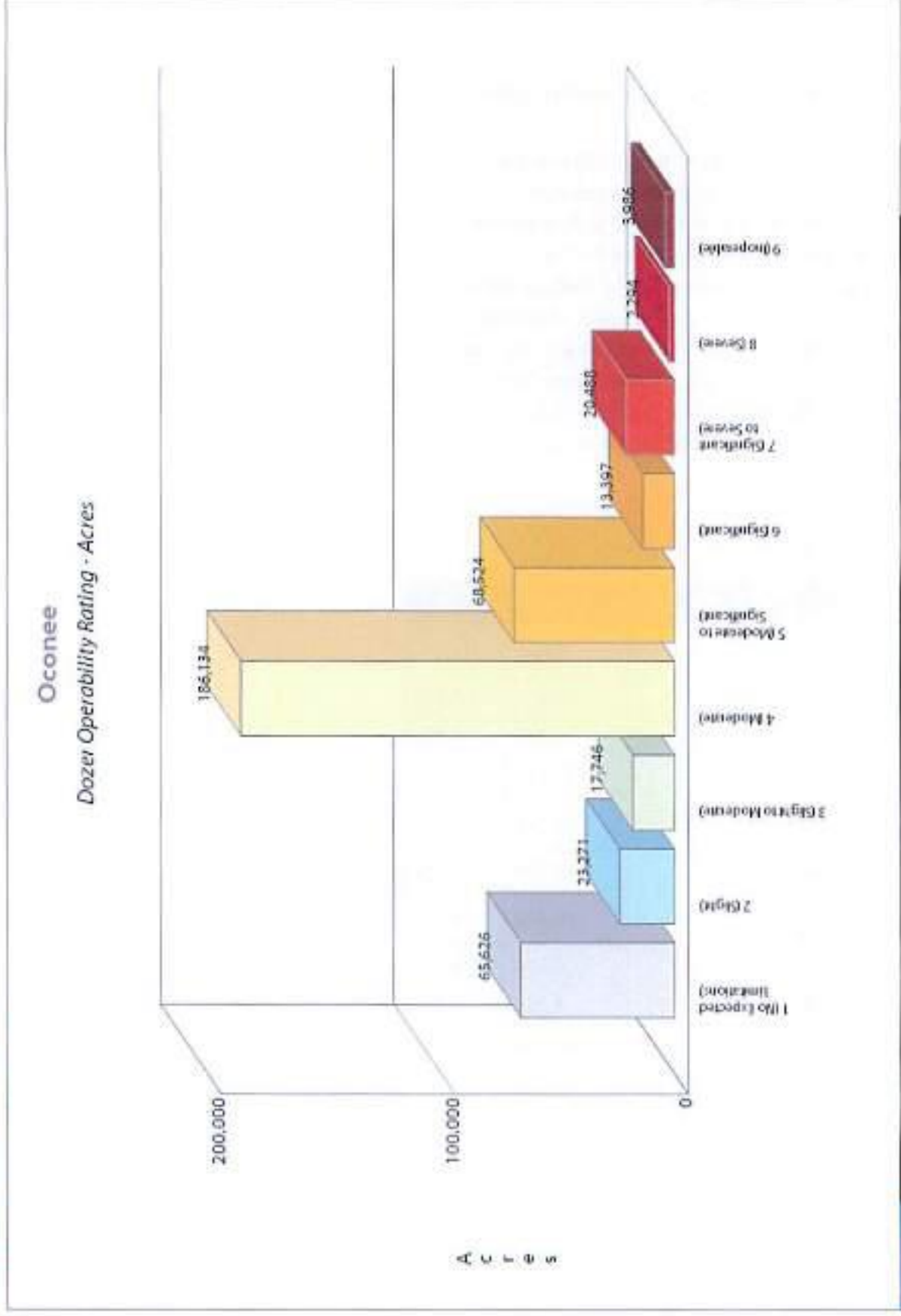
#### 4.15 SouthWRAP: Dozer Operability Rating

The Dozer Operability Rating (DOR) expresses how difficult it is to operate a dozer in an area based on limitations associated with slope and vegetation/fuel type. Using the fireline production rates published in the NWCG Fireline Handbook 3 (PMS 410-1) as a guide, operability values were assigned to a matrix based on 6 slope classes and 10 vegetation/fuels classes. The possible values range from 1 to 9, with 1 representing no limitations and 9 being inoperable.

Table 22 Dozer Operability Rating Acres

Class	Acres	Percent
1 (No Expected Limitations)	65,626	16.3%
2 (Slight)	23,271	5.8%
3 (Slight to Moderate)	17,746	4.4%
4 (Moderate)	186,134	46.4%
5 (Moderate to Significant)	68,524	17.1%
6 (Significant)	13,397	3.3%
7 (Significant to Severe)	20,488	5.1%
8 (Severe)	2,294	0.6%
9 (Inoperable)	3,986	1.0%
<b>Total</b>	<b>401,465</b>	<b>100.0%</b>

Figure 23 Dozer Operability Rating Acres









#### 4.16 Historical Fire Ecology/Fire Regime

Fires from naturally ignited sources, or those started by aboriginal inhabitants prior to settlement by Euro-Americans, has had a dominant role in shaping the South Carolina ecosystems and terrestrial habitats for centuries. Land Managers and ecologists utilize historic fire return intervals or fire regimes as means to understand, not only how frequent fires occurred on the landscape, but also their severity on overstory vegetation, in determining risks to ecosystem components due to fire exclusion. Table 23 provides the Fire Regime criteria as it relates to fire frequency, overstory severity

of the fire, and further description of that severity as defined by the *Fire Regime Condition Class Guidebook*. Figure 25 (map) provides Fire Regime locations within the county.

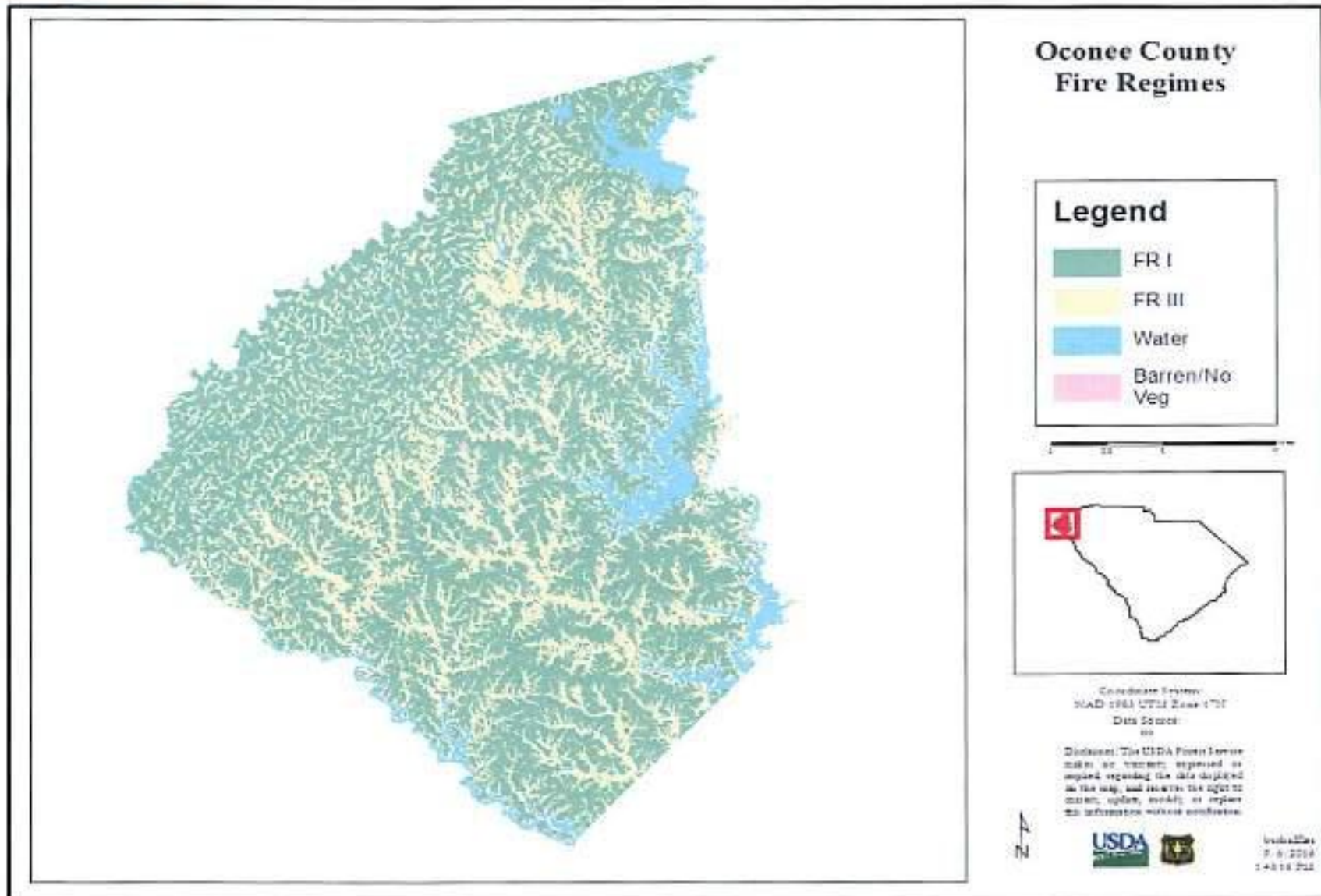
Utilizing a National modeling product called LANDFIRE [www.landfire.gov], GIS spatial data was obtained and analysis conducted for Oconee County to determine the historic fire regimes. Approximately, 64% or 275 thousand acres were determined to be in Fire Regime I, indicating the area would have likely experienced frequent, low intensity wildfires. 37% or 156 thousand acres of the County had more lengthy fire return intervals and variability in fire severity.

Table 23 Fire Regime Acres

Fire Regime	Frequency	Severity	Severity Description	Acres	Percentage
I	0-35 years	Low/Mixed	Generally low-severity fires replacing less than 25% of the dominant overstory vegetation; can include mixed-severity fires that replace up to 75% of the overstory	274,668	64%
II	0-35 years	Replacement	High-severity fires replacing greater than 75% of the dominant overstory vegetation	0	0%
III	35-200 years	Low/Mixed	Generally mixed-severity; can also include low severity fires	123,846	29%
IV	35-200 years	Replacement	High-severity fires	0	0%
V	200+ years	Replacement/Any	Generally replacement severity; can include any severity type in this frequency range	0	0%
Unburnable	NA	NA	Unburnable acreage: Water, Cement, etc.	32,570	8%
Total:				431,084	100%



Figure 25 Fire Regime Map



#### 4.17 Fire Regime Condition Class

According to the *Fire Regime Condition Class Guidebook*, while Fire Regimes are good indicators of how fire maintained the natural ecosystems and processes within the District, the concept of fire exclusion, or departure is a key factor for assessing risk to ecosystem components, and can serve as a useful proxy for determining the potential of severe fire effects and associated hazards to WUI communities or developing ones. Land Managers use the concept Fire Regime Condition Class (FRCC) to determine the amount of departure from historic fire regimes. The three classes are based on low departure (FRCC 1), moderate departure (FRCC 2),

estimate of vegetation characteristics (species composition, structural stages, stand age, canopy closure, and mosaic pattern); fuel composition; fire frequency, severity and pattern, and other natural disturbances. Low departure is considered to be within the natural (historical) range of variability, while moderate and high departures are outside.

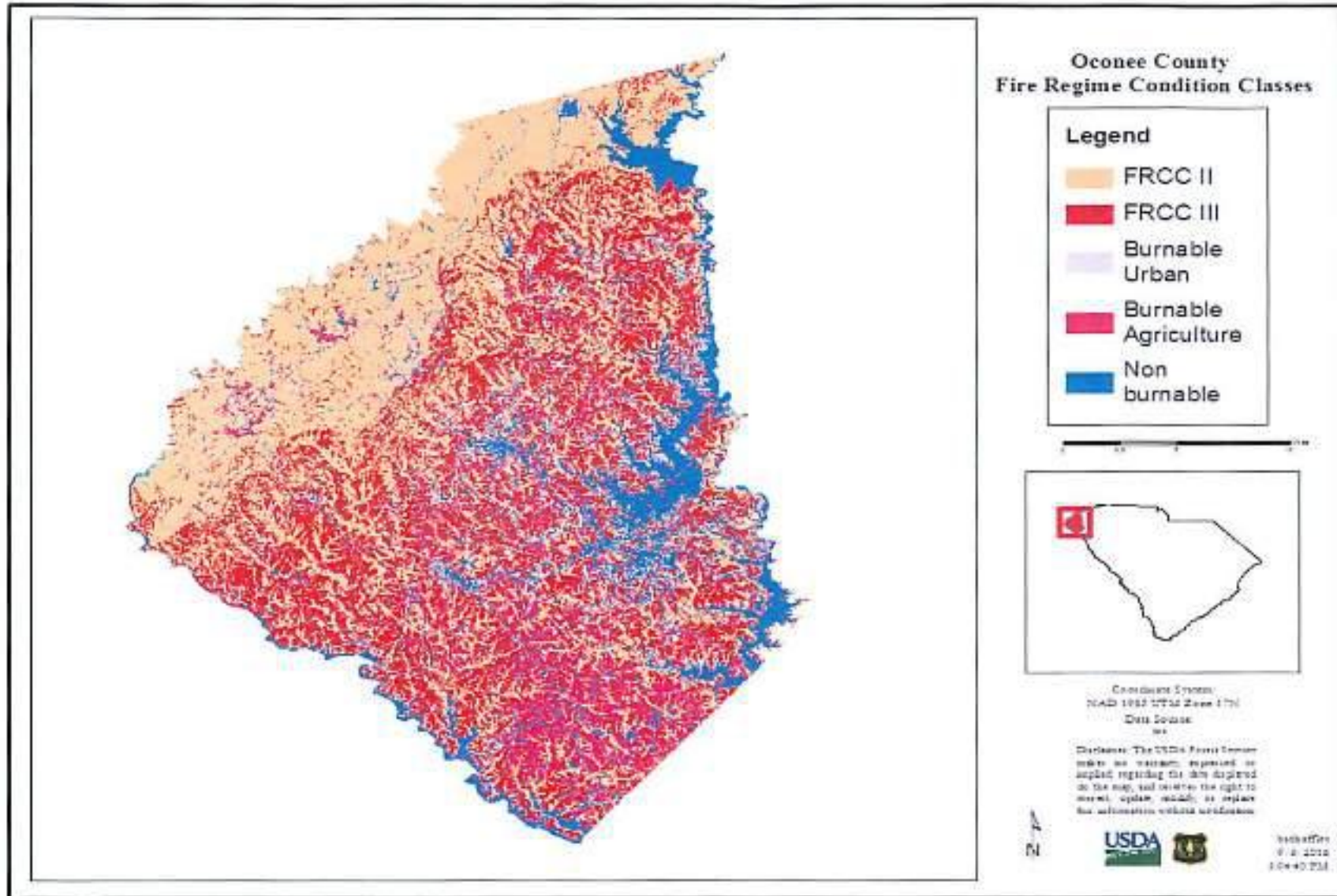
Table 28 and figure 56 (map) provides Fire Regime Condition Class arrangements across the District after utilizing LANDFIRE spatial data to conduct a GIS analysis. Roughly 65%, or almost 94 thousand acres were in FRCC 3. Only 5600 acres or 4% of the District was in FRCC 1, indicating the majority of acreage within the District has departed significantly from its natural vegetative state and fire occurrence that has shaped it.

Table 28 FRCC Distribution

Fire Regime Condition Class	Acres	Percentage
FRCC 1	0	0%
FRCC 2	163,592	38%
FRCC 3	135,375	31%
Burnable Urban	28,727	7%
Burnable Agriculture	46,248	11%
Unburnable	57,143	13%
Total:	431,084	100%



Figure 26 Fire Regime Condition Class Map





#### 4.18 Fire Behavior Prediction System

Utilizing GAP vegetation cover, fire managers and responders can crosswalk this cover to Fire Behavior Prediction System (FBPS) fuel modeling. By doing so, there can be fairly precise correlations made with fire behavior in specific locations, under a variety of weather conditions, and utilizing a multitude of tactics to suppress wildfires or implement fuel treatments. The GAP vegetation provided above is aggregated into four FBPS groups—grasses, brush, timber, and slash. The main difference in fire behavior among these groups is basically related to the fuel load (tons per acre) and its distribution among the fuel particle size classes. Within the four FBPS groups, there are a total of 13 fuel models represented. Within the grass, timber, and slash groups, there are three fuel models assigned to each. The brush group has four fuel models. Southern Fire Risk Assessment (SFRA) provides FBPS modeling for the fire district and gives more clarity as to the Rate of Spread, Flame length, spotting distance of incendiary embers, and overall intensity if a wildfire were to occur [Anderson, p. 1-20].

Understanding FBPS fuel modeling and their fire behavior outputs is critically important in giving communities an idea as to the susceptibility of their infrastructure and more importantly, what fuel treatments can be used to moderate or reduce fire behavior prior to the wildfire occurring. Table 25 and accompanying narrative is provided below, showing the current acres, percentage and fire intensity of the eight fuel models found within the fire district, as well as a more descriptive detail of their characteristics. Figure 59 (map) provides the location of the FBPS fuel models throughout the county.

**Fuel Model 1 Short Grass:** Fire spread is governed by the fine, very porous, and continuous herbaceous fuels that have cured or are nearly cured. Fire are surface fires that move rapidly through the cured grass and associated material. Very little shrub or timber is present, generally less than one-third of the area. Grasslands, savanna, stubble, and grass-shrub combinations meet this criteria.

**Fuel Model 2 Timber with Grass understory:** Fire spread is primarily through the fine herbaceous fuels, either curing or dead. These are surface fires where the herbaceous material, in addition to litter and dead, down stem wood are from open shrub or timber overstory, contribute to the fire intensity. Open shrub lands and pine stands that cover 1/3 to 2/3 of the area may generally fit this model; such stands may include clumps of fuels that generate higher intensities and that may produce firebrands.

**Fuel Model 3 Tall Grass:** Fire in this grass group displays the highest rate of spread and fire intensity under the influence of wind. Wind may drive fire into the upper heights of the grass and across standing water. Stands are tall, averaging about 3 feet (1 m), but considerable variation may occur. Approximately one-third or more of the stand is considered dead or cured and maintains the fire. Wild or cultivated grains that have not been harvested in addition to tall prairie and marshland grasses can be represented by Fuel Model 3.



**Fuel Model 4 Volatile Shrub:** Fire intensity and fast-spreading fires involve the foliage and live and dead fine woody material in the crowns of a nearly continuous secondary overstory. Stands of mature shrubs, 6 or more feet tall, such as high pocosin, Carolina Bay, and conifer plantations are represented in this fuel model. Besides flammable foliage, dead woody material in the stands significantly contributes to the fire intensity. Height of stands qualifying for this model depends on local conditions. A deep litter layer may also hamper suppression efforts.

**Fuel Model 5 Low Brush:** Fire is generally carried in the surface fuels that are made up of litter cast by the shrubs and the grasses or forbs in the understory. The fires are generally not very intense because surface fuel loads are light, the shrubs are short and almost totally cover the area. Young, green stands with no dead wood would qualify. Young green stands may be up to 6 feet high but have poor burning properties because of live-vegetation.

**Fuel Model 6 Dormant Brush:** Fires carry through the shrub layer where the foliage is more flammable but this requires moderate winds, greater than 8mi/h at mid-flame height. Fire will drop to the ground at low wind speeds or at openings in the stand. The shrubs are older, but not as tall as shrub types of model 4. A broad range of shrub conditions is covered by this model. Fuel situations to be considered include oak brush, low pocosin, and even hardwood slash.

**Fuel Model 7** : Fires burn through the shrub strata and surface with equal ease and can occur at higher dead fuel moisture because of the flammability of live foliage and other live material.

Stands of shrubs are generally between 2 and 6 feet high. Palmetto-gallberry understory-pine overstory

sites are typical and low pocosins may be represented.

**Fuel Model 8 Closed timber litter:** Slow burning ground fuels with low flame lengths are generally the case, although the fire may encounter an occasional up. Only under severe weather conditions involving high temperatures, low humidity, and high winds do the fuels pose fire hazards. Closed-canopy stands of short needled conifers or hardwoods that have leafed out support fire in the compact litter layer. This layer is mainly needles, leaves, and occasionally twigs because little undergrowth is present in the stand.

**Fuel Model 9 Hardwood litter:** Fires burn in the surface litter faster than in fuel model 8 and have a longer flame height. Both long-needle pine and hardwood stands are typical. Fall fires in hardwoods are predictable, but high winds will actually cause higher rates of spread than predicted because of spotting caused by blowing leaves. Southern Pine plantations and closed stands of long-needled pine are grouped in this model. Concentrations of dead-down woody material will contribute to possible torching out of trees, spotting, and crowning.

**Fuel Model 10 Timber litter with understory:** The fires burn in the surface and ground fuels with greater fire intensity than the other timber litter models. Dead-down fuels include greater quantities of 3-inch or larger limewood resulting from overmaturity or natural events that create a large load of dead material on the forest floor. Crowning out, spotting, and torching of individual trees are more frequent in this fuel situation.

**Fuel Model 11 Light logging slash:** Fires are fairly active in the slash and herbaceous material intermixed with the slash. The spacing of the rather light fuel load, shading from overstory, or the aging of the fine fuels can contribute to limiting the fire potential. Light partial cuts or thinning operations in the mixed conifer stands, hardwood stands, and southern pine harvests are considered. Clear-cut operations generally produce more slash than represented here.

**Fuel Model 12 Medium logging slash:** Rapidly spreading fires with high intensities capable of generating firebrands can occur. When fire starts, it is generally sustained until a fuel break or change in fuels is encountered. The visual impression is dominated by the slash and much of it is less than 3 inches in diameter. Heavily thinned conifer stands, clear-cuts, and medium or partial cuts are represented.

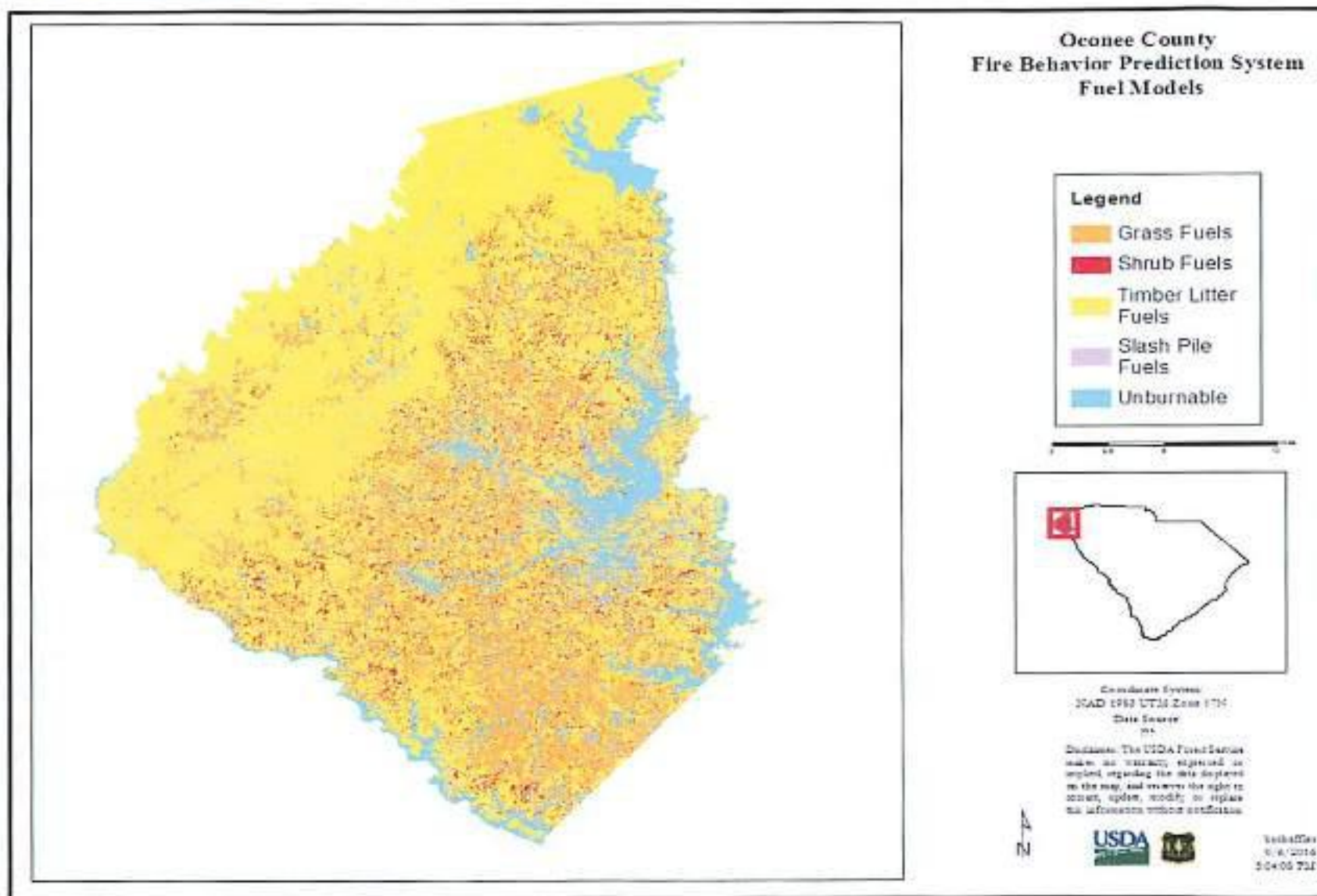
**Fuel Model 13 Heavy logging slash:** Fire is generally carried across the area by a continuous layer of slash. Large quantities of material larger than 3 inches are present. Fires spread quickly through the fine fuels and intensity builds up more slowly as the large fuels start burning. Active flaming is sustained for long periods and a wide variety of firebrands can be generated. These contribute to spotting problems as the weather conditions become more severe. Clear-cuts and heavy partial-cuts in mature and over-mature stands are depicted where the slash load is dominated by the greater-than-3-inch diameter material.



Table 24 Fuel Model Distribution

FBPS Fuel Model	Fuel Group	Vegetation Characteristic	Fire Intensity	Acres	Percentage
FM 1	Grass and grass-dominated	Short Grass	Low to Moderate	50,946	12%
FM 2		Timber with grass understory	Moderate	16,659	4%
FM 3		Tall Grass, 2.5 feet and above	Moderate to High	12,754	3%
FM 4	Chaparral and shrub fields	Brush, 6 feet and above	High to Extreme	8,493	2%
FM 5		Low Brush	Low	929	0%
FM 6		Dormant Brush, hardwood slash	Moderate	39	0%
FM 7		Southern Rough	Moderate to High	10,588	2%
FM 8	Timber Litter	Closed timber litter	Low to Moderate	26,385	6%
FM 9		Hardwood litter	Low to Moderate	246,714	57%
FM 10		Timber, litter and understory	Moderate to High	486	0%
FM 11	Slash	Light logging slash	Moderate	13	0%
FM 12		Medium logging slash	Moderate to High	0	0%
FM 13		Heavy logging slash	High	0	0%
Urban	Not applicable	Not applicable	Not applicable	23,295	5%
Agriculture		Not applicable	Not applicable	1,004	0%
Water		Not applicable	Not applicable	29,725	7%
Barren		Not applicable	Not applicable	3,054	1%
<b>Total:</b>				<b>431,084</b>	<b>100.00%</b>

Figure 27 FBPS Fuel Model Map





#### 4.19 Wildfire History

In recent years, homes and business have been threatened by encroaching wildfires within the Oconee County. Public and Conservation lands, as well as undeveloped private lands provide a prime fuel source. Wildfire spatial data was obtained from the Fire Program Analysis fire-occurrence database (FPA-FOD) which included all of the wildfires that occurred in Oconee County from 1992-2012.

The FPA-FOD wildfire database, at present is one of the most comprehensive and thorough fire occurrence databases available. The FPA-FOD acquires wildfire records from the reporting systems of federal, state, and local fire organizations. The following core data elements were required for records to be included in this data product: discovery date, final fire size, and a point location. The data were transformed to conform, when possible, to the data standards of the National Wildfire Coordinating Group (NWCG). Basic error-checking was performed and redundant records were identified and removed, to the degree possible.

#### 4.20 Fires by Size

Fire size is classified into seven categories and when coupled with historic weather data, can determine fuel type volatility during specific weather and atmospheric conditions, but also the success rate of fire resources in suppressing wildfires. These seven fire size classes are:

- ❖ Class A: Less than .25 acres,
- ❖ Class B: More than .25 acres, but less than 10 acres,
- ❖ Class C: More than 10 acres, but less than 100 acres,

- ❖ Class D: 100 acres or more, but less than 300 acres,
- ❖ Class E: 300 acres or more, but less than 1,000 acres,
- ❖ Class F: 1,000 acres or more, but less than 5,000 acres,
- ❖ Class G: 5,000 acres or more

Table 26 shows wildfires per fire size classes from 1992-2012 (FOD) which included a total of 910 wildfires that burned 4114 acres. The majority of those fires were suppressed quickly, keeping almost 97% of fires at 10 acres or less. Class C fires, which represented only 6.7% of the total fire occurrence during the time period, burned almost 27% of the acreage. Large fires, those over 1,000 acres or more did not occur. Figure 28 (map) on the preceding page shows where reported wildfires occurred during 1992-2012. Tables

Table 25 Fire Size Distribution (County)

Fire Size Classes	# Fires	Acres	% of Fires
Class A	176	26	19.34%
Class B	667	1267	73.30%
Class C	61	1102	6.70%
Class D	5	919	.55%
Class E	1	800	0.11%
Class F	0	0	0%
Class G	0	0	0%
Total:	910	4114	100%

Figure 28 Wildfire Occurrence 1992-2012 (FOD)

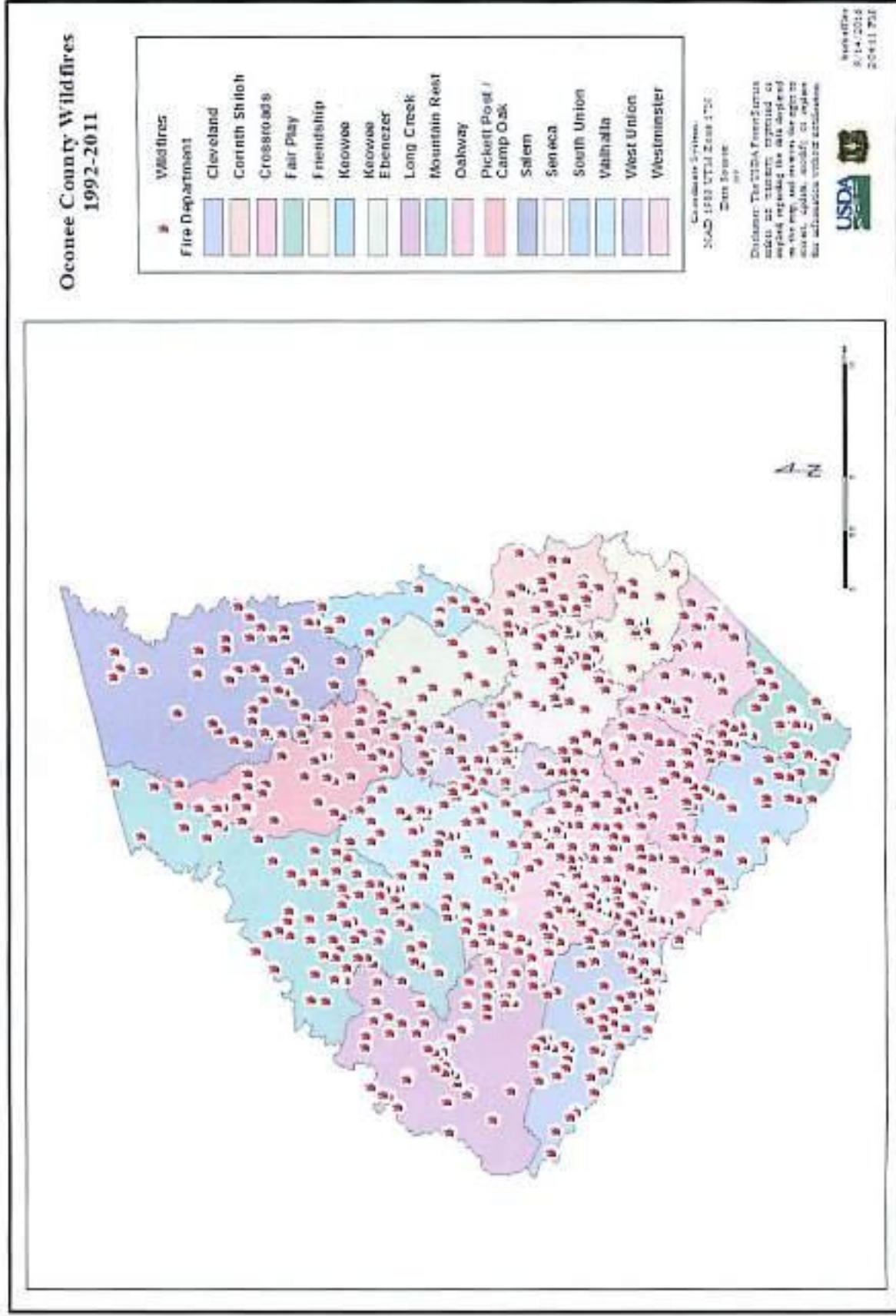




Table 27 Fire Size Classes (# of fires) by Fire Department

Response Area	A	B	C	D	E	Total Fires	Percent of Fires by Size Class
Cleveland	22	49	6	1	1	79	9%
Corinth Shiloh	3	35	3			41	5%
Crossroads	9	27	2			38	4%
Fair Play	8	29	2			39	4%
Friendship	3	18	3			24	3%
Keowee	1	9	2			12	1%
Keowee Ebenezer	3	11	1			15	2%
Long Creek	13	48	4	1		66	7%
Mountain Rest	16	61	7			84	9%
Oakway	11	35	2			48	5%
Pickett Post / Camp Oak	5	30	7			42	5%
Salem	7	41	3	3		54	6%
Seneca	7	40	3			50	5%
South Union	5	14	2			21	2%
Walhalla	14	42	6			62	7%
West Union	7	37	2			46	5%
Westminster	42	141	6			189	21%
<b>County Total</b>	<b>176</b>	<b>667</b>	<b>61</b>	<b>5</b>	<b>1</b>	<b>910</b>	<b>100%</b>

Table 27 Fire Size Classes (Acreage) by Fire Department

Response Area	A	B	C	D	E	Total Acreage	Percent of Total Acres burned
Cleveland	3	92	88	100	800	1083	26%
Corinth Shiloh	1	63	43			106	3%
Crossroads	1	48	60			110	3%
Fair Play	1	71	29			101	2%
Friendship	0	36	46			82	2%
Keowee	0	15	58			73	2%
Keowee Ebenezer	1	34	16			50	1%
Long Creek	2	103	75	239		419	10%
Mountain Rest	2	140	145			287	7%
Oakway	2	76	35			113	3%
Pickett Post / Camp Oak	1	72	132			204	5%
Salem	1	71	36	580		688	17%
Seneca	1	76	47			124	3%
South Union	1	19	47			67	2%
Walhalla	2	76	144			222	5%
West Union	1	53	26			81	2%
Westminster	6	222	76			304	7%
<b>County Total</b>	<b>26</b>	<b>1267</b>	<b>1102</b>	<b>919</b>	<b>800</b>	<b>4114</b>	<b>100%</b>

#### 4.21 Fires by Cause

The leading causes of wildfire in Oconee County are from human activity, thus preventable to a degree, through public awareness, fire education programs, and Law Enforcement. From 1992-2012 (FOD), Debris Burning fires and Arson fires represented over half (51%) of the total acres burned within the county. Lightning fires do occur and account for over 13% of the acreage burned within Oconee County during that time period

Table 29 Fires by Cause (County)

Fire Cause	# of Fires	Acres	% of Fires	% of Acreage
Arson	107	1047	11.76%	25.44%
Campfire	16	291	1.76%	7.07%
Children	31	39	3.41%	0.94%
Debris Burning	304	1059	33.41%	25.74%
Equipment Use	72	179	7.91%	4.36%
Fireworks	2	2	0.22%	0.04%
Lightning	41	551	4.51%	13.39%
Miscellaneous	155	471	17.03%	11.45%
Missing/Not Specified	135	373	14.84%	9.06%
Powerline	2	5	0.22%	0.13%
Railroad	6	15	0.66%	0.37%
Smoking	36	82	3.96%	2.00%
Structure	3	1	0.33%	0.03%
<b>Total</b>	<b>910</b>	<b>4114</b>	<b>100.00%</b>	<b>100.00%</b>



Table 30 Fire Cause by Fire Department (# of fires)

Response Area	Lightning	Equipment Use	Smoking	Campfire	Debris Burning	Railroad	Arson	Children	Misc.	Fireworks	Powerline	Structure Fire	Not Specified	Grand Total
Cleveland	3	5	3		38	1	10	4	11				4	79
Corinth Shiloh		3	4		10	2	2	2	7	1			10	41
Crossroads	5	1	3		14			4	4				7	38
Fair Play	1	3	1		16		3	2	5	1			7	39
Friendship		2	4	2	8		2		3				3	24
Keowee	1			1			4		4				2	12
Keowee Ebenezer		1	1		9		1		3					15
Long Creek	4	5	1	3	24		19		9				1	66
Mountain Rest	10	10	2		17		18		20				7	84
Oakway		4	2		15		8	1	7			1	10	48
Pickett Post / Camp Oak	3	3	2	1	13		2		7				11	42
Salem	9	4	2	1	13		5		9		1	1	9	54
Seneca	1	3	1	2	20	2	5	3	9				4	50
South Union		1	1		11		2	1	2				3	21
Walhalla	2	4	3	1	21		4	1	13		1		12	62
West Union		6		2	17		5	1	7				8	46
Westminster		17	6	3	58	1	17	12	35			1	37	189
<b>County Total</b>	<b>41</b>	<b>72</b>	<b>36</b>	<b>16</b>	<b>304</b>	<b>6</b>	<b>107</b>	<b>31</b>	<b>155</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>135</b>	<b>910</b>

Table 31 Fire Cause by Fire Department (Acreage)

Response Area	Lightning	Equipment Use	Smoking	Campfire	Debris Burning	Railroad	Arson	Children	Misc.	Fireworks	Powerline	Structure Fire	Not Specified	Grand Total
Cleveland	6	14	2		118	1	813	7	108				14	1083
Corinth Shiloh		13	24		13	9	11	0	16	1			20	106
Crossroads	4	0	1		66			11	16				12	110
Fair Play	2	8	2		28		16	0	8	1			38	101
Friendship		14	8	3	38		1		3				17	82
Keowee	30			0			34		4				5	73
Keowee Ebenezer		2	2		19		4		23					50
Long Creek	19	6	1	241	104		26		21				1	419
Mountain Rest	52	29	4		40		65		32				65	287
Oakway		8	1		35		8	2	15			0	43	113
Pickett Post / Camp Oak	33	5	24	0	74		21		18				30	204
Salem	368	5	2	15	255		3		22		5	1	12	688
Seneca	3	18	2	6	51	2	8	3	15				16	124
South Union		0	1		57		1	1	2				6	67
Walhalla	30	9	6	2	52		6	1	108		0		9	222
West Union		19		10	16		13	1	4				19	81
Westminster	4	29	3	14	94	3	18	13	58			0	68	304
<b>County Total</b>	<b>551</b>	<b>179</b>	<b>82</b>	<b>291</b>	<b>1059</b>	<b>15</b>	<b>1047</b>	<b>39</b>	<b>471</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>373</b>	<b>4114</b>



### 3. Goals and Objectives

The following goals and objectives were established by the CWPP development Group to guide the implementation of the CWPP, providing local governments, communities, and stakeholders, the opportunities to establish priorities in addressing those risks identified in the vulnerability assessment.

**Goal 1:** Increase opportunities for collaboration and coordination to implement wildfire projects.

- ❖ **Objective 1.1:** Incorporate the Community Wildfire Protection Plan as a supplement to the Oconee Regional Hazard Mitigation Plan and coordinate implementation and maintenance of the CWPP through the Oconee County Emergency Management Department.
- ❖ **Objective 1.2:** Develop partnerships and funding opportunities to execute wildfire mitigation projects.
- ❖ **Objective 1.3:** Pursue Stewardship Contracting opportunities on Conservation lands, providing local stakeholders and community groups with economic incentives and job opportunities.

**Goal 2:** Improve the defensibility of residential, commercial, and institutional properties from wildfire.

- ❖ **Objective 2.1:** Expand the knowledge and practice of Firewise USA principles by the education programs.

- ❖ **Objective 2.2:** Pursue grant funding to assist resistant retrofits.

- ❖ **Objective 2.3:** Prioritize fuel management projects and implement fuel breaks in risk neighborhoods.

- ❖ **Objective 2.4:** Reduce the vulnerability of critical infrastructure to wildfire impacts through retrofits and fuel management.

**Goal 3:** Increase wildfire mitigation and prevention.

- ❖ **Objective 3.1:** Increase opportunities for fuel management by obtaining additional funding, equipment, and public acceptance.

- ❖ **Objective 3.2:** Reduce careless burning fire statistics using public education and intervention programs.

- ❖ **Objective 3.3:** Increase fire dependent ecosystems through regular prescribed burning and ensure that residents understand the role of fire in Mountain ecosystem.

**Goal 4:** Maintain a high state of preparedness and coordination to mitigate and respond to wildfires.

- ❖ **Objective 4.1:** Promote collaboration and coordination between county and municipal agencies, the South Carolina Forestry Commission, the United States Forest Service and local land managers in wildland fire preparedness and response.
- ❖ **Objective 4.2:** Increase interagency training opportunities for local fire agencies in topics pertinent to mitigation and response.
- ❖ **Objective 4.3:** Assess and address deficiencies in equipment, resources, procedures, and training available for wildland fire fighting for responding departments/agencies.

**Goal 5:** Advance community resiliency to wildfire for new development through community development tools.

- ❖ **Objective 5.1:** Evaluate potential for amendments to the County and comprehensive plan and development codes to support, incentivize, and guide future development in the Wildland Urban Interface.
- ❖ **Objective 5.2:** Encourage development standards consistent with National Fire Protection Agency standards for water supply and access in suburban and rural communities at risk from wildfire.



## 3. CWPP Action Plan

### 6.1 Action Plan Overview

This section describes implementation strategies or actions that will advance the goals and objectives of this CWPP. The actions are organized by mitigation categories: 1) wildland fuel management, 2) community outreach and education, 3) Fire-resistant building construction, retrofit and landscaping, 4) policy and regulation recommendations, and 5) wildland fire response improvements. The following action recommendations are listed in priority order within each mitigation category based upon ability to most significantly decrease wildfire vulnerability in the community.

- ❖ Biomass removal (e.g., pine straw harvesting, vegetation or tree thinning, and timber harvesting); and
- ❖ Biomass conversion (grazing, biofuels).

Fuel management treatments designed to reduce wildfire risk are temporary and in most cases reduce the hazard in the treated area for three to five years. Periodic management is required on a regular basis to maintain fuels at an acceptable level to reduce wildfire risk. Table A, within the Appendix shows fuel treatment options and their applicability within the CWPP area. Table 32 provides those wildland fuel management actions that the CWPP Development Group identified as having the most mitigating impact to the Oconee County.

### 7.2 Wildland Fuel Management Actions

Fuel management projects help reduce the size and intensity of wildland fires by decreasing the fuel loads which may also reduce the likelihood that a wildfire will start in an area. These actions can increase the safety of people and property while reducing response and suppression costs. Fuel management methods, which can be used alone or in combination with other methods to achieve site-specific benefits, include:

- ❖ Prescribed burning;
- ❖ Mechanical treatment (e.g., mowing, mulching, disking, fire line plowing, and chopping);
- ❖ Chemical treatment (herbicide application)

Table 12 Wildland Fuel Management Actions

Action	Lead Agency	Timeframe	Potential Funding
Hold an annual strategy meeting to prioritize fuel management projects for high risk communities. Participation should include the Oconee County CWPP Working Group, large land managers, and other stakeholders. Prioritization should consider areas mapped as WUI Risk 7-10 as well as evacuation route corridors to determine specific treatment measures and funding opportunities to implement hazardous fuels treatments.	CWPP Working Group/SCFC	Ongoing/Annually	None needed.
Identify private landowners with wildland fuels near communities or technical assistance.	Fire Departments	2016-2021	None needed for identification.
Use Reverse 911 or other technology in notifying residents of prescribed fire activities and wildfire incidents.	Oconee County EMD	Ongoing	Agency Budgets; Grants; Would need an agreement to transfer costs.
Continue implementing land management plans for stakeholder properties and coordinating with other land management agencies in the collaborative implementation of fuels mitigation projects.	All Agencies	Ongoing	Agency Budget allocations. Seek grants and maximize stewardship contracting possibilities.
Develop a plan for maintaining completed fuel management project-timeline; 5-10 year plan.	CWPP Working Group	Annually	Agency Budget allocations; Seek grants and maximize stewardship contracting possibilities.
Incorporate locally supplied data specific to Oconee County (Building Footprints, Parcel Values) into SouthWRAP analysis when Data is refreshed.	Forest Service	Ongoing	None Needed.



### 6.3 Community Outreach and Education Actions

Outreach and education initiatives are designed to raise awareness and improve community knowledge of wildfire risk and mitigation strategies. A good example of an education

program is the Firewise USA Program.

Education and outreach programs can influence attitudes and

participation in fuel management strategies. Table B is provided in the Appendix that provides various media functions and outlets that can assist outreach and education opportunities.

Table 33 provides the community outreach and education actions developed by the CWPP core team.

Table 33 Community Outreach and Education Actions

Action	Lead Agency	Timeframe	Potential Funding
Identify existing agencies/organizations that may be able to assist with wildfire mitigation education campaigns and invite them to participate in the CWPP Working Group. Assign public education tasks for the year. Identify who will be the point of contact for coordinating these activities.	CWPP Working Group	Annually	None needed.
Identify areas (communities, HOAs) in the Fire District to target for wildfire/Firewise USA outreach for the year.	SCFC; Fire Departments	Ongoing	None needed.
Continue education campaign to reach out to WUI residents on the benefits of prescribed fires by conducting workshops and using media press releases.	The Nature Conservancy; SCFC; USFS	Ongoing	Budget Allocations and Grants.
Develop or obtain a Public Service Announcement (PSA) that can be used on local TV networks or other media outlets during fire season.	SCFC; Oconee County EMD	2017	To be determined.
Create a webpage for wildfire education on the County website that links to SCFC/Firewise USA resources and add wildfire education messages to other online resources as appropriate.	Oconee County EMD, SCFC	2017	None needed.
Determine if electronic road signs can be borrowed from Public Works or Department of Transportation when not in use to display wildfire awareness messages. If possible, purchase electronic road signs using grants.	Fire Departments, Oconee County EMD	2017-2018	None needed. Use grant monies to purchase signs.
Identify and document existing outlets, events, and resources that could be used for wildfire mitigation awareness and education.	CWPP Working Group	Ongoing	None needed.
Incorporate Wildland Fire Safety and Smokey Bear Programs in area schools.	Fire Departments; SCFC; USFS	Ongoing	Budget Allocations

#### 6.4 Fire-resistant Building Retrofit and Landscaping Actions

Projects that reduce the ignitability of community facilities and private structures decrease community wildfire vulnerability and provide Firewise USA models that can assist in community awareness. Grant funding, such as the FEMA Hazard Mitigation Grant Program, can be sought to retrofit public or private buildings in high-risk wildfire zones with fire-resistant building materials. Other project examples could include public-private partnerships supplying ignition-resistant landscaping materials while volunteer programs could assist in making wildfire risk

improvements to the Home Ignition Zone (HIZ) and their defensible space. Table 34 provides those wildfire risk reduction opportunities to further defend the communities from damaging wildfires.

Table 34 Fire-resistant Building Retrofit/Landscaping Actions

Action	Lead Agency	Timeframe	Potential Funding
Develop wildfire risk reduction action plan/implementation guide for existing and developing communities.	Local Municipalities and HOAs.	2016-2021	None needed. Grant monies may be available for implementation.
Identify and list (e.g., fire-resistant roof or siding retrofits, etc.) and list these on the CWPP working group Project List in case grant funding becomes available.	Fire Departments	Ongoing	None needed for assessment and identification. Grant monies may be available for implementation.
Identify public/critical facilities at risk from wildfire and solicit the entities to submit wildfire mitigation projects to the CWPP working group.	Oconee County, EMD.	2017	None needed.
Determine if any volunteer organizations could assist with ignition-resistant landscaping improvements for homeowners in need of help.	Fire Department, SCFC.	Ongoing	None needed.
Determine if there are any older subdivisions with inadequate ingress/egress or access for fire protection that could benefit from adding a new outlet/emergency access or other enhanced access for fire protection.	Fire Department; Oconee County Public Works.	2016-2019	Grants.



## 6.5 Policy and Regulation Recommendation Actions

Updating local government plans, policies, and regulations is another effective way to advance wildfire mitigation goals. By modifying requirements for development, high risk wildfire zones can be avoided or new development can be proactively designed to

reduce wildfire risk and therefore make living and working in these areas safer. Table 35 provides policy and regulation recommendations that can reduce wildfire susceptibility to the community infrastructures.

Table 35 Policy and Regulation Recommendation Actions

Action	Lead Agency	Timeframe	Potential Funding
Evaluate opportunities for including wildfire mitigation in the approaches to encourage developers to incorporate wildfire risk reduction methods. Seek public input (perhaps in combination with wildfire awareness activities).	Municipality and County Zoning and Planning Department.	Ongoing; Amendment schedules.	None needed.
Recommend the inclusion of the Southern Wildfire Risk Assessment WUI Risk and Community Protection Zone map in applicable planning documents.	Municipality and County Zoning and Planning Department.	Ongoing; Amendment schedules.	None needed.
Recommend a requirement for new conservation easements, including smoke easements created in conjunction with a development to include language requiring a fuel management plan and/or acceptance of community fuel management practices.	Municipality and County Zoning and Planning Department.	2017-2022	None needed.
Update the Regional Hazard Mitigation Plan to include the CWPP and include new wildfire-risk assessment data and projects.	Municipality and County Zoning and Planning Department.	Annually; Amendment schedules.	None needed.
Evaluate opportunities to include wildfire risk reduction and NFPA 1144/1141 development standards in the Land Development Codes/Regulations in development review procedures for WUI areas.	Fire Departments, Municipality and County Zoning and Planning Department.	2017-2022	None needed.

## 5.6 Wildland Fire Response Improvement Actions

Opportunities to improve wildland fire response capabilities are also critical to reducing the risk of wildfire damage to people and property. Improvements in response capabilities as indicated in [table 36](#), can include advanced training, increasing staff or volunteer fire fighting resources, and developing new procedures or protocols. The ability for responses agencies to seamlessly work together during wildfire incidents is critical for the safety of firefighting personnel, and the community as a whole.

Table 36 Wildland Fire Response Improvement Actions

Action	Timeframe	Lead Agency	Potential Funding
Improve interoperability communications between Response agencies including sharing predictive service information.	2016-2021	Fire Departments, USFS, SCFC, Oconee County EMD	Budget Allocations; Grants.
Assist Planning with land development code recommendations to increase road access and water supply for firefighting.	Ongoing	Fire Departments	Budget Allocations; Grants.
Ensure that Emergency Alert System, Reverse 911 or other public notification system can be used during wildfire events including evacuations.	2017-2018	Oconee County EMD	Budget Allocations; Grants.
Provide local interagency wildland fire training programs to area responders.	Ongoing	Fire Departments	Budget Allocations; Grants.
Develop list of firefighters and/or fire line officers trained to National Wildfire Coordinating Group (NWCG) standards.	Ongoing	Fire Departments	None needed.



## 7. Local Wildfire Capacity-Resources

### 7.1 Local Emergency Management

Oconee } Emergency Services provides leadership and assistance in an effort to reduce the loss of life and property in Oconee County from a variety of man-made and natural hazards through an effective emergency management program based on the Four Phases of Emergency Management

- ❖ **Mitigation** - efforts to reduce hazards or their impacts
- ❖ **Preparedness** - efforts to prepare for a likely hazard
- ❖ **Response** - actions taken to respond to an emergency or disaster
- ❖ **Recovery** - actions taken to restore the community to pre-disaster condition (Government, Emergency Management Department)

Oconee County EMD maintains the Emergency Operations Plan, with specific wildland firefighting

responsibilities and procedures for the County as described in the Emergency Support Function #4 chapter. This includes providing specific direction to local agencies and municipalities within the county on the process to request additional fire resources when the incident exceeds their own capacity

In addition to maintaining the Emergency Operations Plan (EOP), the EMD manages the Emergency Operations Center (EOC) where civil government officials (municipal, county, state and federal) exercise direction and control in an emergency/disaster.

#### Oconee County Emergency Services

216 Emergency Lane  
Westminster, SC, 29693  
(864) 638-4220  
[www.oconeefire.com](http://www.oconeefire.com)

## 7.2 Oconee County Fire Departments

Table 37: Fire Department Information

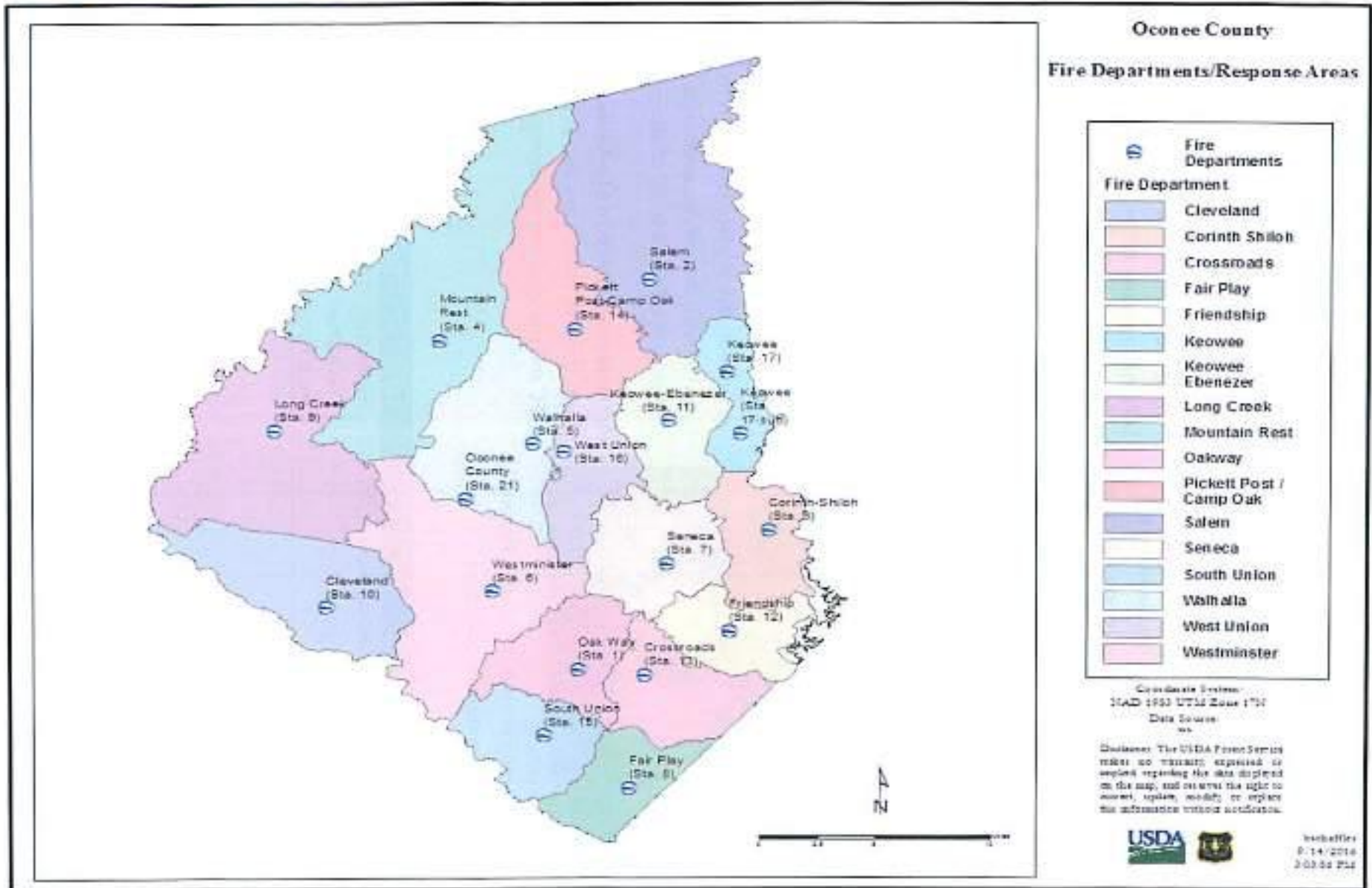
Station Number	Fire Department	ADDRESS	CITY	ZIP CODE	LATITUDE	LONGITUDE	Type of Service	ISO Rating (April, 2002)	
								Area within 1,000' of hydrant/nearest miles road travel from station	All other
1	Oak Way	171 School House Rd	Westminster	29693	34 35 55.81	-83 1 32.48	Volunteer	7	9
2	Salem	103 E Main St	Salem	29576	34 53 24.00	-82 58 35.65	Volunteer	7	9
3	Conich-Shiloh	940 Old Clemson Hwy	Seneca	29572	34 42 16.2	-82 52 56.28	Volunteer	7	9
4	Mountain Rest	130 Verner Mill Rd	Mountain Rest	29664	34 50 33.36	-83 8 8.52	Volunteer	7	9
5	Walhalla	207 E N Broad St	Walhalla	29691	34 45 52.4	-83 3 44.64	Full-Time	4	9
6	Westminster	216 Emergency Ln	Westminster	29693	34 39 20.48	-83 5 27.50	Full-Time	5	9
7	Seneca	321 W S Fourth St	Seneca	29678	34 40 42.6	-82 57 36.35	Full-Time	3	9
8	Fair Play	502 E Fair Play Blvd	Fair Play	29643	34 30 43.05	-82 59 4.22	Volunteer	9	6
9	Long Creek	12351 Long Creek Hwy	Long Creek	29658	34 46 23.52	-83 15 33.12	Volunteer	9	9
10	Cleveland	684 Cleveland Pike Rd	Westminster	29693	34 38 30.48	-83 13 1.92	Volunteer	9	9
11	Keowee-Ebenezer	7031 Keowee School Rd	Seneca	29672	34 47 11.04	-82 57 34.92	Volunteer	7	9
12	Friendship	1307 Friendship Rd	Seneca	29678	34 37 44.4	-82 54 39.96	Volunteer	5	9
13	Crossroads	8654 West Oak Hwy	Seneca	29678	34 35 44.16	-82 58 30.36	Volunteer	8	9
14	Pickett Post-Camp Oak	7660 N Hwy 11	Walhalla	29691	34 51 10.08	-83 1 56.64	Volunteer	7	9
15	South Union	111 Fire Station Rd	Westminster	29693	34 32 58.56	-83 2 60	Volunteer	7	9
16	West Union	220 N Hwy 11	West Union	29696	34 45 41.4	-83 2 22.92	Volunteer	5	9
17	Keowee	115 Maintenance Rd	Salem	29676	34 49 21.79	-82 55 0.38	Full-Time	4	4
17-Sub	Keowee	1069 Doug Hollow Rd	Salem	29676	34 46 36.38	-82 54 20.19	Full-Time	4	9

Source: Oconee County Comprehensive Plan

Figure 47: Fire Department/Jurisdiction Map Source: Oconee County Comprehensive Plan



Figure 30 Fire Department/Jurisdiction Map



### 7.3 South Carolina Forestry Commission

SCFC provides wildfire prevention, suppression, mitigation and response services in collaboration with local fire departments throughout the state. The Upstate Firewise Field Coordinator is the resource contact for wildfire risk reduction education and planning assistance as well as coordinating fuels mitigation needs. The coordinator works with local supervisors and foresters in conducting community assessments, developing CWPPs, and conducting workshops as an outreach effort for community involvement.

SCFC Fire Tractor Plow creating fire break at night



Source: [www.independentmail.com](http://www.independentmail.com)

The Oconee County Unit Forester, located in Pickens, SC, directs SCFC fire prevention/suppression

activities. He supervises three fire dozer units within Oconee County. SCFC fire dozers are typically

for expeditious response to wildfire incidents. Additional SCFC fire resources are available throughout the State of South Carolina. Additionally, SCFC has agreements in place with National Guard Aviation Units to provide fire suppression capabilities. Table 38 provides a list of those fire suppression resources that assist within the District.

The SCFC has primary authority and responsibility for the control of wildfires enabled by the South Carolina Code of Laws, Section 48-23-90. In the event of a wildland fire, the local fire dispatch will be notified as well as the SCFC dispatch if a forestry unit is needed. Also, if the fire is on National Forest Service land, the Forest Service will also be notified. Cooperative agreements are in place with the SCFC and USDA Forest Service that allows assistance in wildfire suppression efforts if lands of either are threatened.

Agreements in the form of a Memorandum of Understanding (MOU) are also in place between the SCFC and the local fire departments.

Table 38 SC Forestry Commission Fire Resources

Unit Office	Address	Lat	Long	Resources	Staffing
Western Unit Pickens, SC	130 McDaniel Avenue, Pickens, SC, 29671	Resources Dispatched from Home	Resources Dispatched from Home	P-32 Dozer P-33 Dozer P-34 Dozer	8 Hrs M-F

### 7.4 United States Forest Service

The U.S. Forest Service Francis Marion National Forest has administrative responsibility for roughly 67,000 acres of public lands within Oconee County. The Ranger District office, located in Mountain Rest,



is staffed by fire personnel including, a District Fire Management Officer, a Dozer Operator, and firefighters. From roughly mid-January to early May, temporary firefighters are hired to supplement existing staff in suppressing wildfires, conducting prescribed burns, and implementing mitigation/prevention projects in surrounding communities.

From March 1<sup>st</sup> to roughly May, the Forest contracts an exclusive use Type 3 fire helicopter to support fire suppression efforts and prescribed burning projects on the Sumter National Forest, including the Andrew Pickens Ranger District. The Helicopter is located at Greenwood Airport in Greenwood County, short

distance from the Andrew Pickens Ranger District. Additional fire resources are available from other Forest Service Districts within the State. The Forest can also utilize off-forest federal firefighting resources and Incident Management Teams in response to a variety of incidents based on complexity and needs.

The South Carolina Interagency Coordination Center, located in Columbia, SC, provides dispatch support for all fire operations on the Forest and coordinates regularly with Oconee County Dispatch. Table 39 provides a list of federal firefighting assets and their locations.

Table 39 Forest Service Fire Stations

Fire Stations	Address	Lat	Long	Resources	Staffing
Andrew Pickens District Office	112 Andrew Pickens Circle Mountain Rest, SC 29664	33° 6' 55"	79° 46' 48"	Engine 662 Dozer 52	8 Hrs M-F
Greenwood Airport	322 Terminal Rd, Greenwood, SC 29649	34° 55'	82° 1'	Type 3 Helicopter	8 Hrs March- April

## 7.5 The Nature Conservancy-South Carolina Chapter

The South Carolina Chapter of The Nature Conservancy (TNC) is a Non-Governmental Organization (NGO) whose goals are to collaboratively increase the pace of ecological restoration on private and public lands. Through its prescribed fire program, The Nature Conservancy (TNC) of South Carolina uses manageable, low-intensity fire to control hazardous underbrush and reduce the risk of wildfires, promote seed germination and prepare land for new plantings, maintain and restore wildlife habitat, reduce disease and remove invasive plants, and protect the state's investment in timber lands. Through various grants and initiatives, TNC and the U.S. Forest Service have formal agreements in place, where TNC fire crews provide assistance to the Forest in implementing prescribed fire/hazardous fuels reduction projects on FS lands, including the Andrew Pickens Banger District. Although, their mission is mainly to focus on utilizing prescribed fire to enhance ecological restoration, their well-trained fire leadership and crews have been used to assist interagency partners in the suppression of wildfires within South Carolina. In addition to assisting the U.S. Forest Service, TNC provides prescribed fire support to the South Carolina State Park Service, South Carolina Department of Natural Resources, in addition to private lands/institutions. As of 2016, TNC has dedicated fire leadership, two seasonal fire crews, and two type 6 fire engines.

TNC Fire Crew assisting USFS during a prescribed fire



Source: The Nature Conservancy





## 8.2 Monitoring

Regularly scheduled effectiveness monitoring of the CWPP is necessary in order to determine if the Goals and Objectives of the CWPP are being met. The CWPP should be evaluated by the CWPP Working Group at least once a year to ensure information is current, monitor progress of the plan, and alter plan content as necessary. Utilizing the University of Oregon Resource Innovations Institute [Community Wildfire Protection Plan Evaluation Guide, the CWPP Working Group identified six steps for evaluating the Oconee County [ CWPP:

- ❖ Identify Goals and Objectives
- ❖ Identify Changes in the Community and its Wildfire Risk
- ❖ Review Action Items
- ❖ Evaluate CWPP Outcomes
- ❖ Update the CWPP
- ❖ Conduct Ecological Monitoring
- ❖ Update the Community Wildfire Protection Plan and Report on the Evaluation

Monitoring the CWPP allows an opportunity to address new or developing issues not covered by the CWPP, and update or amend the plan as needed. It also provides an established means to review grant applications and awards, monitor fuels treatments and current status of wildland fuels hazards to update data, and identify future goals, projects, and financial needs. Results of the annual evaluation can also be utilized in press releases to promote results of CWPP implementation, to conduct public education and outreach, and to seek additional funding opportunities.

Table 40 is an example of evaluation criteria that can be used to monitor the CWPP goals during the implementation period.



Table 40 Monitoring/Evaluation Criteria

Goal	Evaluation criteria
1. Increase opportunities for collaboration to implement wildland fire prevention and mitigation projects.	<ul style="list-style-type: none"> <li>❖ Number, names, affiliations, and contributions of groups participating in CWPP planning and implementation.</li> <li>❖ Number and value of collaborative grants applied for and secured.</li> <li>❖ Value of matching funds in direct financing or in-kind contribution for CWPP project implementation by partner groups.</li> <li>❖ Planned or proposed future collaborative activities.</li> <li>❖ Additional agencies or organizations that should be invited to participate.</li> </ul>
2. Improve defensibility of residential, commercial, and institutional properties from wildfire.	<ul style="list-style-type: none"> <li>❖ Number and value of grants secured for projects specifically related to defensible space, structure ignitibility, and public education on wildfire risk reduction principles.</li> <li>❖ Number of projects and acres completed in fuels reduction in wildland-urban intermix.</li> <li>❖ Number and type of structures with defensible space or reduction of structure ignitibility implemented during the evaluation period.</li> <li>❖ Number and type of public education programs developed or conducted on wildfire risk reduction principles, and number of households or individuals reached.</li> <li>❖ Effects of projects on participating or adjacent communities.</li> <li>❖ Status of incomplete projects, and proposed/ planned future projects.</li> <li>❖ Changes in policies, information, or conditions that create need to adjust priorities, change risk assessment, or add communities.</li> </ul>
3. Increase focus on cost-effective pre-event wildfire mitigation and prevention.	<ul style="list-style-type: none"> <li>❖ Number and value of grants or other funding secured for fuels management.</li> <li>❖ Projects (size and type) started or completed on private, state, and federal lands.</li> <li>❖ Effectiveness of fuels treatments and hazard mitigation when wildfire occurred.</li> <li>❖ Number and type of educational programs developed or conducted on arson and careless burning, and on beneficial ecologic role of prescribed- and natural fire.</li> <li>❖ Number of wildland fires started by arson or careless burning, and comparison to past years.</li> </ul>
4. Maintain a high state of preparedness and coordination to mitigate and respond to wildfires.	<ul style="list-style-type: none"> <li>❖ Number and type of wildfire preparedness/ response training activities.</li> <li>❖ Source and amount of funding secured for wildfire preparedness training and equipment, both for emergency responders and the public.</li> <li>❖ Immediate and long-term equipment and training needs, and potential funding sources.</li> <li>❖ Status of existing proposals.</li> </ul>

	<ul style="list-style-type: none"><li>❖ Number, type, and partners in collaborative efforts to incorporate CWPP goals into emergency response planning.</li><li>❖ Number and type of improvements that have been made for wildland fire response.</li></ul>
<b>5. Advance community resiliency to wildfire for new development through community development tools.</b>	<ul style="list-style-type: none"><li>❖ Changes to existing codes or adoption of new codes that facilitated CWPP implementation.</li><li>❖ Changes in code that are still needed to remove barriers to CWPP implementation.</li><li>❖ Number and type of infrastructure changes that were made in order to increase public safety during a wildfire.</li><li>❖ Number, type, and partners in collaborative efforts to incorporate CWPP goals and wildfire risk reduction principles in community development planning.</li><li>❖ Changes in population density or addition of structures that would drive a change or amendment to CWPP.</li></ul>




### 3.3 Maintenance

In addition to the annual review, a major review and update of the plan should occur every 5 years. A new vulnerability assessment should be completed with updated GIS data in order to incorporate project accomplishments and changes in fuels composition as a result of plan implementation or other significant events. All Goals, Objectives, and Action Items should be critically reviewed to determine currency, past effectiveness, and future potential.

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## 10. Appendix

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Table 41: Fuel Treatment Options

Table 42: CWPP Media Options

Declaration of Agreement and Concurrence



Table 33 Fuel Treatment Options

Fuel Treatment	Advantages	Concerns	Potential Impacts	Seasonality and Intensity of Treatment	Applications in Use	Duration of Effect	Cost
Prescribed Fire	<ul style="list-style-type: none"> <li>◊ Removes available fuel and shrubs</li> <li>◊ Encourages herbaceous growth and supports native species and ecosystems</li> <li>◊ Recovery begins in weeks</li> <li>◊ Does not disrupt groundcover</li> <li>◊ Limited opportunity for invasive plants</li> </ul>	<ul style="list-style-type: none"> <li>◊ Complex planning and execution</li> <li>◊ Requires significant equipment and personnel</li> <li>◊ Smoke and fire sometimes create concern for public, neighbors, and news media</li> <li>◊ Extremely dependent on weather</li> </ul>	<ul style="list-style-type: none"> <li>◊ Risks to public safety from both smoke impacts (e.g., on roads) and escape of fire</li> <li>◊ Challenging to apply without harming overstory trees</li> <li>◊ May cause some temporary degradation of local air quality</li> </ul>	<ul style="list-style-type: none"> <li>◊ Can be done in almost any season</li> <li>◊ Spring and summer fires will kill more shrubs, but weather conditions are more variable</li> <li>◊ Intensity is dependent on weather</li> <li>◊ Can treat 100+ acres/day depending on conditions</li> </ul>	Difficulty depends on number of factors	4-6 years	\$10-\$150 per acre
Hand or Machine Piling and Burning or Chipping	<ul style="list-style-type: none"> <li>◊ Moves most fuels to piles</li> <li>◊ Reduces shrub fuels and encourages herbaceous growth</li> <li>◊ Moderately easy</li> <li>◊ Minimal site disturbance, so works well around overstory trees</li> </ul>	<ul style="list-style-type: none"> <li>◊ Requires significant personnel or machinery</li> <li>◊ Piles must be small enough to be burned in one day</li> <li>◊ Burning requires care and attention to mop up</li> <li>◊ Burning is dependent on weather</li> </ul>	<ul style="list-style-type: none"> <li>◊ Smoke from burning can impact public, roads, and air quality</li> <li>◊ Machine piling may disrupt root systems, which can limit regrowth or damage tree roots</li> </ul>	<ul style="list-style-type: none"> <li>◊ Can be done anytime</li> <li>◊ Low-intensity treatment</li> <li>◊ Piles can be chipped if weather does not allow burning</li> <li>◊ Can treat up to 5 acres/day with enough personnel</li> </ul>	Useful, may require extensive labor	3-7 years	\$400-\$800 per acre, depending on fuels and labor
Mowing	<ul style="list-style-type: none"> <li>◊ Reduces shrubs to ground</li> <li>◊ Turns some fuels into mulch</li> <li>◊ Encourages herbaceous growth and generally increases species diversity</li> </ul>	<ul style="list-style-type: none"> <li>◊ Does not reduce amount of fuel, merely changes structure</li> <li>◊ Has little impact to roots, so species like palmetto resprout quickly</li> <li>◊ Unsightly</li> <li>◊ Difficult to apply with overstory present</li> </ul>	<ul style="list-style-type: none"> <li>◊ Low risk to public safety, except material can be thrown up to 300 feet from large mowers</li> <li>◊ May cause some temporary degradation of local air quality from dust</li> </ul>	<ul style="list-style-type: none"> <li>◊ Can be done in almost any season, but must be done at moderate moisture levels to limit soil disturbance</li> <li>◊ Intensity is dependent on the size and design of the mower. Larger mowers mulch material better but encounter more obstacles</li> </ul>	Difficulty depends on number of obstacles to machinery	3-5 years	\$40-900 per acre

	<ul style="list-style-type: none"> <li>❖ Requires limited equipment and personnel</li> <li>❖ Relatively independent of weather</li> <li>❖ Causes little disturbance to ground cover</li> </ul>			<ul style="list-style-type: none"> <li>❖ Can treat up to 10 acres/day</li> </ul>			
Chopping, Disking, Harrowing	<ul style="list-style-type: none"> <li>❖ Reduces shrubs to ground</li> <li>❖ Disrupts resprouting of some shrubs</li> <li>❖ Encourages herbaceous growth</li> <li>❖ Generally increases species diversity</li> <li>❖ Requires limited equipment and personnel</li> <li>❖ Relatively independent of weather</li> <li>❖ Harrow exposes bare soil, limiting fire potential until regrowth occurs</li> </ul>	<ul style="list-style-type: none"> <li>❖ Does not reduce amount of fuel, merely changes structure</li> <li>❖ Difficult to apply with overstory present</li> <li>❖ Can disrupt root systems of some desirable vegetation (e.g., trees)</li> <li>❖ Unightly</li> <li>❖ Harrowing exposes bare soil, increasing potential for erosion and invasive plant colonization</li> </ul>	<ul style="list-style-type: none"> <li>❖ Low risk to public safety</li> <li>❖ Significant risk to overstory trees due to root damage</li> <li>❖ May cause some temporary degradation of local air quality from dust</li> </ul>	<ul style="list-style-type: none"> <li>❖ Can be done in almost any season, but must be done at moderate moisture levels to limit soil disturbance</li> <li>❖ Intensity is dependent on the size and design of the chopper, disk or harrow</li> <li>❖ Can treat up to 10 acres/day</li> </ul>	Difficulty depends on number of obstacles to machinery.	3-7 years	\$35-\$80 per acre
Herbicide	<ul style="list-style-type: none"> <li>❖ Can be applied to kill target species or all growth</li> <li>❖ Easy to apply</li> <li>❖ Provides long-term impact</li> <li>❖ Does not physically disturb soil</li> <li>❖ Limits opportunity for invasive plants</li> </ul>	<ul style="list-style-type: none"> <li>❖ May encounter public opposition</li> <li>❖ Does not remove fuel</li> <li>❖ Creates increased flammability for a period immediately following treatment (standing dead fuels)</li> </ul>	<ul style="list-style-type: none"> <li>❖ May affect non-target species or overstory trees if improperly applied</li> <li>❖ May have unknown or unforeseen risks to public health, depending on chemical used</li> </ul>	<ul style="list-style-type: none"> <li>❖ Must be applied during growing season</li> <li>❖ Intensity is dependent on chemical and application rates</li> <li>❖ Can treat up to 15 acres/day</li> </ul>	Difficulty based on concern of neighbors, level of toxicity	Up to 10 years	\$70-\$110 per acre



	<ul style="list-style-type: none"> <li>◊ Generally independent of weather</li> </ul>						
Thinning (biomass removal)	<ul style="list-style-type: none"> <li>◊ Reduces risk of crown fire by separating trees</li> <li>◊ May generate revenue</li> <li>◊ Equipment runs over and compacts shrubs</li> <li>◊ Minimal soil disturbance</li> <li>◊ Moderately dependent on weather</li> <li>◊ Encourages herbaceous growth</li> </ul>	<ul style="list-style-type: none"> <li>◊ Removes some crown fuel, but does not remove ground-level fuel</li> <li>◊ May encounter public opposition</li> <li>◊ Requires proper (moderate moisture) conditions</li> <li>◊ Creates increased flammability for the period immediately following treatment (slash residue)</li> <li>◊ Requires &gt;20 acres to generate positive revenue</li> </ul>	<ul style="list-style-type: none"> <li>◊ Equipment may damage retained trees</li> <li>◊ May cause some temporary degradation of local air quality (dust)</li> </ul>	<ul style="list-style-type: none"> <li>◊ Need to avoid excessively wet periods to limit soil disturbance</li> <li>◊ Intensity depends on volume of trees harvested</li> <li>◊ Can treat up to 15 acres/day</li> </ul>	Difficulty based on site features, concern of neighbors	5-7 years	Will produce revenue with enough volume and acreage
Grazing (biomass conversion)	<ul style="list-style-type: none"> <li>• Defoliate most shrubs from ground up to 5 feet</li> <li>• Converts bulk of live and dead fuel to organic waste</li> <li>• Compacts duff, making it less likely to burn</li> <li>• Encourages herbaceous growth, favoring grasses</li> <li>• Generally increases species diversity</li> <li>• Easy to apply in the presence of obstacles</li> <li>• Minimal impact on non-target species (trees)</li> </ul>	<ul style="list-style-type: none"> <li>• Costly on small lots due to animal transportation</li> <li>• Fencing or containment systems are necessary</li> <li>• Few operators are available</li> <li>• Need animal shelter or caretaker near site</li> <li>• Some desirable tree species may be girdled and killed by livestock eating bark</li> <li>• Supplemental migration methods may be necessary as livestock may not eat certain flammable plants (e.g., sheep eat saw palmetto but not gallberry)</li> </ul>	<ul style="list-style-type: none"> <li>• Very low risk to public safety</li> <li>• Animals may transport invasive plants, diseases, or pest species to site</li> </ul>	<ul style="list-style-type: none"> <li>• Can be implemented most of the year</li> <li>• Intensity depends on objectives; multiple treatments are necessary to kill woody plants; if used with other treatments, periodic grazing can maintain a site indefinitely</li> <li>• Can treat up to 10 acres/day with a large flock</li> </ul>	Very useful in most areas, costly in smaller areas	2-5 years, depending on vegetation type and number of passes	\$200-\$500 per acre; can be used to produce meat or revenue

	and ground-cover • Requires limited personnel and equipment • Strong public approval								
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## 10.3 CWPP Media Options

Table 34. Media Options

Media Type	Examples of Media	Target Audience(s)
Mass Media	<ul style="list-style-type: none"> <li>❖ Press releases</li> <li>❖ public service announcements</li> <li>❖ press conferences</li> <li>❖ reporter tours,</li> <li>❖ billboards.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Journalists</li> <li>❖ Media-using public</li> <li>❖ Media targeted to a specific demographic, language, or socio-economic group,</li> <li>❖ Geographic areas</li> </ul>
Public Outreach	<ul style="list-style-type: none"> <li>❖ Educational materials</li> <li>❖ direct mail or telephone</li> <li>❖ newsletters</li> <li>❖ formal meetings</li> <li>❖ utility bill inserts</li> </ul>	<ul style="list-style-type: none"> <li>❖ General public</li> <li>❖ Demographic subgroups</li> <li>❖ Utility subscribers</li> <li>❖ Geographic (zip code) groups</li> </ul>
Electronic Media	<ul style="list-style-type: none"> <li>❖ Website</li> <li>❖ web- weblog.</li> <li>❖ social networking (e.g., Facebook, Twitter),</li> <li>❖ electronic newsletter or listserv</li> </ul>	<ul style="list-style-type: none"> <li>❖ Journalists</li> <li>❖ Internet-using public</li> <li>❖ Generational cohorts</li> <li>❖ Political groups</li> <li>❖ Younger audiences</li> </ul>
Teacher and Student Education	<ul style="list-style-type: none"> <li>❖ Teacher training</li> <li>❖ curriculum packages</li> <li>❖ field trips, events</li> </ul>	<ul style="list-style-type: none"> <li>❖ Teacher and students</li> <li>❖ Younger audiences</li> <li>❖ Parents/families via students (not a proven effect)</li> </ul>
Exhibit and Displays	<ul style="list-style-type: none"> <li>❖ Exhibits at festival or community events</li> <li>❖ museum displays</li> <li>❖ subdivision displays (clubhouse, entry gate)</li> <li>❖ retailer displays</li> </ul>	<ul style="list-style-type: none"> <li>❖ General public</li> <li>❖ Special event groups (recreational users, fair-goers)</li> <li>❖ Homeowners groups</li> <li>❖ Retail customers</li> </ul>
Community Events	<ul style="list-style-type: none"> <li>❖ Programs</li> <li>❖ field days</li> <li>❖ tours</li> <li>❖ classes</li> <li>❖ service group or church presentations</li> <li>❖ community work days</li> </ul>	<ul style="list-style-type: none"> <li>❖ General public</li> <li>❖ Community groups (service clubs, congregations)</li> <li>❖ Recreational users</li> <li>❖ College students</li> <li>❖ Volunteers</li> </ul>

**Declaration of Agreement and Concurrence**

The Following partners in the development of this Community Wildfire Protection Plan have reviewed and do mutually agree or concur with its contents:

**Agreement**

\_\_\_\_\_, Oconee County Fire Service/Emergency Management \_\_\_\_\_ Date

Steve Moore, State Firewise \_\_\_\_\_ Program Manager, South Carolina Forestry Commission \_\_\_\_\_ Date

\_\_\_\_\_, Oconee County Town Administrator or Designee \_\_\_\_\_ Date





# Unite for a Change

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## Oconee County Fire Safe SC Meeting

### Why?

To make  
Oconee  
a Fire Safe SC  
County

### When?

Thursday,  
April 19, 2018  
6 pm

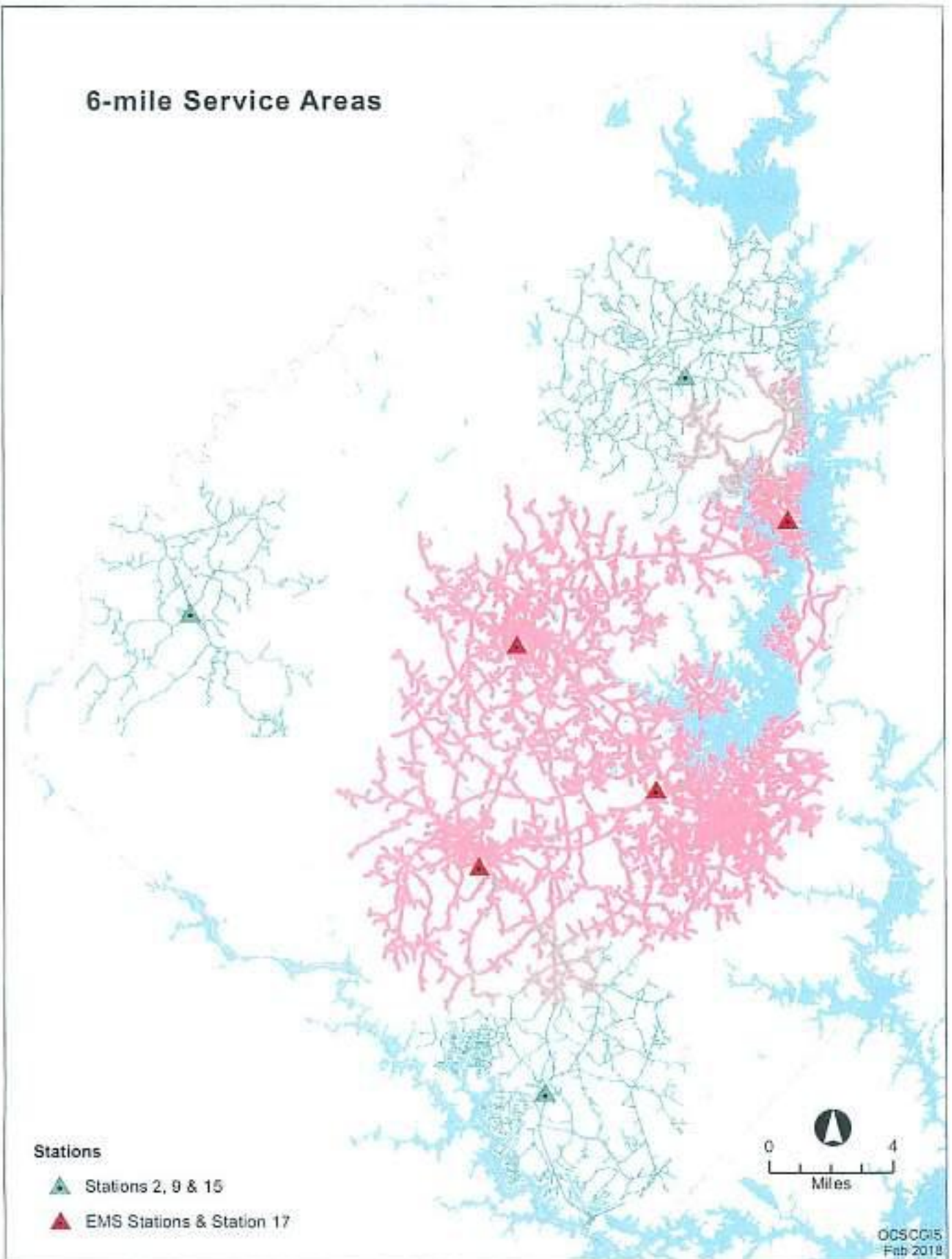
### Where?

Westminster Fire  
Department  
216 Emergency Ln.  
Westminster, SC  
29693

For more information, visit <http://firesafe.sc.gov>



## 6-mile Service Areas







## ***COMMUNITY BENEFITS OF CWPPs***

Community Wildfire Protection Plans improve the ability of a neighborhood, community or county to work together and get things done – key elements of “community capacity.”

The enduring outcomes of CWPPs will be not the plans themselves, but the capacity of communities to create and take advantage of opportunities, knowledge, and connections among people and organizations to get work done.

Community Wildfire Protection Plans (CWPP’s) are one of the more important means of reducing risk to communities and ecosystems of catastrophic wildfires. Enhancing collaboration and building community capacity are viewed as a means insuring that these plans are responsive to the needs and objectives of communities located in the wildland-urban interface.

One CWPP participant stated it this way: *Really it turned out they needed to deal with organizational capacity, much more than wildfire. Having stronger organizational capacity was ultimately going to help them address wildfire and every other vulnerability that that community has.*

**Building community.** By working on CWPPs, community members draw upon, and in turn enhance, the constellation of human, social, political, and economic assets of their community. Collaboration for CWPPs can help build community assets because community members develop leadership, and build ties between community organizations and government agencies. Through collaboration, they identify and address risk, develop a sense of common purpose, and pose an agenda for action. Community leaders involved in CWPPs help increase residents’ understanding, responsibility and support for wildfire mitigation strategies, as well as work with contractors, researchers, and government leaders to provide access to information and financial resources. Demonstration projects, maps, assessments and field trips sponsored by CWPPs have not only enhanced residents’ understanding of wildfire and ethic of stewardship, but their sense of community. CWPP participants reported a new sense of hope, trust and respect.

**How did they do this?** CWPP process conveners consciously identified, strengthened and built relationships which, in turn, created the capacity for further planning and implementation. Once the core group was established, the circle widened to more diverse local leaders and community organizations. New members (e.g., federal agency fire mitigation specialists, local environmental organization members, community development organizations and retired professionals with organizational or technical skills) got engaged. CWPP groups worked with regional planners and government partners who could support planning, tap new resources, influence decisions, and help sustain the planning process. They also used informal neighborhood gatherings and social events to bring a community together. Community members were recruited through multiple information-sharing methods: newsletters, bulletin boards, community meetings, demonstration projects, and clean-up days.



**Capacity varies across communities and planning processes.** Prior to the Healthy Forest Restoration Act, communities with fewer economic or local government resources had more difficulty competing for National Fire Plan funding. The CWPP process has reached more of these communities, partly by working at the county scale and providing access to resources (money, information, contractors) which help implement neighborhood projects or complete a community-level CWPP. Communities with few assets mobilized internal strengths, especially their sense of mutual obligation (called by one county agency director the “brownie bank” method of reciprocity) and residents’ interest in forest stewardship. Formal leaders such as volunteer fire department chiefs, community organizations such as Water Boards or regular informal neighborhood events such as barbecues can bring a community together to successfully mount a CWPP effort. Firewise Communities and Fire Safe Councils can be useful to sustain them.

High capacity communities aren’t necessarily more successful in their CWPP processes and, in some cases, completing a CWPP did not create or strengthen their community capacity. For instance, in cases where contractors were hired to write or implement a CWPP with little involvement from local organizations or community leaders, there was little leadership and organizational development, nor enhanced public trust in implementation. In other cases, conflict over forest management goals or distrust between agencies and organizations limited collaboration and collective action. Some communities simply appended a CWPP as a chapter in another plan, such as a pre-disaster mitigation plan or community alternative to a proposed management plan. Some plans’ assessments and strategies were technical and complex but not grounded in pragmatic realities or adequately shared with communities.

CWPPs can engage community members in safety and stewardship initiatives that can build community capacity by mobilizing assets from within or without. It is important to acknowledge and respect local culture and leadership; small communities are especially vulnerable if they lose their government agency staff or community-based organization leadership.

*We can’t do new stuff alone; we can just do that same tired stuff that got us into this predicament. So only by working with the community folks that live here, only by constantly meeting and talking and hashing it out and doing little stuff at a time can that be done. (BLM mitigation specialist)*

*This notebook [plan] is not what it’s about – it’s a living, dynamic process. It’s about cooperatively responding to peoples’ needs and recognizing the strength of diversity.*



## COMMUNITY WILDFIRE PROTECTION PLANS

Enhancing Collaboration & Building Community Capacity

### Quick-Guide #12: The Diverse Benefits of CWPPs

Communities and agencies enter into the Community Wildfire Protection Planning (CWPP) process anticipating certain benefits and outcomes. The two most anticipated outcomes were reducing the overall risk of wildfire and increased access to funding. However, the CWPP process resulted in a number of unanticipated benefits to many communities, agencies, and individuals involved. Below we describe examples of anticipated and unanticipated benefits. More detail on two of these benefits, developing new capacities and building a learning community can be found in Quick Guide 14 and Quick Guide 13.

#### Reducing wildfire risk and access to funding

One of the expected benefits of a CWPP included reducing wildfire risk through fuels management and infrastructural improvements.

##### Examples:

- ⇒ In Auburn Lake Trails, California, we were told that “*Something was actually getting done*” — fuels management around homes, fuels management on association land, shaded fuel breaks, and improved street/house signage.
- ⇒ For the High Knob Owner’s Association in Front Royal, Virginia, the CWPP enabled the association to trim back vegetation from roads, widen cul-de-sacs, host a community fuel cleanup day, and obtain 911 number signs for many homes in the development.
- ⇒ In Barnes and Drummond, Wisconsin, the Chequamegon-Nicolet National Forest conducted a fuels treatment and thinning project adjacent to the town of Drummond, and removed downed fuel from a wind storm.

We often heard that communities developed a CWPP because they felt that in the future federal funding, in particular, would depend on a CWPP being in place. Several communities offered examples of how the CWPP process had helped them access different funding sources for fuels reduction.

##### Examples:

- ⇒ In Harris Park, Colorado, the local fire authority worked out an arrangement with the Colorado State Forest Service where they applied for a 50/50 matching grant. The fire authority provided the in-kind match by performing the labor and treated private land in one of the high-risk subdivisions.
- ⇒ In Post Mountain, California, a great benefit was the Watershed Research Training Center (WRTC) joining with The Nature Conservancy (TNC) to become a Fire Learning Network Project. “*It really helps us get some other resources and do some coordination across bounds like this.*”
- ⇒ In 2005 Josephine County, Oregon, received \$500,000 in funding from the National Fire Plan and completed 500 acres of hazardous fuels reduction projects in three communities. The county also received additional funding from Title II of the Rural Secure Schools Act to fund defensible space for low-income and elderly or disabled citizens in the county.

(over)





## OUTCOMES

### Improved community capacity

We frequently heard about the social benefits of developing a CWPP, in fact social benefits were the most frequently cited benefits of the CWPP process. One of the strongest benefits seen across multiple case study sites was new or improved relationships that resulted from the CWPP process, either between agencies, or within a community. As one CWPP participant said: "...just to show that it could be done, and we could communicate as a group, and you could take agencies that have different focuses, bring them together and everybody come through it okay. I think that it proved that there's a great working relationship in this part of the world."

In many communities, CWPP participants gained a greater understanding of each others' interests and increased knowledge of wildfire and wildfire management, forming 'knowledge communities.' In Harris Park, Colorado, community members who interacted with the fire department or Colorado State Forest Service are now able to speak knowledgeably about forest ecology and fire defense. At the same time, agency representatives speak with an understanding of community values and concerns.

CWPPs created potential to reach other community goals, and we heard about several different communities who were able to reach additional goals because of capacities created during the CWPP process. In Grizzly Flats, California, the community capacity that resulted from developing the CWPP allowed the community to move forward with plans to build a community center.



CWPPs led to a common goal and common message that community members and/or involved agencies could agree upon. In some CWPPs, one of the main benefits for all the participants was an agreement on actions that need to be taken together. "I think having the agencies come together and realize that Taylor is a vulnerable area... and that they are now all working together to protect it."

An increased awareness of the wildfire problem was identified by several communities as a benefit of the

CWPP process. CWPP participants in western states gained a greater understanding of wildfire risk and how to mitigate it. They know that the agency and fire authority players can provide resources and access to funding to assist them; they understand how to implement defensible space, and what thinning entails; and they know how to help the fire authorities help themselves. All of this knowledge creates an increased capacity to protect their values from wildfire. In the Eastern U.S. cases, where the perceived fire risk is lower, one of the most important benefits was understanding that there was a wildfire problem. Participants in the CWPP process in Lake County, Colorado, used their new knowledge and awareness of wildfire risk to spread the word to other communities that were not involved in the Lake County process.



Web Site:

[www.firewise.gov](http://www.firewise.gov)





# The Transylvania Times -

## Wildfire Community Protection Plan Put Into Action Locally



Officials tour the newly-located fireline on Bracken Mountain. Left to right are Jimmy Patterson, N.C. Forest Service; Mark Norton, Brevard Fire Department; Kenneth McJunkin, N.C. Forest Service Transylvania County Ranger; Joe Moore, Brevard city manager; Josh Freeman and Daniel Cobb, city of Brevard Planning Department; and Bobby Cooper, Transylvania Emergency Management. (Courtesy photo)

North [Carolina](#) has more than one million acres of USDA Forest Service land that are found within Croatan, Uwharrie, Pisgah and Nantahala national forests. These forests are not immune to [North Carolina's](#) wildland/urban interface problems or to forest damage caused by natural disasters such as wildland fires.

Though wildfires play an integral role in many forests and rangeland ecosystems, decades of efforts directed at extinguishing every fire that burned on public and private lands have disrupted the natural fire regimes that once existed. Moreover, as communities develop and grow in areas that are adjacent to fire-prone lands, wildland fires pose increasing threats to people and their property.

The [North Carolina](#) Forest Service is currently using Community-Protection Plan funding to reduce hazardous amounts of forest and urban fuels in [Transylvania County](#). Over the past two years the [Transylvania County](#) Rangers office has located and established more than 35 acres of permanent fire lines throughout the county and opened up more than 10 miles of overgrown roads and fire trails on private lands here in the county.

Just recently the [North Carolina](#) Forest Service in cooperative agreement with the [City of Brevard](#) has established a permanent fire line surrounding the Bracken Mountain watershed property, which is located just outside of [Brevard](#) city limits. A 20-foot wide control line was established to provide access for quick fire and emergency responses. The property adjoins U.S. Forest Service lands on three sides and provides fuel breaks to be used in the event of a wildfire.

Following a landmark fire season, the National Fire Plan (NFP) was developed in August of 2000 with the intent of responding to severe wildland fires and their impacts on communities, while



ensuring sufficient firefighting capacity for the future. The NFP addresses five key points: firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability.

Under the authority of the National Fire Plan, the USDA Forest Service's Community Protection Grant Program was established to provide funding to states to help prevent wildfires and mitigate the conditions that lead to them in high risk communities within a 3-mile radius of national forestland. Community risk is determined by vegetation type, available vehicle access, terrain, and response times for emergency personnel, and access to water sources.

The program emphasizes collaborative planning between the N.C. Forest Service, USDA Forest Service, and communities to maximize mitigation and prevention efficiency. These plans list prevention, mitigation and community projects in priority order based on wildland fire hazards and available funding.

Since there are no costs associated with this program for the landowner and the controlled burning and mechanical fuel reduction treatments are performed by the N.C. Forest Service with funding support from the USDA Forest Service, this is a great opportunity for qualifying landowners/communities to reduce their wildfire hazard and work toward becoming a Firewise community. To find out if your communities qualify for the program or speak with someone about it, contact the [Transylvania County Forest Ranger](#) at (828) 884-3212.

## Connect With Us

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