

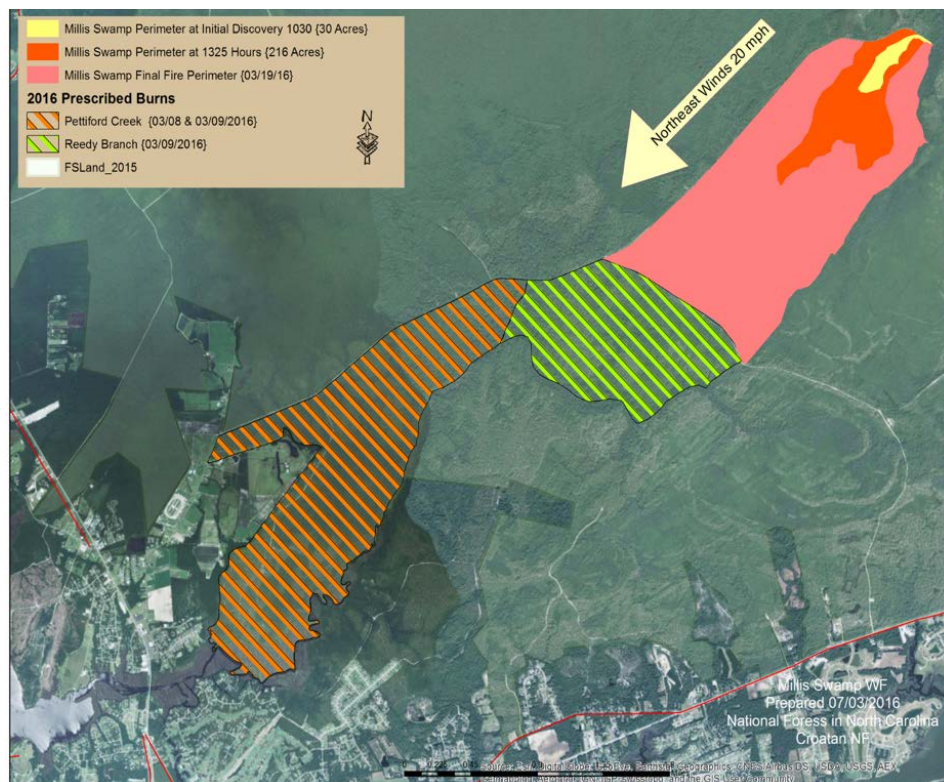
# Millis Swamp Fire – Croatan NF

Cross Boundary work is Key – Collaborative restoration treatments across ownership boundaries are critical in creating fire adapted communities

## Introduction

While implementing prescribed fire operations on the Croatan NF on March 18, 2016, fire personnel detected a human caused fire adjacent to Millis Swamp in Carteret County. The fire was sized up at 30 acres with strong northeast winds pushing the rapidly spreading wildfire. Flame lengths were observed to be 70 feet with the fire moving predominately through wire grass savannahs comprised of carolina bay pocosins, fire adapted ecosystems and towards the Highway 24 WUI Corridor and western Carteret County communities of Bogue, Ocean, Cape Carteret, Broad Creek, and Newport. Immediate concerns focused on the vast numbers of these communities to the south, southwest, and west of the fire along with the unique and sensitive ecosystems.

*“Having the previous prescribed burn in front of the fire enabled us and our partners to go indirect and conduct a controlled burn out, which reduced exposure to firefighters and protected the downwind communities while allowing the fire dependent ecosystem to function, increasing its resiliency for the future.”*  
-David L. Nelson, Croatan NF, IC, DAFMO



The map above highlights the Millis Swamp wildfire start location and direction of rapid spread to the southwest. The communities-at-risk, as identified in the CERFT, lie in the direction of spread. The two hatched polygons are the prescribed burns which were implemented just prior to the Millis Swamp start and critical in allowing fire managers the opportunity to quickly contain and control the wildfire.



Millis Swamp Fire (WITN News)

## Croatan WUI, Conflagration, and Ecosystem Resiliency Fuel Treatment (CERFT) Project

Although the fuels around the Millis Swamp fire have observed a frequent fire rotation, the 2016 treatments identified on the map above are expansion of the normal fuel treatment program and part of the Croatan Supplemental Fuels Project funded in FY16. This project focused on collaborating with partners, through planning and implementation, to reduce wildfire risk

across ownership boundaries from the highly volatile pocosins and other hazardous fuels while increasing margin to adjacent communities by restoring the longleaf wiregrass ecosystem. It involves the restoration of nearly 10,000 acres of unique fire adapted longleaf pine savannahs and carolina bays (containing high quality RCW, endangered carnivorous plant, and rare plant species habitat) through the cross boundary use of prescribed fire. Values at Risk, as identified within the CERFT are: City of Havelock, the Marine Corps Air Station Cherry Point, Fleet Readiness Center East, highly volatile pocosin swamps, wildlife habitat comprised of RCW and carnivorous plants, communities of western Carteret County and Highway 24 (Bogue, Ocean, Cape Carteret, Broad Creek, and Newport), and the resiliency of the longleaf pine wiregrass ecosystem. These 10,000 project area acres lie in between the Pocosin Wilderness and the entire population of western Carteret County; and also includes NC Wildlife Commission Game Lands, Bogue Airfield (USMC), and the sole source of water for Western Carteret Water Corporation. These same acres are also known as high priority treatment areas within the Community Wildfire Communication Plan (CWPP). Partnering with The Nature Conservancy, the NC Forest Service, the US Marine Corps Environmental Affairs Department, and the NC Wildlife Resources Commission resulted in treatments of prescribed fire that helped restore the landscapes functionality; reduce the wildfire risk from the Pocosin Wilderness while increasing this rare ecosystem's resiliency to the impacts of stressors such as wildfires, floods, hurricanes, salt spray, and pine beetles. Three very recently implemented prescribed burns were located two miles southwest of the fire origin along Pettiford Creek and Reedy Branch which contains high quality RCW, endangered Venus fly trap, and rare plant species habitat. These three aforementioned burns, and the reduction of associated fuels, gave fire managers the decision space typically unavailable given the severe fire danger and accelerated fire behavior which would have been observed on day the Millis Swamp wildfire ignited. Ultimately the reduction in fuel loading through very recent prescribed fire implementation gave fire managers the option to burn out and corral the Millis Swamp Fire into the Reedy Branch Burn, while reducing the fire intensity to healthy levels for the ecosystem.

## Achieving National Cohesive Strategy Goals

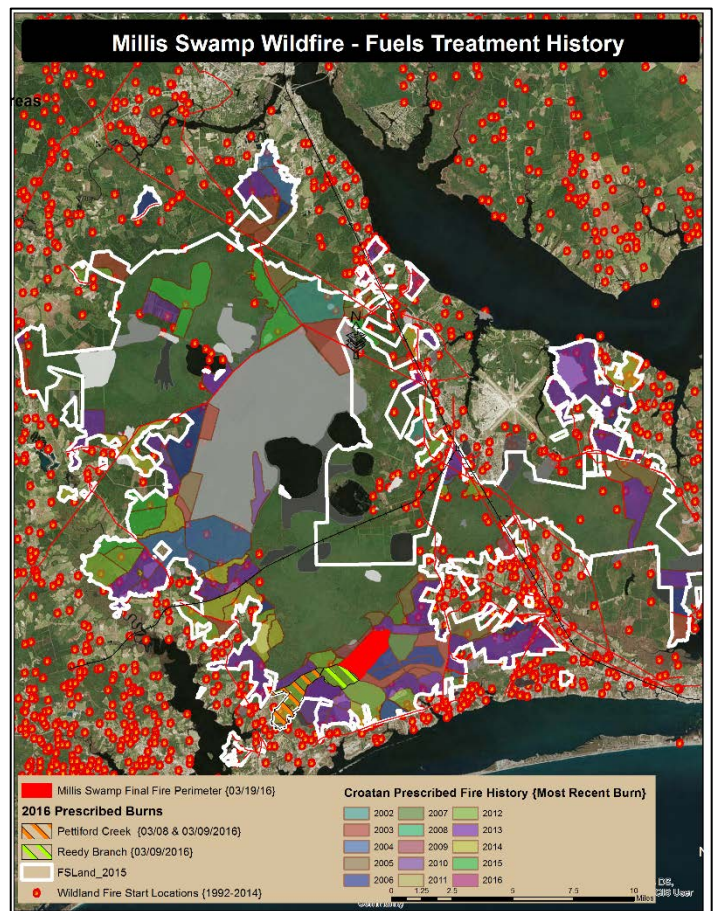
Fuel treatments directly tied to the CERFT Project were key in aiding in effective management response to the Millis Swamp Fire. These past treatments along with the management strategy for this wildfire moved the vegetation closer towards the desired future condition of **fire resilient landscapes**. Through the collaborative process, the CERFT project along with the annual 18,000 acres accomplished in hazardous fuels funded treatments is reducing risk and helping to create **fire adapted communities**. The CERFT project along with management of the Millis Swamp wildfire clearly demonstrates success in meeting the three goals of the Cohesive Strategy (resilient landscapes, fire adapted communities, and safe and effective wildfire response).





## Fire Resilient Landscapes through Collaboration and Maintenance

The Croatan has a long rich history of prescribed burning; fuel treatments for the Millis Swamp Fire area go back to the 1960s. As part of the Onslow Bight Fire Learning Network multiple agencies exchange expertise and work across boundary lines to restore ecosystems through prescribed fire on and around the Croatan. This integration has also functioned across program areas on the Forest. Forest management, wildlife and fire programs have worked together to leverage funding opportunities, take appropriate use of trust funds and create restoration opportunities. This investment over time, the history of collaboration and prescribed fire created the resilient landscape where the Millis Swamp Fire could not only be successfully managed, but absorbed the wildfire as a healthy fire entry and is now in an enhanced condition with venus flytraps and pitcher plants flourishing. The communities of Cape Carteret, Bogue, and Ocean experienced an immediate benefit from the suppression of the fire as well as the accretion of outdoor recreation opportunities and the protection of the sole water source (six wells on Pringle Road) for the West Carteret Water Corporation. Maintaining and improving the resiliency of the Longleaf Pine Carolina Bay Ecosystem in the Millis Road area creates a more sustainable community in western Carteret County.



## Safe and Effective Wildfire Response

On initial detection, it was obvious the rapidly spreading fire was burning towards and would immediately threaten WUI located along the southern forest boundary. Direct attack on this wildfire would have posed an increased risk for firefighters and had minimal probability of success. It was determined by the Fire Management Officer and the District Ranger, the best opportunity for success was to utilize existing control lines for prescribed burning and "direct" the wildfire into a recently completed special project area which was burned just a week prior to the fire. The seasonal drought, coupled with low humidity and high winds created intense fire behavior. The recent prescribed fire directly led to the halt of this fast moving wildfire and saved the communities of Cape Carteret, Bogue, and Ocean. The District Ranger decided to manage this wildfire with a confine/contain strategy to provide for community protection where values at risk were high and provide for resource benefit where values at risk were low. This approach combined with the reduced fuel loading from many years of burning provided ample decision space to use appropriate strategies in protecting residential areas and private values, while falling back to existing firelines and natural barriers as the fire moved through fire adapted ecosystems on National Forest Lands. The fire history in the area provided plenty of time for firefighters to prioritize work near private lands and improve old roads and natural barriers to the south and east as needed. This also afforded the time to engage the affected communities in the objectives of the fire as well as keep them informed on smoke impacts and the fire's progress. Prior to the wildfire, the collaborative efforts of the Forest Service and partners set the stage for communicating with adjacent landowners and communities about the resource benefits this wildfire would provide while providing for public and firefighter safety.

## Creating Fire Adapted Communities

Prescribed fire is not new to the Croatan National Forest. The forest has maintained a rich history of resiliency burning over several decades. Recent treatments burned in the Millis Swamp area, including the Pettiford Creek and Reedy Branch burns of March 8<sup>th</sup> and 9<sup>th</sup>, coupled with an expansive fuel treatment history have created defensible space and communities adapted to both planned and unplanned wildland fire. Without routine prescribed burning proximate to communities, the potential for catastrophic unplanned wildfire on the Croatan is very high, with 80,000 acres of dense pocosin swamp at its center with a historic fire return interval of 15-20 years. Through an interagency effort comprehensive Community Wildfire Protection Plans were in place prior to the start of the Millis Swamp Fire. The communities of Cape Carteret, Bogue, and Ocean experienced an immediate benefit from the suppression of the fire as well as the accretion of outdoor recreation opportunities and the protection of the sole water source (six wells on Pringle Road) for the West Carteret Water Corporation.



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**Restoring Resiliency to Fire Adapted Ecosystems**



**Venus flytraps and  
endangered pitcher plants  
flourishing after the Millis  
Swamp Fire**



**Longleaf pine wire grass ridge**