

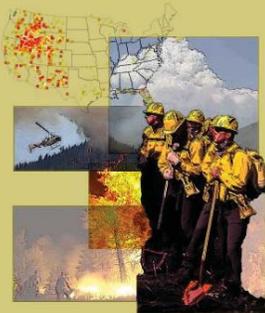
Communities Near the Sandhill Crane National Wildlife Refuge

Steps to Improve Community Preparedness for Wildfire

Community Preparedness Case Study Series

Case Study #10

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Parts of Jackson County, located on Mississippi's Gulf coast, have a high wildfire risk due to years of fire suppression in the native open pine savanna. In the early 1990s, the casino industry moved into Jackson County, and over just one decade, the county's population grew by 14 percent. This growth pushed development northward, from the coast into the forest. As more and more houses were built in fire-susceptible areas, a wildland-urban interface (WUI) problem emerged.



One particular region of fire susceptibility in Jackson County is the area surrounding the 19,000-acre Mississippi Sandhill Crane National Wildlife Refuge (MSCNWR), part of the Gulf Coast Refuge Complex, including the communities of Gautier, Ocean Springs, and VanCleave. Established in 1975, the wildlife refuge was once an open pine savanna of longleaf pine interspersed among low-growing grasses, sedges, and wildflowers, but conversion of the savanna to pine plantations and years of fire suppression have degraded the ecosystem and led to an overgrowth of the under-story.

Not only did fire suppression change the composition of the ecosystem, but it also increased fuels in the area, making wildfire a significant threat. In 1987, VanCleave had an 1,800-acre fire, but fortunately no homes or lives were lost. In 1999, a wildfire endangered several homes in Ocean Springs. The area around and within the wildlife refuge has numerous smaller fires (100 acres or less) each year; an example is the Grand Bay Refuge fire (part of the Gulf Coast Refuge Complex). Today, land managers in coastal Mississippi are trying to restore the open pine savanna and reduce fuel loads by using prescribed fire.

Although most people in Jackson County have experienced small wildfires and prescribed burns, they remain unaware of the potential for larger, devastating wildfires. Agencies and organizations, such as the MSCNWR, the Mississippi Forestry Commission (MFC), the USDA Forest Service, The Nature Conservancy (TNC), Mississippi State University Extension Service (MSU-ES), and local fire departments, however, are aware of the wildfire risk and have recently begun public awareness campaigns to help the area become better prepared. Mitigation projects and educational programs have been and are continually being developed in the region. Through grants from the U.S. Fish and Wildlife Service, some volunteer fire departments are sending firefighters to wildfire training and are purchasing wildland firefighting gear. Communities in similar situations can learn from these early steps taken by Jackson County to prepare for wildfire.



Fire at wildlife refuge. (Photo courtesy of <http://mississippisandhillcrane.fws.gov>)



Wet pine savanna at the wildlife refuge.



Entrance to the Mississippi Sandhill Crane National Wildlife Refuge.

Keys to Wildfire Preparedness

1. Education

Several agencies in Jackson County are taking steps to educate the community on the role and risk of wildfire in areas surrounding the wildlife refuge. The MSU-ES incorporated fire in several of its existing environmental education programs. Regional fire-adapted habitats and the role of wildfire are covered in the Teachers' Coastal Wetland Diversity Workshop (a field-oriented workshop held throughout the school year) and the Mississippi Master Naturalist volunteer program (an intense training program that focuses on local habitats). The MSU-ES, Master Naturalists, and local Boy Scout council also address the role of fire through annual programs conducted at the Boy Scout camp near Wiggins, MS. The annual Earth Science Day held each January has forestry classes in which prescribed burning is discussed and demonstrated. A summer camp course for adult leaders (NatureWise) includes discussions about habitats and wildlife and the role of fire in maintaining both. The wildlife refuge holds environmental education programs involving classroom presentations and nature hikes that illustrate the need for and process of prescribed burning. The MSU-ES and MFC have held joint landowner field days where fire management is discussed. TNC also organizes prescribed burn workshops for landowners. Before a prescribed burn, TNC and the wildlife refuge contact landowners door-to-door near the planned burn area and hand out flyers and maps. In the absence of routine wildfire, these educational efforts make the public aware that wildfire is indeed a concern in coastal Mississippi and that prescribed burning is a method to reduce high fuel loads.



Fire helps maintain the wet pine savanna ecosystem.

2. Networks and Communication

An excellent working relationship among the many land management and fire suppression agencies represented in Jackson County is an important element in wildfire preparedness. For example, local fire departments are notified when prescribed burns are being performed in their area, and they routinely help MFC suppress wildfires. The MSCNWR fire crews assist MFC in suppressing wildfires throughout the county. The wildlife refuge and TNC have cooperated in prescribed burn projects that extended across both groups' properties.



SMEACO: <http://www.msstate.edu/dept/crec/smeaco.html>

The coastal counties of Mississippi have several organizations and networks that help bring together different sectors interested in natural resource management. One organization is the South Mississippi Environmental and Agricultural Coordination Organization (SMEACO), which is a loose-knit coalition of Federal, State, and local agencies, and representatives from the private sector. The main objective of SMEACO is environmental education; quarterly meetings promote open communication lines, coordination, networking, and resource sharing. Another group is the Tri-County Cooperative, funded by the Coastal Impact Assistance Program and spearheaded by the MFC. The main priority of the cooperative is to promote prescribed burns in wildland-urban interface areas and to establish cooperation among agencies and private landowners to get these burns accomplished. The MFC, wildlife refuge, county fire coordinators, and local fire departments are all important players in the success of the Tri-County Cooperative.

3. Fuel Reduction

Fuel reduction is a major priority at the wildlife refuge not only to reduce the hazard of large wildfires but also to restore the ecosystem to an open pine savanna. In the past decade, prescribed burns have been conducted on 90 percent of the refuge, with most areas being burned more than one time. Recently the wildlife refuge began using mechanical fuel reduction techniques in areas that cannot be easily burned, such as near highways or residential areas. TNC also has a mitigation project on an 1,800-acre tract of land connecting two units of the wildlife refuge in which prescribed burning is used as the main restoration tool. The MFC is responsible for controlled burns on private land, but because funding and resources are limited, very little of this burning takes place on private property.



Fire crews performing a prescribed burn. (Photo courtesy of: <http://mississippisandhillcrane.fws.gov>)

4. Training

The Gautier, Ocean Springs, and VanCleave fire departments recognize the importance of wildfire suppression training for their staffs. In the past, the MFC has held training on prescribed burning. Additionally, the State Fire Academy offers programs on wildfire suppression. Using funds from the National Fire Plan, the wildlife refuge recently established the Gulf Coast Wildfire Academy to train volunteer and local fire department personnel in wildfire suppression and the Incident Command System. With the academy being set up locally, training local firefighters in wildfire suppression tactics gives the area a larger pool of resources to draw on during prescribed burns or wildfires.



Ocean Springs Fire Department at equipment training. (Photo courtesy of Ocean Springs Fire Department)

What's Next for Jackson County?

Although fire-susceptible communities in Jackson County have made significant strides in wildfire education, much more needs to be done. Those involved with wildfire issues suggest several future activities that will help Jackson County become better prepared for wildfire.

1. **Educate the public on how they can reduce the risk of wildfire on their properties:** Currently, education in Jackson County focuses on the risk of wildfire in the area and the role of prescribed fire in reducing the risk and maintaining the ecosystem. Recently, several representatives from land management agencies attended a FireWise workshop, a new educational effort that focuses on principles of wildfire preparedness from community and individual landowner perspectives. The FireWise materials will be adapted to coastal Mississippi and passed on to community leaders, civil organizations, and land management agencies in the area.



Ocean Springs Fire Department members pose with community leaders. (Photo courtesy of Ocean Springs Fire Department)

2. **Explore funding/grant opportunities:** In general, fire departments are underfunded, but a variety of grant opportunities are available. For example, the wildlife refuge offers Rural Fire Grants to purchase wildfire equipment and to obtain wildfire training. Gautier has applied for grant money to buy a 2,500-gallon tanker to use in rural areas where there are no hydrants. Similarly, the VanCleave volunteer fire department requested funding to buy wildland firefighting gear. Ocean Springs received grant money to purchase breathing apparatus for their employees.

3. **Increase fuel reduction efforts especially on private land:** Currently, most prescribed burning is done on public land such as the MSCNWR. However, many private landowners have nearby properties that have similar fuel loads. Reduction of fuel on these properties is essential to reduce the risk and prevent the spread of wildfire.

Lessons for Other Communities from Jackson County

1. Maintain an excellent working relationship with land management agencies in the area as well as with local fire departments and community officials.
2. Work together to achieve objectives; collaborate on projects and meet regularly.
3. Inform the public about the history of wildfire in the area, the risk of wildfire due to heavy fuel loads, and the role of prescribed fire in reducing wildfire risk and maintaining a healthy ecosystem. The public must know this information before they likely will accept mitigation strategies and use preparedness principles on their own properties.
4. Reduce fuels in areas with high fuel loads, especially near residential areas, by prescribed burning or by mechanical reduction methods where prescribed burning cannot be used.
5. Train local fire departments in wildfire suppression techniques. This gives the area a pool of local resources trained and prepared to help during prescribed burns and wildfires.



Gyro track performs mechanical fuel reduction.

Web Sites for More Information on Jackson County and the Mississippi Sandhill Crane National Wildlife Refuge

Jackson County: www.co.jackson.ms.us

Mississippi Sandhill Crane National Wildlife Refuge: <http://mississippiandhillcrane.fws.gov>

Mississippi Forestry Commission: www.mfc.state.ms.us

Mississippi Extension Services: <http://msucares.com>

SMEACO: www.msstate.edu/dept/crec/smeaco.html

North Central Research Station: <http://www.ncrs.fs.fed.us/>

FireWise: www.firewise.org



Gautier Fire Department.



Evidence of wildfire in Jackson County, MS.



Home built in the wildland-urban interface, Jackson County, MS.

Unless otherwise noted, photos are by Shruti Agrawal, University of Florida or Rachel Hudson, USDA Forest Service

The Wildfire Preparedness Project of the National Fire Plan

Communities across the U.S. have voiced increasing concern about how they can better prepare for wildfire. Even in areas of the country not traditionally thought of as having high fire risk, storms, changing climate, and pest/disease outbreaks have increased concern about the potential for catastrophic fire. In areas where fire is viewed as a natural part of the ecosystem, the fact that more and more people choose these places to live in means that there is a potential for major fire impacts. A team of scientists funded by the National Fire Plan have been visiting communities across the country to identify the activities communities are undertaking to increase wildfire preparedness, and the resources necessary to support these activities. The project is led by the North Central Research Station, in cooperation with the Pacific Northwest Research Station, University of Florida, University of Minnesota, and Southern Oregon University.

This is one in a series of summaries reflecting findings of the case studies. Hard copies of this summary can be obtained from the individuals listed below. All case study summaries currently available can be found on the web at:

www.ncrs.fs.fed.us/4803/Highlights.htm

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National Fire Plan
Managing the Impact of Wildfires on the
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