USDA	News Release
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For Immediate Release	

NOTE TO MEDIA – Please contact the Chequamegon-Nicolet Public Affairs Officer, Hilary Markin, if you are interested in attending the burn. A separate news release will also be sent when the burn starts. She can be reached at 715-482-0115 or email hilaryrmarkin@fs.fed.us.

Prescribed burn continues restoration at Moquah Barrens

Rhinelander, Wis. (May 20, 2014) – The Moquah Barrens is a globally imperiled pine barrens ecosystem, one of very few in the world. This dynamic ecosystem evolved naturally over time with fire being the key component in maintaining its biological integrity. Today, the Forest Service is using fire and other management techniques to restore the approximately 15,000 acre Moquah Barrens as a functioning pine barrens ecosystem.

"Roughly one percent of the original 2.3 million acres of pine barrens remains," said Tom Doolittle, Wildlife Biologist, Washburn District, Chequamegon-Nicolet National Forest. "It is a rare ecosystem and Moquah Barrens is one of the most northern pine barrens."

The pine barrens are located on sandy, nutrient poor soils left behind by glaciers 10,000 to 25,000 years ago. Over time plants and animals developed unique adaptations to be able to survive in these conditions. Plants like the bracken fern have roots that can reach six feet down into the ground to find water. Others like the blueberry, also common, depend on moisture but also yield more berries after a fire.

Many species favor the open barrens landscape. The loose soils are great for burrowing creating ideal denning habitat for badgers and thirteen-lined ground squirrels; while the open grasslands is habitat for bluebirds, upland plovers, brown thrashers and sharp-tailed grouse.

Through a collaborative relationship with the Wisconsin Department of Natural Resources, the Forest Service now manages 7,200 acres of the Moquah Barrens for wildlife, including sharp-tailed grouse. The agencies are cooperatively working throughout the region to restore barrens habitat by thinning pine plantations planted by the Civilian Conservation Corps in the 1930s, applying prescribed fire, cutting encroaching shrubs and trees, and using timber harvest to restore the tree structure to the barrens.

"The sharp-tailed grouse population in Moquah Barrens has decreased over the past decade, but through recent rigorous habitat improvement work, the basis for supplementing the small remnant grouse population becomes a viable option," said Doolittle. "In putting together the

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burn plan, we have been doing sharp-tailed grouse surveys and other wildlife surveys at the Moquah Barrens to minimize impacts to wildlife and to maximize the positive effects of fire. This work could not be completed without our partners and together we continue to improve wildlife habitat."

Fire applied to the land helps reduce non-fire adapted plant species in favor of fire adapted native species such as the grasses little bluestem and poverty oat grass, forbs such as goldenrods and asters as well as blueberry and sand cherry shrubs. If fire is not applied to the landscape non-fire adapted species can increase and out-compete fire adapted species and eventually wildlife who call the barrens home.

This spring the Forest Service will be burning 2,870 acres of the Moquah Barrens in three separate units to reduce encroaching shrubs and trees, improve wildlife habitat and promote barrens associated plant species.

Fire specialists will be conducting the burns over a three day time period that is weather dependent. Specialists write very specific burn plans that identify the best conditions under which trees and other plants will burn to get the best results safely. Burn plans consider temperature, humidity, wind, moisture of the vegetation and conditions for the dispersal of smoke. Fire management specialists compare conditions on the ground to those outlined in burn plans before deciding whether to burn on a given day.

"We watch the weather conditions very closely and sometimes the go or no-go call comes down to the last minute," said Jennifer Rabuck, West Zone Fire Management Officer, Chequamegon-Nicolet National Forest. "When we do prescribed burns, fire is applied medicinally to the land, similar to doctors prescribing us medication to address certain conditions. We want to ensure that what is prescribed helps us reach our management goals in the safest way possible."

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Forest Fire Smoke and Your Health

What's in smoke from a forest fire?
Smoke is made up small particles, gases and water vapor. Water vapor makes up the majority of smoke. The remainder includes carbon monoxide, carbon dioxide, nitrogen oxide, irritant volatile organic compounds, air toxics and very small particles.

Is smoke bad for me?
Yes. It's a good idea to avoid breathing smoke if you can help it. If you are healthy, you usually are not at a major risk from smoke. But there are people who are at risk, including people with heart or lung diseases, such as congestive heart disease, chronic obstructive pulmonary disease, emphysema or asthma. Children and the elderly also are more susceptible to smoke.

What can I do to protect myself?

- *Particulate matter, or PM* (tiny particles) is one of the biggest dangers from smoke. As smoke gets worse, the amount of particulate in the air increases -- and so do the number of guidelines for protecting yourself.

- Use common sense. If it looks smoky outside, that's probably not a good time to go for a run. And it's probably a good time for your children to remain indoors.

- If you're advised to stay indoors, keep your windows and doors closed.

- Help keep particle levels inside lower by avoiding using anything that burns, such as wood stoves and gas stoves – even candles. And don't smoke. That puts even more pollution in your lungs – and those of the people around you.

- If you have asthma, be vigilant about taking your medicines, as prescribed by your doctor. Call your doctor if your symptoms worsen.

How can I tell when smoke levels are dangerous?
Generally, the worse the visibility, the worse the smoke. In the west, visibility is used to help you gauge forest fire smoke/particulate levels. An example is attached to this fact sheet.

How do I know if I'm being affected?
You may have a scratchy throat, cough, irritated sinuses, headaches, runny nose and stinging eyes. Children and people with lung diseases such as asthma may find it difficult to breathe as deeply or vigorously as normally, and they may cough or feel short of breath. People with diseases such as asthma or chronic bronchitis may find their symptoms worsening.

Should I leave my home because of smoke?
The tiny particles in smoke do get inside your home. If smoke levels are high for a prolonged period of time, these particles can build up indoors. If you have symptoms indoors (coughing, burning eyes, runny nose, etc.), talk with your doctor or call your county health department. This is particularly important for people with heart or respiratory diseases, the elderly and children.

Are the effects of smoke permanent?
Healthy adults generally find that their symptoms (runny noses, coughing, etc.) disappear after the smoke is gone.

Do air filters help?
They do. Indoor air filtration devices with HEPA filters can reduce the levels of particles indoors. Make sure to change your HEPA filter regularly. Don't use an air cleaner that works by generating ozone. That puts more pollution in your home.

Do dust masks help?
Paper "comfort" or "nuisance" masks are designed to trap large dust particles -- not the tiny particles found in smoke. These masks generally will not protect your lungs from forest fire smoke.

How long is the smoke going to last?
That depends on a number of factors, including the size of the burn, number of fires in the area, fire behavior, weather and topography. Smoke can travel long distances, so fires in other areas can affect smoke levels in your area.

I'm concerned about what the smoke is doing to my animals. What can I do?
The same particles that cause problems for people may cause some problems for animals. Don't force your animals to run or work in smoky conditions. Contact your veterinarian or county extension office for more information.

How does smoke harm my health?
One of the biggest dangers of smoke comes from *particulate matter* -- solid particles and liquid droplets found in air. In smoke, these particles often are very tiny, smaller than 2.5 micrometers in diameter. How small is that? Think of this: the diameter of the average human hair is about 30 times bigger.

These particles can build up in your respiratory system, causing a number of health problems, including burning eyes, runny noses and illnesses such as bronchitis. The particles also can aggravate heart and lung diseases, such as congestive heart failure, chronic obstructive pulmonary disease, emphysema and asthma.

What about firefighters?
Firefighters do experience short-term effects of smoke, such as stinging, watery eyes, coughing and runny noses. Firefighters must be in good physical condition, which helps to offset adverse effects of smoke. If you are working on a fire and you're concerned about your health, see the medical unit or contact your safety officer. If you're not working on a fire, call your doctor.

Will it not be as smoky when firefighters are working on prescribed fires versus wildfires?
Yes, it should less smoky. Land managers are able to plan for prescribed fires. They get to choose the areas they want to burn, the size of those areas and the weather and wind conditions that must exist before they begin burning. This allows them to control the fire more easily and limit its size. Those choices don't exist with wildfires. In addition, wildfires that start in areas that haven't been managed with prescribed fire often have more fuel, because vegetation in the forest understory has built up, and dead vegetation has not been removed.

Will the amount of smoke be the same during every prescribed burn?
The amount of smoke depends on where you live, the weather during the burn and the amount of fuel (trees, brush, etc.) available to be burned. More than likely the amount of smoke you experience will vary with each event. It is important to remember that if you live in an area where fire has always been part of the ecosystem, you can expect fire and smoke from time to time. You can protect yourself and your property by following good fire prevention measures. We never will eliminate fire and smoke from these natural systems.

This document was originally prepared in 2000 by the U.S. Forest Service – Region 1, with assistance from US EPA.

Using Visibility to Estimate Health Effects

Categories	Visibility in Miles	Health Effects	Cautionary Statement
Good	10 miles and up	None	None
Moderate	6 to 9 miles	Possibility of aggravation of heart or lung disease among persons with cardiopulmonary disease and the elderly.	People with heart or lung disease should pay attention to symptoms.
Unhealthy for Sensitive Groups	3 to 5 miles	Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease (such as asthma) and premature mortality in persons with cardiopulmonary disease and the elderly.	People with respiratory or heart disease, the elderly, and children should limit prolonged exertion and stay indoors when possible.
Unhealthy	1 1/2 to 2 1/2 miles	Increased respiratory symptoms and aggravation of lung and heart diseases and premature mortality in persons with cardiopulmonary disease and the elderly; possible respiratory effects to general population.	People with respiratory or heart disease, the elderly, and children should avoid prolonged exertion and stay indoors when possible; everyone else should limit prolonged exertion.
Very Unhealthy	1 to 1 ¼ miles	Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; significant increase in respiratory effects in the general population.	People with respiratory or heart disease, the elderly, and children should avoid any outdoor activity; everyone else should avoid any outdoor exertion.
Hazardous	¾ mile or less	Serious aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; serious risk of respiratory effects in general population.	Everyone should avoid any indoor and outdoor exertion; everyone should remain indoors whenever possible.

Sources: Guideline for Reporting of Daily Air Quality—Air Quality Index, U.S. Environmental Protection Agency; Oregon Department of Environmental Quality; University of Washington School of Public Health & Community Medicine

Notes on use of the table: Face away from the sun and use high contrast objects at known distances for targets when determining your visibility range. The table was developed in dry air conditions. For a given particulate level, visibility decreases substantially as the relative humidity (RH) rises above 65%. If the RH is above 65% this method of estimation should not be used.