

Use of Prescribed Fire in Wildlife Habitat Management



The Pennsylvania Game Commission recognizes prescribed fire as a valuable wildlife habitat management tool.

Each year, PGC personnel burn hundreds of acres of forest, shrublands, and grasslands to achieve habitat goals.

Pennsylvania's Wildlife Action Plan cites fire as important in managing forest, barrens, and grassland habitats for species of greatest conservation need.

o *In 2001, Congress created the State Wildlife Grants (SWG) program to support state fish and wildlife agencies in conserving low and declining populations of fish and wildlife. A significant requirement was that each state must produce a Wildlife Action Plan and submit it for U.S. Fish and Wildlife Service approval. This document provides a blueprint for the Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission to pursue comprehensive fish and wildlife management.*

Many imperiled habitats cannot be sustained without periodic prescribed fire.

Prescribed fire promotes diverse plant communities, providing improved food resources, protective cover, and nesting areas for numerous wildlife species.

Prescribed fire helps to remove undesirable plants that are a detriment to sustainable and more natural ecosystems.

Prescribed fire is essential to perpetuate oak forests – particularly on high quality sites. The importance of oak forests and acorns to Pennsylvania's wildlife cannot be overstated.

Planning for prescribed fire is a comprehensive process that takes wildlife resources based goals and objectives, public safety, available staff and equipment resources, fuel loads, weather, and numerous other factors into account.

Prescribed Fire participants are trained to either a state or nationally recognized level in order to plan for, initiate and conduct prescribed burns.

The following pages explain the prescribed fire process and depict operations common to most prescribed fire operations in scrub oak habitat.

Bethlehem Water Authority Prescribed Burn
Monroe County, Pennsylvania
Area Map



Map Created by: Daniel Z Jones
Pennsylvania Game Commission
Imagery: Bing Maps (ESRI online)

Once the need for a prescribed fire has been identified, a comprehensive Prescribed Fire Plan is developed by Pennsylvania Game Commission (PGC) or The Nature Conservancy (TNC) supervisory personnel. The burn plan details a complete site description with maps, management goals, specific objectives and scheduling. Burn Plans are initiated many months in advance of an operation.



Prescribed burns are conducted on State Game Lands or lands enrolled in a Game Commission Hunter Access Program.



Preparation of scrub oak barrens starts with mowing of underbrush and undesirable tree species.



Mowed trees and shrubs provide woody material that will be used as a fuel source during the burning operation.



Desirable trees are left standing to provide a seed source for regeneration.



PGC Land Management and TNC Burn Crew Personnel assemble at the site to fill water tanks of engines and UTVs.



Engines are equipped with powerful pumps and long hoses to deliver water to burn areas and replenish UTV hose teams.



The prescribed burn team assembles to review the area map and burn plan. Potential hazards are identified.



Weather conditions are monitored before and during burn operations using specialized equipment.



Personal Protective Equipment worn by all personnel includes hard hat, gloves, ear protection and fire retardant clothing.



The Burn Boss is responsible for overseeing all aspects of the burn operation and is in constant communication with crew leaders.



The perimeter of the burn unit is surveyed prior to ignition to identify hazards and familiarize personnel with the site.



A small test fire is conducted to check fire behavior. A “go” or “no-go” is then ordered by the Burn Boss.



Coordinated ignition is conducted along both fire breaks on either side of the unit. Two burn crews travel along opposite sides of the unit.



The internal ignition crew ignites within the unit and connects the fire line with crews on either side.



Constant and clear communication between the Burn Boss, ignition crews and holding crews is essential.



The perimeter of the unit is constantly monitored for embers leaving the unit and changes in wind conditions.



The fire break on either side of the line is monitored for hot-spots and fire creeping into the break.



Hand tools used by holding line personnel include rakes, shovels, and hoes. It is arduous work under severe conditions.



UTV hose crews work both lines looking for trouble spots and jockeying fuel to ignition crews.



Hose crews wet the edges of the fire break to ensure flames are extinguished upon reaching the break.



Smoke and heat are constant companions of burn personnel. Drinking water is always on hand.



Fire may create unique localized weather conditions. Changes in weather are constantly evaluated.



Hazards to interior ignition personnel include rattle snakes, ground hornets and deer ticks.



Operations are considerably taxing on personnel. Rest, food, and hydration are a welcome relief after the burn.



A debrief is conducted after the operation. Each prescribed burn gives everyone valuable experience and feedback.



Prescribed burn operations highlight the outstanding coordination of human resources to accomplish a common goal that benefits wildlife.



This presentation has been brought to you by the Northeast Region of the Pennsylvania Game Commission. For more information contact the Northeast Regional Office at (570) 675-1143.

