

Andrew G. Windisch. 2009. Management Approaches for Rare Ecological Communities of the Pinelands: Preserving the “Open-Canopy Vegetation Types” Pinelands Science-Policy Forum, February 4, 2009, Rutgers Eco-Complex, Columbus NJ.

Abstract

“Open canopy vegetation types” are fire-dependent ecological communities of the New Jersey Pinelands, many of which are globally rare. Examples include dwarf pine plains, pine-shrub oak barrens and woodlands, pitch pine lowlands, palustrine shrublands and palustrine grasslands. They provide critical open habitats for many rare or declining species of plants and animals, and most types are in decline from a modern reduction in fire and disturbance regimes.

Many of the current management regimes in the Pinelands are degrading open canopy vegetation types and reducing rare species diversity. Prolonged fire exclusion is causing widespread canopy closure and loss of open habitats, increased fuel loading and wildfire severity, and eventual succession to more common, less diverse forest types. Lack of canopy disturbance by tree cutting, the use of silvicultural practices that establish dense pine stands without adequate thinning, and frequent prescribed burning under closed stands of pine-shrub oak are also contributing to the decline.

Some management approaches to preserve open canopy vegetation types are discussed. Ecological forestry thinning to restore an open canopy is recommended in long unburned pine-shrub oak and pitch pine lowland stands, as well as to mitigate the impacts of frequent prescribed burning under a closed canopy, or after dense pine stands are established during silviculture. Prescribed ecological burning using crowning and scorching headfires is recommended in stands unburned for moderate periods (and where adequately contained by fuelbreaks), to reduce crown and surface fuels and maintain open-canopy structures and critical habitats. However, where fire sensitive rare plants are documented, ecological forestry should first be applied to restore open habitats and reduced fuel loads, followed by milder ecological fire regimes to maintain rare plants and open habitats. Creation of scattered patches of severe disturbance (e.g. bulldozer scrapes, repeated drum chopping) to support early successional habitats and rare species is recommended in sites up to several acres, or in linear swaths along some roads or wildland-urban interface. Finally, natural regeneration should be allowed to occur (and replanting avoided) in early successional sites created by fire or disturbance where rare species occur, to prolong the duration of open rare species habitats.