

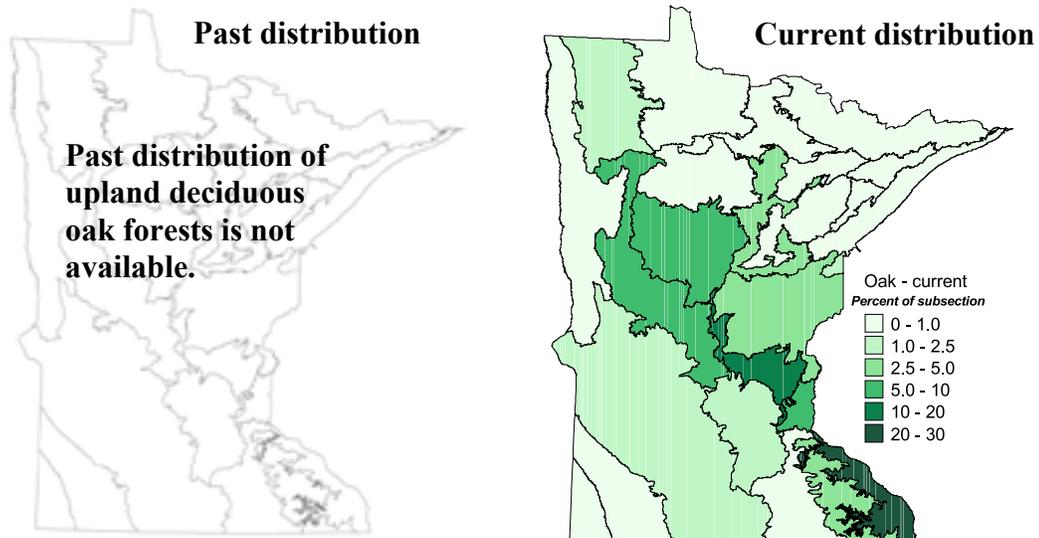
Forest-Upland Deciduous (Oak) (i.e., dry-mesic and xeric hardwoods)

<u>Ecological Systems</u>	<u>Native Plant Community Types (NPC)</u>	<u>NPC Codes</u>	
<i>Fire-dependent Forest (FD)</i>	Pin Oak Woodland (Bedrock)	FDn22c	
	Oak-Aspen Woodland	FDc25b	
	Oak-Aspen Forest	FDc34b	
	Black Oak-White Oak Woodland (Sand)	FDs27c	
	Bur Oak-Aspen Forest	FDs36a	
	Oak (Red Maple) Woodland	FDs37a	
	Pin Oak-Bur Oak Woodland	FDs37b	
	Oak-Shagbark Hickory Woodland	FDs38a	
	Bur Oak (Prairie Herb) Woodland	FDw24a	
	Bur Oak (Forest Herb) Woodland	FDw24b	
	<i>Mesic Hardwood Forest (MH)</i>	Red Oak-Sugar Maple-Basswood (Bluebead Lily) Forest	MHn35b
		Oak-Aspen-Red Maple Forest	MHc26a
		Red Oak-Sugar Maple-Basswood (Large-flowered Trillium) Forest	MHc26b
		Red Oak-Basswood Forest (Noncalcareous Till)	MHc36a
		Red Oak-White Oak Forest	MHs37a
		Red Oak-White Oak (Sugar Maple) Forest	MHs37b
		Green Ash-Bur Oak-Elm Forest	MHw36a



D.S. Wovcha MN DNR

Oak (Red Maple) Woodland (FDs37a)



Source: MN GAP 1993

General Description

Upland hardwood oak forest habitats occur on xeric (dry) to relatively mesic (moist) forest sites throughout the Eastern Broadleaf Forest Province. This habitat is found in portions of the western half of the Laurentian Mixed Forest Province but is uncommon in the northeast. On drier sites, northern pin oak, bur oak, white oak, and, in the southeast, black oak are important canopy species. Associated canopy trees include black cherry, paper birch, aspens, and shagbark hickory. These forests occur on nutrient-poor, well-drained sandy soils on outwash plains, river terraces, and beach ridges, and in the past were strongly influenced by fire. The canopy of modern dry oak forests is relatively open, allowing for a dense shrub layer, typically dominated by American hazel (*Corylus americana*). Many of the drier oak forests contain open-grown trees indicative of a more open woodland or savanna prior to fire suppression.

Historically, fires in the oak habitat were more regenerative than destructive. The typical cycle involved top-killing of plants and vegetative recovery by resprouting. Fires enhanced plant reproduction by exposing mineral soil, triggering seed dispersal, breaking seed dormancy, and increasing light and heat conditions on the ground. In the absence of fire, relatively mesic or fire-sensitive species such as bitternut hickory, basswood, and red maple are increasing in abundance in this habitat. Without fire, there is little natural oak regeneration in most dry oak stands.

The oak forest habitat on more mesic sites is dominated by northern red oak, white oak, and bur oak. Tall, straight, single-stemmed trees and a less dense shrub layer characterize the oak habitat on these sites. These sites had fewer severe fires prior to settlement by people of European descent than did dry oak forests, and more mesic, fire-sensitive trees such as basswood, green ash, bitternut hickory, and big-toothed aspen are usually present with the oaks. Nevertheless, those fires that did occur were responsible for the establishment and maintenance of oaks on these sites. Without fire or appropriate forest management to replace fire, most mesic oak forests will succeed to maple-basswood forests.

Most oak forest stands have been disturbed by grazing or selective logging, which facilitated the colonization of these stands by invasive species such as buckthorn (*Rhamnus cathartica*) and Tartarian honeysuckle (*Lonicera tartarica*). Like other forest habitats, most oak forest habitats in the Eastern Broadleaf Forest Province and southern and western portions of the Laurentian Mixed Forest Province have been fragmented by agriculture and development.

Examples of Features Important for Species in Greatest Conservation Need

Eastern hognose snakes are most common in and around woodland edge habitats. Key habitat features for these species include down woody debris (for cover, nesting sites, and basking sites) and burrows or crevices as overwintering sites.

Management Options to Support Species in Greatest Conservation Need

Explore opportunities to implement forest management practices that:

- Use natural disturbance return intervals to guide rotation periods.
- Mimic landscape disturbance patterns with timber harvest (for example, more large patches).
- Manage stands to retain biological legacies (at site level).