

# OAK SAVANNA RESTORATION

CONSERVATION MANAGEMENT SHEET - Biology Series

643



Natural Resources Conservation Service

Michigan



## WHAT IS AN OAK SAVANNA?

Oak Savannas are characterized by widely spaced, open grown trees and shrubs in a native prairie grassland community. The canopy of trees and shrubs range from 10 percent to as high as 70 percent. Common tree species include Bur Oak, White Oak, Black Oak, and Northern Pin Oak. Common shrub species include Plum, Dogwood, Sumac, and American Hazel.

Prior to European settlement, oak savannas were common in a diagonal zone west to east across southern Michigan. For further information, refer to the county Circular 1800 vegetation maps or page 41 of "Michigan Trees" by Barnes and Wagner.

Oak savannas provide important habitat for a wide diversity of wildlife species including insects, birds, and mammals.

## ESTABLISHING OAK SAVANNAS

### 1. Restoration Design:

- 50-75 percent of the site shall be established to native prairie according to the Conservation Sheet for "Tallgrass Prairie Restoration." 25-50 percent of the site shall be established to native oak trees and native shrubs.
- Planting stock for oak savanna establishment shall consist of Michigan ecotype species: Bur Oak (*Quercus macrocarpa*), White Oak (*Quercus alba*), Black Oak (*Quercus velutina*), Swamp White Oak (*Quercus bicolor*), or Northern Pin Oak (*Quercus ellipsoidalis*) adapted to the site conditions and savanna type planned.

- Select native shrubs adapted to the site conditions. Predominant savanna shrub species include: Plum (*Prunus spp*), Dogwood (*Cornus spp*), Sumac (*Rhus spp*), and American Hazel (*Corylus americana*).

- Michigan ecotype seedlings developed to reflect native communities and obtained through commercial vendors and determined suitable for specific site conditions may also be used.

## 2. Planting Rate:

- Trees and shrubs will be planted at a rate of 100-125 trees/shrubs per acre. Oaks may also be directly seeded from acorns. Drill or hand plant at a rate of 3,000 seeds/ac at a depth of 2 times the diameter of the acorn. Refer to Michigan Standard 612 - Tree/Shrub Establishment and Michigan NRCS Conservation Sheet 612A-Tree Planting for Reforestation, Wildlife, and Windbreaks.
- Woody plantings shall consist of 80-100 percent oaks with the balance comprising native shrubs.

## 3. Planting:

- For restorations less than 10.0 acres in size, the tree/shrub planting shall be in the form of clumps, not plantations, and shall be planted at a rate of 25 trees/shrubs per clump. Distribute the clumps throughout the project area.
- For restorations greater than 10.0 acres in size, the tree/shrub planting shall be in the form of blocks. Each block will not exceed 5.0 acres, and

will be distributed throughout the project area. Shrubs, as applicable, shall be randomly intermixed with the oaks.

## 4. Site Preparation and Weed Control:

Refer to Michigan Standards: 612-Tree/Shrub Establishment, 490-Forest Site Preparation, and NRCS Conservation Sheet 612-Weed Control for Tree/Shrub Establishment.

## 5. Planting Dates:

Planting will be done in the spring, prior to June 1.

## 6. Maintenance:

Oak savannas are plant communities that developed and are maintained by fire. General guidance for management of the understory component is as follows:

- To produce barrens understory structure of grasses without brush, utilize late spring and summer burns. Frequent “low intensity” burning techniques are necessary such as the “backfire” method on a 1-3 year interval.
- To produce scrub barrens with a sparse brush and grass understory, high intensity fires at intervals of 5 years or greater are necessary.

Avoid burning the savanna portion that contains trees and shrubs until they reach a size resistant to fire, usually a minimum of 5 years following establishment.

## CONSIDERATIONS

For considerations, refer to the 643 Standard, “Restoration and Management of Declining Habitats.”

## FOR FURTHER INFORMATION

Additional information on tallgrass prairie establishment and management can be found in “Managing Michigan’s Wildlife, A Landowners Guide” and the world wide web site: <http://www.mi.nrcs.usda.gov>.

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