

Michigan's natural communities



OAK BARRENS

Global and state rank: G3/S2

conservation profile

Locations of Oak Barrens (Conservancy Owned)

- Blue Creek Fen
- Bakertown Fen
- Paw Paw Prairie Fen
- Ives Road Fen Preserve
- Grand River Fen Preserve
- Nan Weston Nature Preserve at Sharon Hollow
- Dayton Prairie
- Tamarack Swamp
- Coolbough Natural Areas/ Newaygo Prairies

Locations of Oak Barrens (Conservancy Partnerships)

- Leonard Preserve
- Shiawassee Basin
- Park Lyndon
- Concord Fen
- Faye Lake
- Skiff Lake
- MacCready Reserve
- Golden Preserve

Indicator Species

- Black oak
- White oak
- Bastard toadflax
- Lanceolate coreopsis
- Prairie smoke
- Common cinquefoil
- Prairie ragwort
- Thimbleweed
- Butterfly weed
- Whorled milkweed
- Woodland sunflower
- Furrowed flax
- Horsemint
- Prickly pear
- Blue curls
- Three awn grass
- Many flowered aster
- Silky aster
- False foxglove
- Side oats gramma
- Rough blazing star
- Dwarf blazing star
- Prairie dock
- Showy goldenrod
- Stiff goldenrod



The Coolbough Natural Areas contain several examples of oak barrens. © Jack McGowan-Stinski

What is an Oak Barren?

Oak barrens range from dense thickets of brush and understory scrub oak within a matrix of grassland to park-like open woods of



Oak barrens are home to several species, including *Geum triflorum* or prairie smoke, shown above. © Brian Carlson

widely spaced mature oak with virtually no shrub or sub-canopy layer above the open forb and graminoid (grasses) understory. Oak barrens contain 5 to 60 percent canopy cover and typically occur in bands surrounding prairie. This habitat type is fire dependent and is found on level sandy glacial outwashes, ridge tops, steep slopes, and flat sand plains. The soil is generally infertile, coarse-textured, well-drained, and has a pH of medium to slightly acidic.

There are only a few hundred acres of oak barrens remains, totaling less than .0005 percent of what used to exist. This is due to fire suppression and subsequent woody encroachment, livestock grazing, off-road vehicle activity, and the invasion of exotic species.

What is The Nature Conservancy doing?

The Nature Conservancy employs a variety of strategies which utilize different tools, types of machinery, and hard work of its stewards along with the help of nature to restore oak barrens. To restore the more open character of these dry savannas The Nature Conservancy is reducing woody vegetation with prescribed fire and by using mechanical thinning in combination with the careful use of approved herbicides. The Nature Conservancy staff and volunteers are also removing invasive species such as autumn olive and spotted knapweed by hand, with fire, with machines, and with the aid of selective herbicide applications. In addition, some highly degraded oak barrens are being seeded with locally collected native plant species to restore botanical diversity.



Conservancy staff conduct a prescribed burn at the Grand River Fen Preserve. Oak barrens contain many fire-dependent species. © Matt Kleitch

Research Needs

- What is the spatial and temporal variability of oak barrens?
- What is the frequency and intensity of fire needed to guide restoration management activities?
- What role do seed banks, vegetative reproduction, and external seed sources play in the restoration of remnant oak barrens?
- What effect do fire and alternative management techniques have on the animal population and their host vegetation?
- What are management strategies that minimize invasive species introduction and dominance?

Global and State Ranks

G1 S1	At high risk because of extremely limited and/or rapidly declining numbers or range, making it highly vulnerable to global extinction or extirpation.
G2 S2	At risk because of very limited and/or declining numbers, range, and/or habitat, making it vulnerable to global extinction or extirpation.
G3 S3	Potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas.
G4 S4	Uncommon but not rare, and usually widespread. Apparently not vulnerable in most of its range, but possibly cause for long-term concern.
G5 S5	Common, widespread, and abundant. Not vulnerable in most of its range.

The Nature Conservancy is an international, private, nonprofit organization whose mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

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