

Indiana DNR Division of Forestry

High Conservation Value Forest Proposal- Yellowwood Conservation Area

Yellowwood Conservation Area at Yellowwood State Forest



Description

The proposed High Conservation Value Forest (HCVF) area encompasses approximately 590 acres stretching nearly 2 miles North to South and a half mile east to West. The terrain is moderate to very steep and typical of the area with long broad ridges and narrow valleys. Elevation change within the proposed area is approximately 220 feet.

The area's primary high conservation value is the natural occurrences of the State threatened Yellowwood tree (*Cladastis lutea*). The design of the HCVF encompasses all known *C. lutea* stands found on Yellowwood State Forest and adjoins the 3,349 acre 'Ten O'clock Line nature Preserve on Brown county State Park, which also contains several *C. lutea* populations.

Yellowwood is the only species of *Cladastis* that is native to North America and *C. lutea* is among the rarest of trees in the eastern United States. As a State threatened species in Indiana it is ranked as imperiled in the State (S2) and a plant of conservation concern by the Indiana Division of Nature Preserves.

Naturally occurring *C. lutea* is of very limited occurrence in Indiana, being found only in Brown County in an area stretching from the proposed HCVF Northeast into adjoining Brown County State Park.



Yellowwood (*Cladastis lutea*)

In Charles C. Deam, *Trees of Indiana* 1953, he reports "Known occurrences (of *C. lutea*) in Indiana is limited to Ogle Hollow in South Central Brown County, where it is frequent on a north slope in association with the following species: *Acer saccharum*, *Carya glabra*, *Carya ovata*, *Cornus florida*, *Fagus grandifolia*, *Juglans cinerea*, *Ostrya virginiana*, *Quercus rubra* and *Tilia americana*."

The imperiled status of the species in Indiana warrants conservation and restoration measures reflective of the HCVF designation.

Why HCVF?

High Conservation Value Forests are State Forest areas which due to their unique high conservation values receive added consideration of management activities in order to maintain or enhance these conservation values. These values may be of biological, ecological or cultural significance.

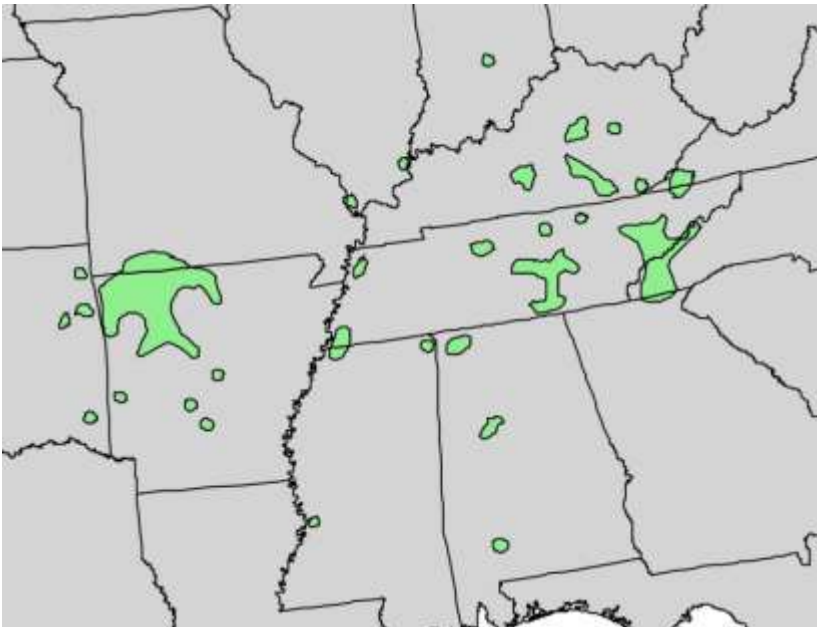
HCVFs are also considered as areas for potential dedication as State Nature Preserves. The Nature Preserve system provides permanent protection for significant natural areas within the state.

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Significant High Conservation Value attributes include:

1. State Threatened Species: The proposed HCVF is within the core area of occurrence for the State threatened Yellowwood tree (*Cladastis lutea*). The species is found over a large geographic area, but only in small scattered populations mostly in the upper South (Kentucky, Tennessee, Missouri) and in the Ozark region of Arkansas. *Cladastis lutea* occurs here as a disjunct population from its main range.



Range map of *C. lutea*

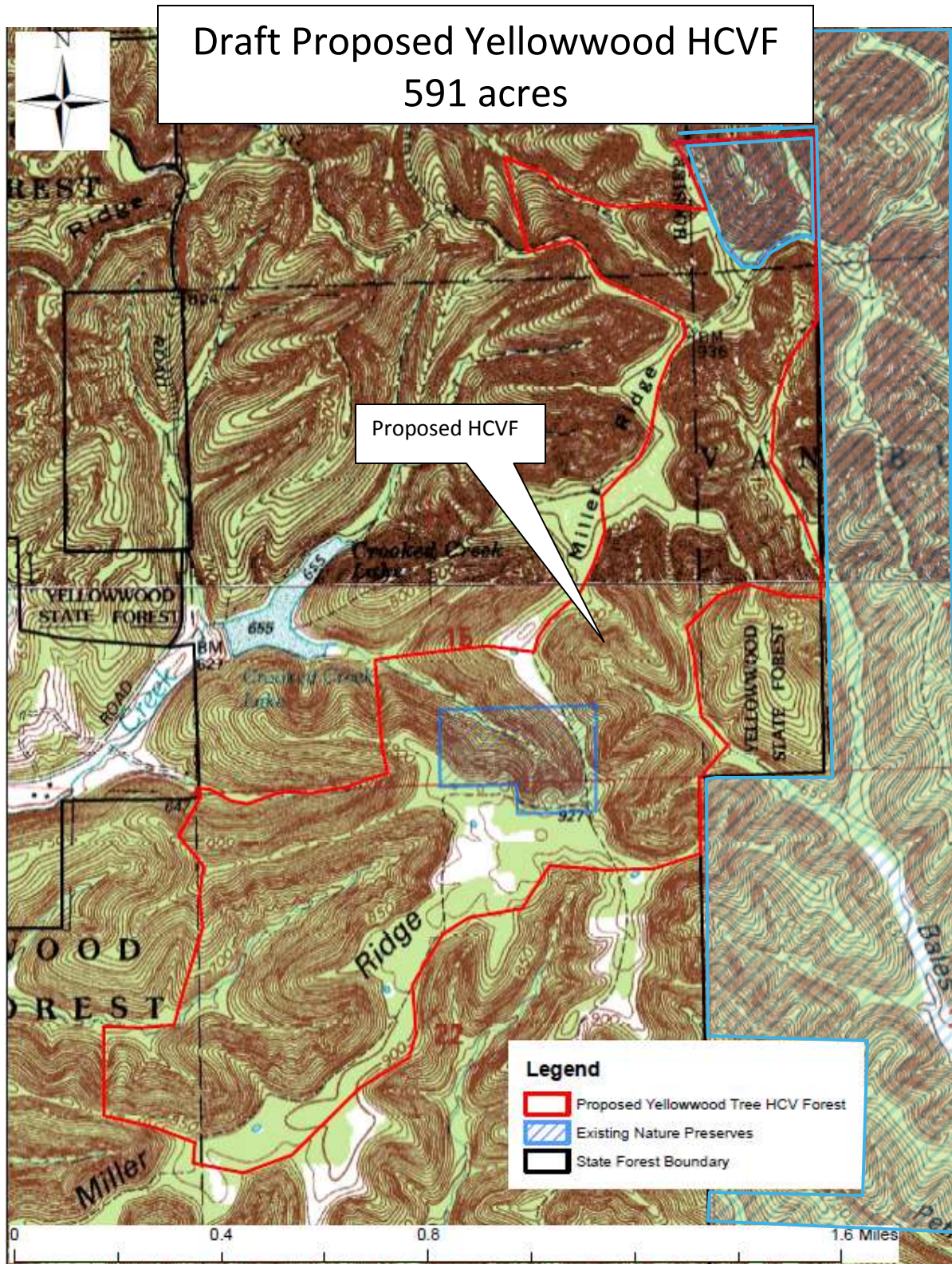
2. Uncommon native Yellowwood sp. Community: This proposed HCVF adds significantly to the conservation area and restoration focus for the Yellowwood species (*C. lutea*) and contains 8 locations of Yellowwood trees (*C. lutea*) found in the State Forest system.
3. Nature Preserve enhancement: HCVF designation will enlarge the existing *C. lutea* and natural community conservation area, from the current 65 acres on Yellowwood state Forest (Crooked Creek and Miller Ridge Nature Preserves) and 3,349 acres on Brown County State Park (10 O'clock Line Nature Preserve) to nearly 4,000 contiguous acres. Thus providing a connective and broader landscape level design and increased opportunities to research natural population fluctuations and actively manage and promote landscape level restoration of *C. lutea*
4. Consistent with FSC Certification goals that includes protection of special areas and rare/unique forest community types.

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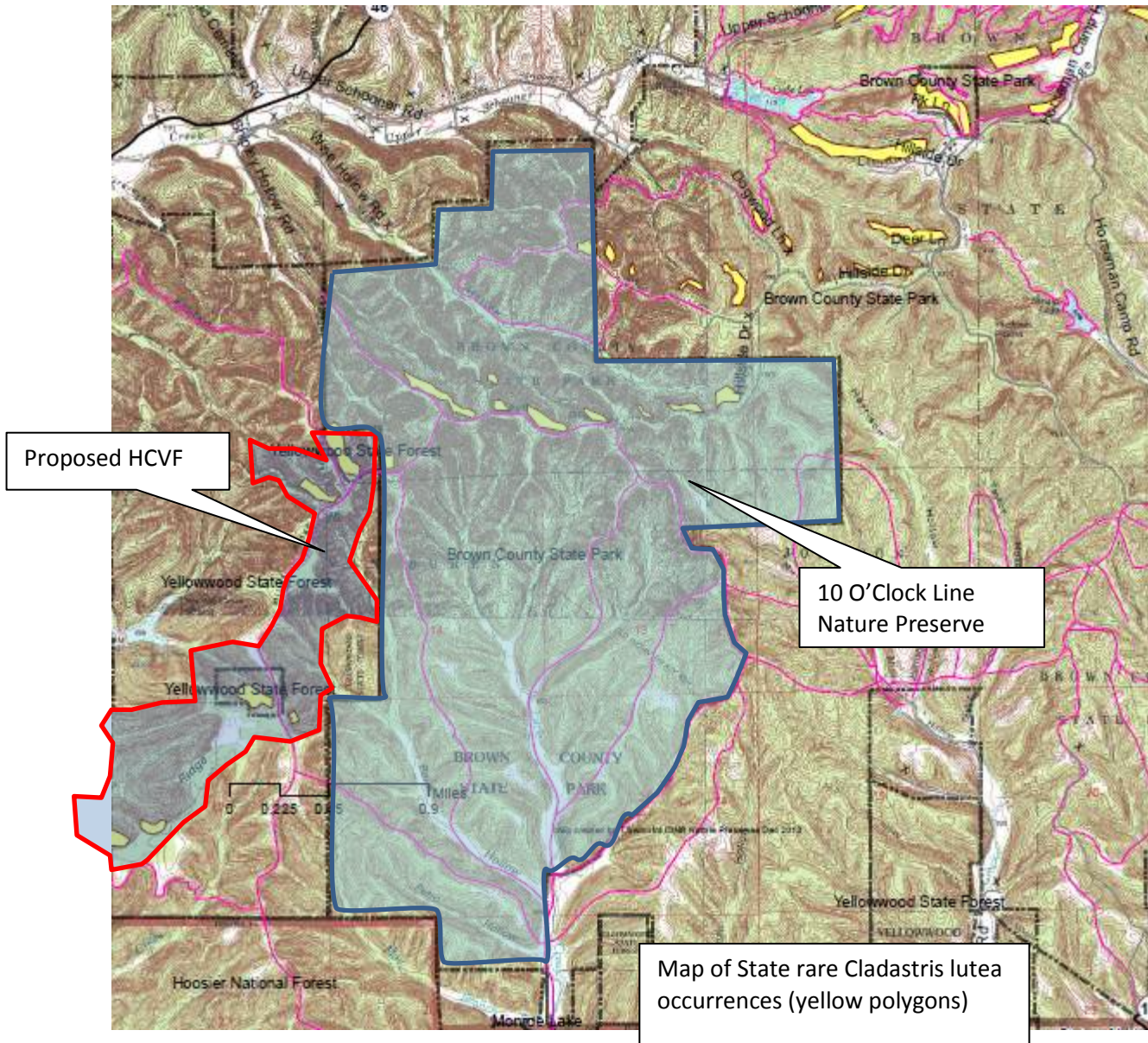
Management Considerations and Strategy

- Design HCVF area to include the known stands of *C. lutea* on Yellowwood State Forest with linkage to nearby dedicated Nature Preserves also containing known populations. Additionally, include adjoining sites possessing characteristics known to be favorable for *C. lutea* conservation, expansion and restoration efforts.
- Target select existing *C. lutea* population areas for thinnings, forest stand improvements and other treatments to enhance habitat for *C. lutea*. Promote healthy growth of existing *C. lutea* trees of all sizes, through forest stand improvements and/or managed tree harvests.
- Manage understory growth through forest stand improvements and/or prescribed fire to create conditions which would promote a cohort of advanced regeneration, and capitalize on *C. lutea* prolific sprouting and root suckering to encourage regeneration.
- Implement regeneration strategies (e.g. selection openings, shelterwoods) when a cohort of yellowwood seedlings and saplings is such that there is a reasonable expectation that the trees have potential to compete and become part of the overstory. These openings should be a minimum of 1.0 acre each, regardless of slope position, and monitored for success. Consider supplemental plantings if natural *C. lutea* regeneration is lacking using transplanted seedlings or seedlings grown at nursery, both with seed origins from existing Brown County native populations.
- Connect existing populations through natural regeneration or supplemental plantings of seedlings either transplanted from existing local populations or seedlings grown from local native seed sources.
- Intense focus on controlling invasive species, especially those potentially interfering with *C. lutea* restoration and management. (e.g. Black locust, Osage orange, Japanese stilt grass)
- Provide for forest management access and recreation (e.g. hunting, foraging, trails) trails in a manner that will not conflict with the high conservation values of the area. The Tecumseh hiking trail, Trail 'D' horse trail and a handicap hunter trail currently exist in the project area and are not deemed to negatively impact management and restoration of *C. lutea*.
- Manage all areas within the HCVF according to current acceptable silvicultural practices for long term forest health, timber productivity and habitat diversity and in concert with *C. lutea* conservation and restoration efforts.



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