

Oak Woodland Field Worksheet

Site Name: _____ Management Unit Name/# _____ AA Name/# _____ Date _____
 AA Description _____ AA acres _____
 GPS coords start _____ GPS coords end _____ Surveyors _____

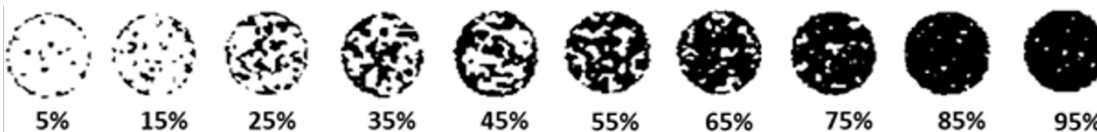
Instructions: For each metric, write the corresponding measurement for your assessment area in the "Your Obs" column, then enter a letter rank for that metric in the "Letter Rank" column following the ranking guidance. Convert the letter rank into a numerical score using a grade-point-average style conversion (A=4, A-=3.5, B=3, C=2, C-=1.5, D=1) and enter this number in the "Score" column.

		Ranking Guidance for each metric							
		A	B	C	D	YOUR OBS	LETTER RANK	SCORE (1-4)	Weighted Avg for final score
METRIC		(Excellent)	(Good)	(Fair)	(Poor)				
Oak Woodland Comp.	Total % cover of native graminoids	11-65%	6-10% or 66-80%	1-5% or 81-95%	<1% or >95%				Multiply subtotal of Oak Woodland Comp by 0.6 ↓
	Number of native indicator species (<i>see checklist</i>)	20+	14-19	6-13	0-5				
	Total % cover of native degradation indicators (<i>see checklist</i>)	0-20%	21-30%	31-60%	>60%				
	Number of parasitic or myco-heterotrophic plant species	3+	2	1	0				
	Subtotal of Oak Woodland Comp: Average of scores above.						NA		
General Composition	Total % cover of non-native invasive species	<1%	1-5%	C: 6-15% C-:16-30%	>30%				Multiply subtotal of General Comp by 0.2 ↓
	Abundance of white oak group oak seedlings and saplings up to 20 ft. tall	Common-Occasional	Uncommon-Rare (score as B)		Absent				
	The ratio of the percent cover of white oak group (white, bur, chinkapin, swamp white) to red oak group (black, red, Hill's) and shagbark hickory > 20 ft. tall	>1:1	1:1 to 1:3	<1:3 to 1:9	<1:9				
	The ratio of oak and shagbark hickory percent cover to that of all other trees > 20 ft. tall	>9:1	4:1 to 9:1	2:1 to <4:1	<2:1				
	Subtotal of General Comp: Average of scores above.						NA		
Structure	Total % cover of native herbaceous plants above 2 ft. high	0-10%	11-20%	21-40%	>40%				Multiply subtotal of Structure by 0.2 ↓
	Total % cover of all low/medium height woody plants (<6 ft tall, including small trees, shrubs, vines)	0-15%	16-25%	26-35%	>35%				
	Total % cover of all small trees and small shrubs (6-20 ft tall)	1-10%	<1% or 11-20%	21-30%	>30%				
	Total % canopy closure of all trees (>20' tall)	41-65%	31-40%; 66-80% (score as B)		<31% or >80%				
	Leaf litter accumulation, expressed as impedance of low-statured plants (<i>see below for additional guidance</i>)	Low	Low to moderate	Moderate to high	High OR site heavily wormed				
	Subtotal of Structure: Average of scores above.						NA		

Explanation of leaf litter accumulation

A = Leaf litter discontinuous OR low depth (1-3 year's-worth of litter accumulation); not highly compacted, low-statured vegetation unimpeded. Not low due to heavy earthworm activity.
B = Leaf litter moderately discontinuous, closer to A than D
C = Patches of deep, smothering leaf litter, closer to D than A
D = Leaf litter continuous and deep (>3 year's-worth of accumulation), highly compacted, impeding low-statured vegetation OR ground is mostly bare mineral soil due to earthworm activity.

Guide to Percent Cover:



Weighted scores sum:

Composite letter rank:

Composite Letter Rank Guide

A	3.8-4.0
A-	3.5-3.79
B	3.0-3.49
B-	2.5-2.99
C	2.0-2.49
C-	1.5-1.99
D	<1.5

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Oak Woodland Indicator Species. Check off species, then enter total on main form. If uncertain of species, but confident of genus, you can count one on the form; just cross out specific epithet and write “sp.” (e.g., *Agastache nepetoides* sp.).

<i>Agastache nepetoides</i>	yellow giant hyssop	<i>Polemonium reptans</i>	Jacob's ladder
<i>Agastache scrophulariifolia</i>	figwort giant hyssop	<i>Polygala senega</i>	Seneca snakeroot
<i>Allium burdickii</i>	wild leek	<i>Polygala verticillata</i>	whorled snakeroot
<i>Allium canadense</i>	wild garlic	<i>Primula meadia</i>	shooting star
<i>Asclepias exaltata</i>	poke milkweed	<i>Primula fassettii</i>	amethyst shooting star
<i>Aureolaria grandiflora</i>	large-flowered false foxglove	<i>Silene stellata</i>	starry campion
<i>Aureolaria pedicularia</i>	clammy false foxglove	<i>Solidago speciosa</i> complex	showy goldenrod
<i>Carex siccata</i>	running savanna sedge	<i>Solidago ulmifolia</i>	elm-leaved goldenrod
<i>Ceanothus americanus</i>	New Jersey tea	<i>Symphotrichum oolentangiense</i>	sky blue aster
<i>Cirsium altissimum</i>	wood thistle	<i>Symphotrichum shortii</i>	Short's aster
<i>Comandra umbellata</i>	false toadflax	<i>Taenidia integerrima</i>	wild pimpernel
<i>Cypripedium parviflorum</i> var. <i>pubescens</i>	large yellow lady's slipper	<i>Thalictrum thalictroides</i>	rue-anemone
<i>Dichanthelium latifolium</i>	broad-leaved panic grass	<i>Thaspium</i> spp.	meadow-parsnip
<i>Elymus hystrix</i>	bottlebrush grass	<i>Trillium recurvatum</i>	red trillium
<i>Elymus villosus</i>	silky wild rye	<i>Triosteum aurantiacum</i>	horse gentian
<i>Erigeron pulchellus</i>	Robin's plantain	<i>Triosteum perfoliatum</i>	tinker's-weed
<i>Eupatorium sessilifolium</i>	upland boneset	<i>Veronicastrum virginicum</i>	Culver's root
<i>Eutrochium purpureum</i>	purple Joe Pye weed	<i>Vicia caroliniana</i>	Carolina vetch
<i>Galium boreale</i>	northern bedstraw	<i>Zizia aurea</i>	golden Alexander
<i>Galium circaezans/lanceolatum</i>	wild licorice		
<i>Galium concinnum</i>	shining bedstraw		
<i>Heuchera richardsonii</i>	alumroot		
<i>Hieracium scabrum</i>	rough hawkweed		
<i>Hieracium umbellatum / kalmii / canadense</i>	northern hawkweed		
<i>Krigia biflora</i>	two-flowered Cynthia		
<i>Lathyrus ochroleucus</i>	pale vetchling		
<i>Lathyrus venosus</i>	veiny pea		
<i>Lithospermum latifolium</i>	American gromwell		
<i>Luzula multiflora</i>	common wood rush		
<i>Lysimachia quadrifolia</i>	whorled loosestrife		
<i>Moehringia lateriflora</i>	blunt-leaf sandwort		
<i>Patis racemosa</i>	black-seeded rice grass		
<i>Pedicularis canadensis</i>	lousewort		

Oak Woodland Field Worksheet

Native Degradation Indicators of Oak Woodland. Note percent cover of these species on main form.

<i>Acalypha rhomboidea</i>	three-seeded mercury
<i>Acer negundo</i>	boxelder
<i>Acer saccharinum</i>	silver maple
<i>Ageratina altissima</i>	white snakeroot
<i>Amphicarpaea bracteata</i>	hog-peanut
<i>Bidens</i> spp.	beggarticks
<i>Galium aparine</i>	cleavers
<i>Geum canadense</i>	white avens
<i>Hackelia virginiana</i>	stickseed
<i>Helianthus</i> spp.	woodland sunflowers
<i>Hylodesmum glutinosum</i>	pointed tick-trefoil
<i>Impatiens</i> spp.	touch-me-not
<i>Laportea canadensis</i>	Canadian wood nettle
<i>Parthenocissus</i> spp.	Virginia creeper
<i>Persicaria virginiana</i>	jumpseed
<i>Pilea</i> spp.	clearweed
<i>Ribes cynosbati</i>	prickly wild gooseberry
<i>Ribes missouriense</i>	Missouri gooseberry
<i>Rubus</i> spp. (except <i>R. hispida</i>)	blackberry; raspberry; dewberry
<i>Sanicula</i> spp. (except <i>S. marilandica</i>)	snakeroot spp.
<i>Solidago canadensis</i> , <i>S. altissima</i> , <i>S. gigantea</i>	Canada goldenrod, late goldenrod, giant goldenrod
<i>Toxicodendron radicans</i> , <i>T. rydbergii</i>	poison ivy
<i>Ulmus americana</i> , <i>U. rubra</i>	American elm, slippery elm
<i>Vitis</i> spp.	wild grape

Partially parasitic, parasitic, and myco-heterotrophic species. In the first column, put a 1 for each species observed (or number of species per genus observed), then enter total number on main form.

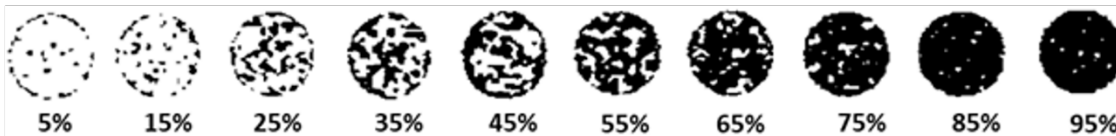
	<i>Aureolaria</i> spp.	false foxglove
	<i>Comandra umbellata</i>	false toadflax
	<i>Conopholis americana</i>	American cancer-root
	<i>Corallorhiza</i> spp.	coral-root
	<i>Cuscuta</i> spp.	dodder
	<i>Dasistoma macrophylla</i>	mullein-foxglove
	<i>Melampyrum lineare</i>	cow-wheat
	<i>Monotropa</i> spp.	Indian-pipe
	<i>Orobancha</i> spp.	broom-rape
	<i>Pedicularis</i> spp.	lousewort/betony
	Total	

Oak Woodland Field Worksheet

Optional Worksheet for Interim Observations: For each metric below, write the corresponding measurement for each interim stop. Estimate the approximate proportion of the AA covered by each interim observation. Calculate a weighted average based on the proportional area of the AA each interim stop covers (or, if equal proportions, a straight average). Write the weighted average for the entire Assessment Area in the "Your Obs" column on first page of the form. See the "Coarse-level monitoring protocol for assessing baseline condition and restoration progress in oak woodland" for further guidance.

		INTERIM STOP										Weighted Avg
		1	2	3	4	5	6	7	8	9	10	
<i>Approximate proportion of AA →</i>												
METRIC												
Oak Woodland Comp.	Total % cover of native graminoids											
	Number of native indicator species	<i>No interim observations needed; enter single value for entire AA on main form.</i>										
	Total % cover of native degradation indicators (<i>see checklist</i>)											
	Number of parasitic or myco-heterotrophic plant species	<i>No interim observations needed; enter single value for entire AA on main form.</i>										
General Composition	Total % cover of non-native species											
	Abundance of white oak group oak seedlings and saplings up to 20 ft. tall											
	The ratio of the percent cover of white oak group (white, bur, chinkapin, swamp white) to red oak group (black, red, Hill's) and shagbark hickory > 20 ft. tall											
	The ratio oak and shagbark hickory percent cover to that of all other trees > 20 ft. tall											
Structure	Total % cover of native herbaceous plants above 2 ft. high											
	Total % cover of low/medium height woody plants (<6 ft tall, including small trees, shrubs, vines)											
	Total % cover of small trees and tall shrubs (6-20' tall)											
	Total % cover of trees (>20' tall)											
	Leaf litter characteristics, expressed as impedance of low-statured plants (see p. 1 for guidance)											

Guide to Percent Cover:



Suggested citation: Carter, D., Miner, B., Staffen, A., O'Connor, R. and Zine, M. 2023. Coarse-level monitoring protocol for assessing baseline condition and restoration progress in oak woodlands. The Prairie Enthusiasts, The Nature Conservancy, and Wisconsin Department of Natural Resources. WDNR PUB NH-747. Madison, WI.

