



SURVEY INFORMATION

Survey date: _____ - _____ - _____	Time: from _____ am pm to _____ am pm	Sourcecode: F _____ MIUS
Surveyors (principal surveyor first, include first & last name): _____ _____		
Weather conditions: _____		
Revisit to this EO needed? ___yes ___no Why?: _____		

FILING

SURVEYSITE: _____	SITENAME: _____
QUADCODE: _____	QUADNAME: _____

IDENTIFICATION (Identify community if known positively, or provide closest alliance/association if not known)

Community Name: _____	Data sensitive? Y N	EOID: _____	Occ # (if known): _____
Closest Alliance or State/Subnational type _____	Data sensitive? Y N		
Closest Association or Provisional name _____			
Classification problems? Y N if Y, explain _____ _____			
Photo/slide taken? Y N Where has photo/slide been deposited? _____ If associated plot, reference # _____			

LOCATIONAL INFORMATION

Was the Landowner contacted? Yes _____ No _____ Landowner Name: _____ _____	
Owner Type: _____	Note: _____
DIRECTIONS: Provide detailed directions to the observation (rather than the survey site). Include landmarks, roads, towns, distances, compass directions. _____ _____ _____	
Township/Range/Section _____	
County _____	Managed area _____
Was GPS used? Yes _____ No _____	Type of unit _____ Unit number _____
Waypoint name/# (when using Garmin) _____	File name (when using Trimble) _____
OPTIONAL: Latitude _____	Longitude _____

FEATURE INFORMATION (mandatory)

Point: <12.5 m in both dimensions, Line: >12.5 m in one dimension, Polygon: >12.5m in both dimensions

Source Feature: Single Source EO _____ Multi-Source EO _____ Conceptual Feature Type: Point _____ Line _____ Polygon _____

TOPOGRAPHIC MAP (mandatory)

1. Attach a photocopy of the appropriate part of a USGS topographic map (1:24,000 scale if available) and write the map scale on the photocopy. Please do NOT enlarge or reduce the map.
2. Indicate on the map the exact location of the observation(s):
 - a. When the observed area is **no larger than a pen point** on the map (i.e., extremely small patches), place small points on the map indicating the location(s) of the patches, and label each point with an arrow so they are more easily seen.
 - b. When the observed area is **larger than a pen point** on the map:
 - (1) Draw a thin solid boundary line showing the extent of the observed area for the community.
 - (2) Indicate disjunct patches (polygons) by drawing the boundary for each patch separately.
 - (3) If the boundary follows the edge of a lake, stream, road, marsh or other feature, draw the boundary precisely on the edge of the feature.
 - (4) Where needed, add notes to the map with instructions on where the boundary line is located or if the boundary is shared with other observations.
3. A hand drawn sketch may be included for finer details.

4. Indicate whether aerial photos are available for reference: _____.

LOCATIONAL CERTAINTY

Is your depiction of the observed area on the map within 6.25 m (**approximately 20ft**) of its actual location on the ground? Y N

If **N**, complete the following:

a. Estimate of uncertainty distance: based on landmarks, elevation, etc., the location of the observed area on the map is accurate to within _____ meters kilometers feet miles of its actual location on the ground.

b. Is the observed area known to be located within some feature(s) on the map (e.g., wetland boundary, lake, road, trail, highway, contour lines)? Y N

If Y, indicate the boundary within which the observed area is known to be located on the map with a dashed line, and if applicable, identify the feature _____.

FIELD DATA FOR THE ELEMENT

CONFIDENCE EXTENT

Indicate whether there is confidence that the observed area represents the full extent of the community Element at that location. Y N ?

(Y = confidence that the full extent is known; N = confidence that the full extent is not known; ? = uncertainty whether full extent is known)

QUALITATIVE ASSESSMENT OF THE ELEMENT:

Provide a brief "word picture" of the community. Describe variation within the observed area in terms of vegetation structure and environment. Describe dominant and characteristic species and any inclusion communities. If a mosaic, describe spatial distribution and associated community types.

QUALITATIVE DESCRIPTION OF THE ELEMENT:

DBH of several individuals of dominant tree species, include age of cored trees:

Species	DBH(AGE)	DBH(AGE)	DBH(AGE)	DBH(AGE)	DBH(AGE)	DBH(AGE)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Density:

	Tree canopy	Shrub layer	Herb layer
closed			
open			
patchy			
sparse			
absent			

QUANTITATIVE VEGETATION DATA FOR THE ELEMENT:

STRATA	COVER CLASS	DOMINANT SPECIES	Cover Class *
T2 -Tree Canopy			1 trace
			2 0.1 – 1%
T3 - Subcanopy			3 1 – 2%
			4 2 – 5%
S1 - Tall Shrub			5 5 – 10%
			6 10 – 25%
S2 - Low Shrub			7 25 – 50%
			8 50 – 75%
H - Herb			9 75 – 95%
			10 >95%
N - Nonvascular			
V - Vine			

*this is a widely-

E - Epiphyte			used scale included as a guideline
Method used (e.g., ocular estimation, quantitative transect, plot) _____ _____			
Feature label (e.g., old growth) _____			
Note: For recording more detailed information on species composition and cover/abundance class by stratum, see last page of survey form.			

SIZE - a quantitative measure of the area of the Element at the observed location.							
Observed area _____	sq. meters	hectares	sq. feet	sq. yards	acres	sq. miles	Type of measurement: precise estimate
Basis for estimate _____							

CONDITION - an integrated measure of the quality of biotic and abiotic factors, structures and processes <u>within the observed area</u> , and the degree to which they may affect the continued existence of the Element at that location. Components of condition for species are: 1) development/maturity, 2) species composition and biological structure, 3) ecological processes, and 4) abiotic physical/chemical factors. Factors to consider include evidence of stability/presence of old growth, richness/distribution of species, presence of exotic species, degree of disturbance, changes to ecological processes, stability of substrate, and water quality.	
Evidence of stability/old growth? Y N if Y, describe _____	_____
Evidence of disease, predation, injury to composite species? Y N if Y, describe _____	_____
List associated taxa, species, and plant communities <u>within</u> the observed area _____	

Comment on evenness of species distribution <u>within</u> the observed area _____	

Natural and Anthropogenic Disturbance: Information on <u>existing</u> disturbance(s) (either natural or caused by humans) <u>within</u> the observed area		
<input type="checkbox"/> logging <input type="checkbox"/> grazing/browsing <input type="checkbox"/> agriculture <input type="checkbox"/> mining <input type="checkbox"/> dumping <input type="checkbox"/> trails/roads <input type="checkbox"/> ORV/vehicular disturbance	<input type="checkbox"/> plant disease _____ <input type="checkbox"/> insect damage _____ <input type="checkbox"/> exotic animal activity (e.g., hog, nutria) _____ <input type="checkbox"/> exotic plants _____	<input type="checkbox"/> erosion <input type="checkbox"/> fire <input type="checkbox"/> wind/ice damage <input type="checkbox"/> other _____

Comment on <u>existing</u> disturbance(s) and changes to ecological processes (e.g., hydrologic and fire regimes) <u>within</u> the observed area _____	

Comment on exotics present <u>within</u> the observed area and describe resulting impacts _____	

General Habitat: Information on abiotic physical/chemical factors of specific habitat or microhabitat <u>within</u> the observed area. (check all that apply)		
Slope: Measured Slope _____° _____%	Aspect: Measured Aspect _____° (N = 0°)	Topographic position: <input type="checkbox"/> Ridge, summit, or crest

<input type="checkbox"/> Flat	0°	0%	<input type="checkbox"/> Flat		<input type="checkbox"/> High slope (upper slope, convex slope)
<input type="checkbox"/> Gentle	0 - 5°	1-9%	<input type="checkbox"/> Variable		<input type="checkbox"/> Midslope (middle slope)
<input type="checkbox"/> Moderate	6 - 14°	10-25%	<input type="checkbox"/> N	338 - 22°	<input type="checkbox"/> Lowslope (lower slope, footslope)
<input type="checkbox"/> Somewhat steep	15 - 25°	26-49%	<input type="checkbox"/> NE	23 - 67°	<input type="checkbox"/> Toeslope (alluvial toeslope)
<input type="checkbox"/> Steep	27 - 45°	50-100%	<input type="checkbox"/> E	68 - 112°	<input type="checkbox"/> Low level (terrace)
<input type="checkbox"/> Very Steep	45 - 69°	101-	<input type="checkbox"/> SE	113 - 157°	<input type="checkbox"/> Channel
<input type="checkbox"/> Abrupt	70 - 100°	275%	<input type="checkbox"/> S	158 - 202°	<input type="checkbox"/> other _____
<input type="checkbox"/> Overhanging/sheltered	>100°	276-300%	<input type="checkbox"/> SW	203 - 247°	
		>300%	<input type="checkbox"/> W	248 - 292°	
			<input type="checkbox"/> NW	293 - 337°	

Geology:		
<u>Igneous Rocks:</u>	<u>Sedimentary Rocks:</u>	<u>Metamorphic Rocks:</u>
<input type="checkbox"/> Granitic (Granite, Schyolite, Syenite, Trachyte) <input type="checkbox"/> Dioritic (Diorite, Dacite, Andesite) <input type="checkbox"/> Gabbroic (Gabbro, Basalt, Pyroxenite, Peridotite, Diabase, Traprock) <input type="checkbox"/> other _____	<input type="checkbox"/> Conglomerates and Breccias <input type="checkbox"/> Sandstone and Conglomerate <input type="checkbox"/> Siltstone (calcareous or noncalcareous) <input type="checkbox"/> Limestone and Dolomite <input type="checkbox"/> Gypsum <input type="checkbox"/> other _____	<input type="checkbox"/> Felsic Gneiss and Schist (Granitic) <input type="checkbox"/> Mafic Gneiss and Schist <input type="checkbox"/> Slate and Phyllite <input type="checkbox"/> Marble <input type="checkbox"/> Ultramafic (Serpentine) <input type="checkbox"/> Metasedimentary <input type="checkbox"/> other _____

<u>Glacial Deposits:</u>	<u>Organic Deposits:</u>	<u>Slope & Modified Deposits:</u>	<u>Aeolian Deposits:</u>
<input type="checkbox"/> Ice-laid (till) <input type="checkbox"/> Water-laid (outwash) <input type="checkbox"/> Lacustrine (lake plain) <input type="checkbox"/> other _____	<input type="checkbox"/> Peat (with clear fibric structure) <input type="checkbox"/> Muck	<input type="checkbox"/> Talus and scree slopes <input type="checkbox"/> Colluvial <input type="checkbox"/> Solifluction, landslide <input type="checkbox"/> other _____	<input type="checkbox"/> Dunes <input type="checkbox"/> Aeolian sand flats <input type="checkbox"/> other _____

Soil Depth _____ cm (avg) Surface Soil: <input type="checkbox"/> Sand <input type="checkbox"/> Loamy sand <input type="checkbox"/> Sandy loam <input type="checkbox"/> Loam <input type="checkbox"/> Silt loam <input type="checkbox"/> Sandy Clay loam <input type="checkbox"/> Clay loam <input type="checkbox"/> Silty clay loam <input type="checkbox"/> Sandy clay <input type="checkbox"/> Clay <input type="checkbox"/> Silty clay <input type="checkbox"/> Organic <input type="checkbox"/> other _____ Soil Series _____	Hydrologic Regime: <u>Wetlands:</u> <input type="checkbox"/> Intermittently flooded <input type="checkbox"/> Permanently flooded <input type="checkbox"/> Semipermanently flooded <input type="checkbox"/> Temporarily flooded (e.g., floodplains) <input type="checkbox"/> Seasonally flooded (e.g., seasonal ponds) <input type="checkbox"/> Saturated (e.g., bogs, perennial seeps) <input type="checkbox"/> Unknown <u>Non-Wetlands:</u> <input type="checkbox"/> Wet Mesic <input type="checkbox"/> Mesic (moist) <input type="checkbox"/> Dry-Mesic <input type="checkbox"/> Xeric (dry)	Groundcover: (with >5% cover, 20 m x 20 m area) _____% Bedrock _____% Wood (>1 cm) _____% Litter, duff _____% Large rocks (cobbles, boulders >10cm) _____% Small rocks (gravel, 0.2-10 cm) _____% Sand (0.1-2 mm) _____% Bare soil _____% other _____ (total = 100%)	Light: <input type="checkbox"/> Open <input type="checkbox"/> Partial <input type="checkbox"/> Filtered <input type="checkbox"/> Shade Cowardin System: <input type="checkbox"/> Upland <input type="checkbox"/> Riverine <input type="checkbox"/> Lacustrine <input type="checkbox"/> Palustrine
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Landform:			
<u>Glacial:</u>	<u>River / Lakeshore:</u>	<u>Other:</u>	
<input type="checkbox"/> drumlin <input type="checkbox"/> end or lateral moraine <input type="checkbox"/> esker <input type="checkbox"/> ground moraine <input type="checkbox"/> kettle-kame topography <input type="checkbox"/> lake plain <input type="checkbox"/> outwash channel <input type="checkbox"/> outwash plain <input type="checkbox"/> pitted outwash	<input type="checkbox"/> barrier dune <input type="checkbox"/> freshwater delta <input type="checkbox"/> offshore bar <input type="checkbox"/> riverine estuary <input type="checkbox"/> sand dune <input type="checkbox"/> shoreline <input type="checkbox"/> spit <input type="checkbox"/> stream bed <input type="checkbox"/> stream terrace	<input type="checkbox"/> alluvial fan <input type="checkbox"/> alluvial flat <input type="checkbox"/> alluvial terrace <input type="checkbox"/> cliff <input type="checkbox"/> cuesta <input type="checkbox"/> dike <input type="checkbox"/> hills <input type="checkbox"/> hills bedrock outcrop <input type="checkbox"/> hogback <input type="checkbox"/> ledge <input type="checkbox"/> plain <input type="checkbox"/> plateau	<input type="checkbox"/> ravine <input type="checkbox"/> ridge <input type="checkbox"/> ridgetop bedrock outcrop <input type="checkbox"/> rim <input type="checkbox"/> scarp <input type="checkbox"/> seep <input type="checkbox"/> slide <input type="checkbox"/> talus <input type="checkbox"/> other _____ _____

Describe other abiotic factors within the observed area, including geological formations, aquatic features, and water quality.

LANDSCAPE CONTEXT - an integrated measure of the quality of biotic and abiotic factors, structures and processes surrounding the observed area, and the degree to which they may affect the continued existence of the Element at that location. Components of landscape context for species are: 1) landscape structure and extent, 2) condition of the surrounding landscape (i.e., community development/maturity, species composition and biological structure, ecological processes, and abiotic physical/chemical factors.) Factors to consider include integrity/fragmentation/, stability/old growth, richness/distribution of species, presence of exotic species, degree of disturbance, changes to ecological processes, stability of substrate, and water quality.

Comment on the relative integrity/fragmentation of the Element

List taxa, species, and plant communities in area surrounding the observation

Comment on stability/old growth of communities in area surrounding the observation

Comment on evenness of species distribution in area surrounding the observation

Comment on evidence of existing disturbance (either natural or caused by humans) and changes to ecological processes (e.g., hydrologic and fire regimes) in area surrounding the observation

Comment on exotics present in area surrounding the observation and describe resulting impacts

General Habitat: Describe abiotic factors in area surrounding the observation, such as slope, aspect, topographic position, geology, soils/substrates, hydrologic regime, groundcover, light, Cowardin system, land forms, aquatic features, soils/substrate, geological formations, and water quality.

MISCELLANEOUS DATA

PAST IMPACTS on the Element, both within and surrounding the observed area (e.g., grazing, logging, mining, agriculture, ORVs, dumping)

<u>Cover Class</u> *	1	trace	6	10 – 25%																	
	2	0.1 – 1%	7	25 – 50%																	
	3	1 – 2%	8	50 – 75%																	
	4	2 – 5%	9	75 – 95%																	
	5	5 – 10%	10	>95%																	
				*this is a widely-used scale included as a guideline																	

Use additional pages if necessary.

If you have any questions regarding this form and its methodology please contact MNFI at (517) 373-1552.
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