



Narrows Natural Area Floristic Quality Assessment Results

A Floristic Quality Assessment of Narrows Natural Area was conducted by Greg LaCross during the summer of 2004.

Floristic quality assessments (FQAs) are a useful tool to measure a plant community's conservation value. To perform an FQA, all vascular plant species in a community are quantified and an index representing the rarity of these species is summed to give a ranking that can be compared across different ecosystem types. This information can then be used to identify high-quality species and groupings of species in order to prioritize conservation and management efforts. At Narrows Natural Area the total number of species and native species are:

Native Species	Total Species
102	120

The coefficient of conservation (C) is a value between 0 and 10 assigned to each species, representing the species likelihood to occur in an unaltered, pre-European settlement landscape in the state of Michigan (Herman et al 2001). A C-value of 0 is assigned to species with low fidelity to their natural habitat and the ability to persist in numerous habitat conditions. A C-value of 0 is assigned to invasive species, also called adventives. At Narrows Natural Area the mean C-values are:

Native Mean C	Mean C w/ Adventives
4.2	3.6

The coefficient of wetness (W) is assigned to each species depending on their probability to occur in wetlands, where species with a W-value of -5 are obligatory wetland species, and those with a W-value of +5 are upland species. At Narrows Natural Area the mean coefficients of wetness are:

Native Mean W	Mean W w/ Adventives
-1.9	-1.6

FQIs less than 20 have minimal significance, while FQIs greater than 35 represent areas of conservation importance and are floristically significant on a statewide level. Areas with FQIs greater than 50 are extremely rare and represent areas of significant native biodiversity (Herman et al 2001). At Narrows Natural Area the FQI's are:

Native FQI	FQI w/ Adventives
42.6	39.3

May, L. 2012. Floristic Quality Assessment and Habitat Mapping of Belanger Creek Preserve

Herman, K. D., L. A. Masters, M. R. Penskar, A. A. Reznicek, G. S. Wilhelm, W. W. Brodovich, and K. P. Gardiner. 2001. Floristic Quality Assessment with Wetland Categories and Examples of Computer Applications for the State of Michigan – Revised, 2nd Edition. Michigan Department of Natural Resources, Wildlife, Natural Heritage Program. Lansing, MI. 19 pp. + Appendices.

FLORISTIC QUALITY DATA

102	NATIVE SPECIES
120	Total Species
4.2	NATIVE MEAN C
3.6	W/Adventives
42.6	NATIVE FQI
39.3	W/Adventives
-1.9	NATIVE MEAN W
-1.6	W/Adventives
AVG:	Fac. Wetland (-)

Native	102	85.00%	Adventive	18	15.00%
Tree	17	14.20%	Tree	0	0.00%
Shrub	14	11.70%	Shrub	2	1.70%
W-Vine	4	3.30%	W-Vine	0	0.00%
H-Vine	0	0.00%	H-Vine	0	0.00%
P-Forb	44	36.70%	P-Forb	12	10.00%
B-Forb	1	0.80%	B-Forb	2	1.70%
A-Forb	4	3.30%	A-Forb	1	0.80%
P-Grass	1	0.80%	P-Grass	1	0.80%
A-Grass	0	0.00%	A-Grass	0	0.00%
P-Sedge	0	0.00%	P-Sedge	0	0.00%
A-Sedge	0	0.00%	A-Sedge	0	0.00%
Fern	17	14.20%			

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
ACENEG	0	Acer negundo	-2	FACW-	Nt Tree	BOX ELDER
BERTHU	0	BERBERIS THUNBERGII	4	FACU-	Ad Shrub	JAPANESE BARBERRY
CIRPAL	0	CIRSIIUM PALUSTRE	-4	FACW+	Ad B-Forb	MARSH THISTLE
CIRVUL	0	CIRSIIUM VULGARE	4	FACU-	Ad B-Forb	BULL THISTLE
CONARV	0	CONVOLVULUS ARVENSIS	5	UPL	Ad P-Forb	FIELD BINDWEED
ELAUMB	0	ELAEAGNUS UMBELLATA	3	FACU	Ad Shrub	AUTUMN OLIVE
EPIPAR	0	EPILOBIUM PARVIFLORUM	3	FACU	Ad P-Forb	WILLOW HERB
EPIHEL	0	EPIPACTIS HELLEBORINE	5	UPL	Ad P-Forb	HELLEBORINE
EQUARV	0	Equisetum arvense	0	FAC	Nt Fern Ally	COMMON HORSETAIL

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
GALTET	0	GALEOPSIS TETRAHIT	5	UPL	Ad A-Forb	COMMON HEMP NETTLE
GALAPA	0	Galium aparine	3	FACU	Nt A-Forb	ANNUAL BEDSTRAW
LYSNUM	0	LYSIMACHIA NUMMULARIA	-4	FACW+	Ad P-Forb	MONEYWORT
LYTSAL	0	LYTHRUM SALICARIA	-5	OBL	Ad P-Forb	PURPLE LOOSESTRIFE
MYOSCO	0	MYOSOTIS SCORPIOIDES	-5	OBL	Ad P-Forb	FORGET ME NOT
NASOFF	0	NASTURTIUM OFFICINALE	-5	OBL	Ad P-Grass	WATERCRESS
POTCRI	0	POTAMOGETON CRISPUS	-5	OBL	Ad P-Forb	PONDWEED
PRUVUL	0	PRUNELLA VULGARIS	0	FAC	Nt P-Forb	LAWN PRUNELLA
PTEAQU	0	Pteridium aquilinum	3	FACU	Nt Fern	BRACKEN FERN
RANACR	0	RANUNCULUS ACRIS	-2	FACW-	Ad P-Forb	TALL or COMMON BUTTERCUP
RUMOBT	0	RUMEX OBTUSIFOLIUS	-3	FACW	Ad P-Forb	BITTER DOCK
SOLDUL	0	SOLANUM DULCAMARA	0	FAC	Ad P-Forb	BITTERSWEET NIGHTSHADE
TAROFF	0	TARAXACUM OFFICINALE	3	FACU	Ad P-Forb	COMMON DANDELION
TYPANG	0	TYPHA ANGUSTIFOLIA	-5	OBL	Ad P-Forb	NARROW LEAVED CATTAIL
ACERUB	1	Acer rubrum	0	FAC	Nt Tree	RED MAPLE
ACHMIL	1	Achillea millefolium	3	FACU	Nt P-Forb	YARROW
ELOCAN	1	Elodea canadensis	-5	OBL	Nt P-Forb	COMMON WATERWEED
POPTRE	1	Populus tremuloides	0	FAC	Nt Tree	QUAKING ASPEN
SAGLAT	1	Sagittaria latifolia	-5	OBL	Nt P-Forb	COMMON ARROWHEAD
SALDIS	1	Salix discolor	-3	FACW	Nt Shrub	PUSSY WILLOW
SOLCAN	1	Solidago canadensis	3	FACU	Nt P-Forb	CANADA GOLDENROD
TYPLAT	1	Typha latifolia	-5	OBL	Nt P-Forb	BROAD LEAVED CATTAIL
URTDIO	1	Urtica dioica	-1	FAC+	Nt P-Forb	NETTLE
AGRGRY	2	Agrimonia gryposepala	2	FACU+	Nt P-Forb	TALL AGRIMONY
BETPAP	2	Betula papyrifera	2	FACU+	Nt Tree	PAPER BIRCH
CORAMO	2	Cornus amomum	-4	FACW+	Nt Shrub	SILKY DOGWOOD
CORSTO	2	Cornus stolonifera	-3	FACW	Nt Shrub	RED OSIER DOGWOOD
FRAVIR	2	Fragaria virginiana	1	FAC-	Nt P-Forb	WILD STRAWBERRY
IMPCAP	2	Impatiens capensis	-3	FACW	Nt A-Forb	SPOTTED TOUCH ME NOT
LYCAME	2	Lycopus americanus	-5	OBL	Nt P-Forb	COMMON WATER HOREHOUND
LYCUNI	2	Lycopus uniflorus	-5	OBL	Nt P-Forb	NORTHERN BUGLE WEED
ONosen	2	Onoclea sensibilis	-3	FACW	Nt Fern	SENSITIVE FERN
POPBAL	2	Populus balsamifera	-3	FACW	Nt Tree	BALSAM POPLAR
RUBSTR	2	Rubus strigosus	-2	FACW-	Nt Shrub	WILD RED RASPBERRY
THEPAL	2	Thelypteris palustris	-4	FACW+	Nt Fern	MARSH FERN
TOXRAR	2	Toxicodendron radicans	-1	FAC+	Nt W-Vine	POISON IVY

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
ABIBAL	3	<i>Abies balsamea</i>	-3	FACW	Nt Tree	BALSAM FIR
GERROB	3	<i>Geranium robertianum</i>	5	UPL	Nt A-Forb	HERB ROBERT
PINSTR	3	<i>Pinus strobus</i>	3	FACU	Nt Tree	WHITE PINE
SAMCAN	3	<i>Sambucus canadensis</i>	-2	FACW-	Nt Shrub	ELDERBERRY
SOLRUG	3	<i>Solidago rugosa</i>	-1	FAC+	Nt P-Forb	ROUGH GOLDENROD
THADAS	3	<i>Thalictrum dasycarpum</i>	-2	FACW-	Nt P-Forb	PURPLE MEADOW RUE
VITRIP	3	<i>Vitis riparia</i>	-2	FACW-	Nt W-Vine	RIVERBANK GRAPE
ATHFIL	4	<i>Athyrium filix-femina</i>	0	FAC	Nt Fern	LADY FERN
CIRALP	4	<i>Circaea alpina</i>	-3	FACW	Nt P-Forb	SMALL ENCHANTER'S NIGHTSHADE
EUPPER	4	<i>Eupatorium perfoliatum</i>	-4	FACW+	Nt P-Forb	COMMON BONESET
GALTRR	4	<i>Galium triflorum</i>	2	FACU+	Nt P-Forb	FRAGRANT BEDSTRAW
GLYSTR	4	<i>Glyceria striata</i>	-5	OBL	Nt P-Grass	FOWL MANNA GRASS
LAPCAN	4	<i>Laportea canadensis</i>	-3	FACW	Nt P-Forb	WOOD NETTLE
MAICAC	4	<i>Maianthemum canadense</i>	0	FAC	Nt P-Forb	CANADA MAYFLOWER
RUBPUB	4	<i>Rubus pubescens</i>	-4	FACW+	Nt P-Forb	DWARF RASPBERRY
THUOCC	4	<i>Thuja occidentalis</i>	-3	FACW	Nt Tree	ARBOR VITAE
VERHAS	4	<i>Verbena hastata</i>	-4	FACW+	Nt P-Forb	BLUE VERVAIN
ACESPI	5	<i>Acer spicatum</i>	3	FACU	Nt Tree	MOUNTAIN MAPLE
ALNRUG	5	<i>Alnus rugosa</i>	-5	OBL	Nt Shrub	TAG ALDER
ARANUD	5	<i>Aralia nudicaulis</i>	3	FACU	Nt P-Forb	WILD SARSAPARILLA
ARITRI	5	<i>Arisaema triphyllum</i>	-2	FACW-	Nt P-Forb	JACK IN THE PULPIT
CICBUL	5	<i>Cicuta bulbifera</i>	-5	OBL	Nt P-Forb	WATER HEMLOCK
COPTRI	5	<i>Coptis trifolia</i>	-3	FACW	Nt P-Forb	GOLDTHREAD
CORALT	5	<i>Cornus alternifolia</i>	5	UPL	Nt Tree	ALTERNATE LEAVED DOGWOOD
CYSBUL	5	<i>Cystopteris bulbifera</i>	-2	FACW-	Nt Fern	BULBLET FERN
DRYCAR	5	<i>Dryopteris carthusiana</i>	-2	FACW-	Nt Fern	SPINULOSE WOODFERN
DRYINT	5	<i>Dryopteris intermedia</i>	0	FAC	Nt Fern	EVERGREEN WOODFERN
DRYMAR	5	<i>Dryopteris marginalis</i>	3	FACU	Nt Fern	MARGINAL WOODFERN
EUPPUR	5	<i>Eupatorium purpureum</i>	0	FAC	Nt P-Forb	PURPLE JOE PYE WEED
FRAAME	5	<i>Fraxinus americana</i>	3	FACU	Nt Tree	WHITE ASH
GEUMAC	5	<i>Geum macrophyllum</i>	-4	FACW+	Nt P-Forb	LARGE LEAVED AVENS
GYMDRY	5	<i>Gymnocarpium dryopteris</i>	0	FAC	Nt Fern	OAK FERN
IRIVER	5	<i>Iris versicolor</i>	-5	OBL	Nt P-Forb	WILD BLUE FLAG
LARLAR	5	<i>Larix laricina</i>	-3	FACW	Nt Tree	TAMARACK
LEMMIN	5	<i>Lemna minor</i>	-5	OBL	Nt A-Forb	SMALL DUCKWEED
MITREP	5	<i>Mitchella repens</i>	2	FACU+	Nt P-Forb	PARTRIDGE BERRY

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
OSMCIN	5	<i>Osmunda cinnamomea</i>	-3	FACW	Nt Fern	CINNAMON FERN
OSMREG	5	<i>Osmunda regalis</i>	-5	OBL	Nt Fern	ROYAL FERN
PARQUI	5	<i>Parthenocissus quinquefolia</i>	1	FAC-	Nt W-Vine	VIRGINIA CREEPER
POTZOS	5	<i>Potamogeton zosteriformis</i>	-5	OBL	Nt P-Forb	FLAT STEMMED PONDWEED
ROSPAL	5	<i>Rosa palustris</i>	-5	OBL	Nt Shrub	SWAMP ROSE
STAPAL	5	<i>Stachys palustris</i>	-5	OBL	Nt P-Forb	WOUNDWORT
THENOV	5	<i>Thelypteris noveboracensis</i>	-1	FAC+	Nt Fern	NEW YORK FERN
TILAME	5	<i>Tilia americana</i>	3	FACU	Nt Tree	BASSWOOD
TRIBOR	5	<i>Trientalis borealis</i>	-1	FAC+	Nt P-Forb	STARFLOWER
TSUCAN	5	<i>Tsuga canadensis</i>	3	FACU	Nt Tree	HEMLOCK
ASCINC	6	<i>Asclepias incarnata</i>	-5	OBL	Nt P-Forb	SWAMP MILKWEED
ASTONT	6	<i>Aster ontarionis</i>	0	FAC	Nt P-Forb	ONTARIO ASTER
ATHTHE	6	<i>Athyrium thelypteroides</i>	0	FAC	Nt Fern	SILVERY SPLEENWORT
CALTPA	6	<i>Caltha palustris</i>	-5	OBL	Nt P-Forb	MARSH MARIGOLD
CIRMUT	6	<i>Cirsium muticum</i>	-5	OBL	Nt B-Forb	SWAMP THISTLE
CORCAA	6	<i>Cornus canadensis</i>	0	FAC	Nt Shrub	BUNCHBERRY
DROROT	6	<i>Drosera rotundifolia</i>	-5	OBL	Nt P-Forb	ROUND LEAVED SUNDEW
DRYCRI	6	<i>Dryopteris cristata</i>	-5	OBL	Nt Fern	CRESTED SHIELD FERN
FAGGRA	6	<i>Fagus grandifolia</i>	3	FACU	Nt Tree	AMERICAN BEECH
FRANIG	6	<i>Fraxinus nigra</i>	-4	FACW+	Nt Tree	BLACK ASH
LYSTHY	6	<i>Lysimachia thyrsoiflora</i>	-5	OBL	Nt P-Forb	TUFTED LOOSESTRIFE
MYRGAL	6	<i>Myrica gale</i>	-5	OBL	Nt Shrub	SWEET GALE
NYMODO	6	<i>Nymphaea odorata</i>	-5	OBL	Nt P-Forb	SWEET SCENTED WATERLILY
POTAMP	6	<i>Potamogeton amplifolius</i>	-5	OBL	Nt P-Forb	LARGE LEAVED PONDWEED
RIBAME	6	<i>Ribes americanum</i>	-3	FACW	Nt Shrub	WILD BLACK CURRANT
UTRVUL	6	<i>Utricularia vulgaris</i>	-5	OBL	Nt P-Forb	GREAT BLADDERWORT
VITAES	6	<i>Vitis aestivalis</i>	3	FACU	Nt W-Vine	SUMMER GRAPE
ACTPAC	7	<i>Actaea pachypoda</i>	5	UPL	Nt P-Forb	DOLL'S EYES
BETALL	7	<i>Betula alleghaniensis</i>	0	FAC	Nt Tree	YELLOW BIRCH
CAMAPR	7	<i>Campanula aparinoides</i>	-5	OBL	Nt P-Forb	MARSH BELLFLOWER
CHEGLB	7	<i>Chelone glabra</i>	-5	OBL	Nt P-Forb	TURTLEHEAD
DECVER	7	<i>Decodon verticillatus</i>	-5	OBL	Nt Shrub	WHORLED or SWAMP LOOSESTRIFE
EQUFLU	7	<i>Equisetum fluviatile</i>	-5	OBL	Nt Fern Ally	WATER HORSETAIL
EQUSCI	7	<i>Equisetum scirpoides</i>	-1	FAC+	Nt Fern Ally	DWARF SCOURING RUSH
LOBCAR	7	<i>Lobelia cardinalis</i>	-5	OBL	Nt P-Forb	CARDINAL FLOWER
NUPVAR	7	<i>Nuphar variegata</i>	-5	OBL	Nt P-Forb	YELLOW POND LILY

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
RHAALN	8	Rhamnus alnifolia	-5	OBL	Nt Shrub	ALDER LEAVED BUCKTHORN
VACMAC	8	Vaccinium macrocarpon	-5	OBL	Nt Shrub	LARGE CRANBERRY
VACOXY	8	Vaccinium oxycoccos	-5	OBL	Nt Shrub	SMALL CRANBERRY