

# ISU Monarch Data Summary for NCIG

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*2019-02-19*

Table 1 and 2 provide mean count of nectar plant species averaged across all data collection events. Table 3 provides mean count of milkweed ramets. Values in table represent the specific counting unit for each species, not necessarily a whole plant. Table 4 and 5 provide nectar plant species density (per 100m<sup>2</sup>) averaged across all data collection events. Table ?? provides mean density of milkweed ramets. Values in table represent the specific counting unit for each species, not necessarily a whole plant.

Table ?? provides average land cover percentage averaged across all data collection events.

Table ?? provides average amount of vegetation across all data collection events.

Table ?? provides total number of monarchs sighted anywhere around site during entire time at site, number of monarchs sighted during a survey period, number of milkweed ramets (an upper limit of 20 per round per site, although the same milkweed may have been surveyed in different rounds), number of monarch eggs counted on milkweed plants (if no milkweed present, no monarch eggs present, number of monarch larvae (caterpillars) counted on milkweed plants (if no milkweed present, no larvae present).

Table 1: 2016 nectar plant species: mean count across all surveys

Nectar Plant Species	all1	all2	arm1	arm2	ber1	ber3	cre1	dun2	dun3	gro1	gro2	nkn1	nkn2	nor1	pio1	pio2	prd1	prd2	sie1	sut2	ver1
alfalfa	-	-	-	11.5	-	-	-	-	-	408.0	30.5	-	-	-	-	-	-	-	-	-	-
birdsfoot trefoil	-	-	27.5	-	-	-	13.5	-	-	-	-	-	100.0	-	-	-	-	-	-	-	191.0
black eyed susan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	210.3	-	-	-	-	-	-
black medic	-	12.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
bladder campion	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
canada goldenrod	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-
canada thistle	-	6.0	-	-	-	-	-	2.0	-	140.0	68.0	-	-	-	-	-	1.0	12.5	-	-	-
carolina horsenettle	-	-	-	-	11.0	3.5	8.0	50.0	29.0	-	17.5	-	-	-	40.0	-	-	-	-	-	-
common cinquefoil	-	-	-	-	-	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
common dandelion	2.0	1.5	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
common evening primrose	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52.0	-	-	-	-	-	-
common mallow	-	6.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
common milkweed	-	-	-	-	-	-	-	-	-	1.0	3.0	-	-	-	-	-	-	-	1.0	-	-
common mullein	5.0	8.0	-	-	-	-	-	1.0	-	-	-	-	-	-	3.0	-	-	-	-	-	-
common yarrow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0	-	-	-	-	-	-
compass plant	3.0	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
eastern daisy fleabane	-	-	-	-	1.0	-	7.0	17.5	-	-	-	-	-	-	4.0	-	-	-	-	-	372.7
flowering spurge	-	-	9.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
golden alexanders	-	-	-	-	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
lanceleaf fogfruit	-	-	-	-	-	-	-	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-
morning glory	231.7	-	-	-	1.0	-	-	-	-	26.0	16.0	-	-	-	-	-	-	-	-	-	-
ox eye sunflower	-	-	-	-	-	-	-	12.0	-	-	-	-	-	-	-	-	-	-	-	-	-
plantain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.0
prickly lettuce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.0	-	-	-
queen annes lace	-	-	156.0	-	-	-	127.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
red clover	6.0	-	4.0	377.0	1.0	186.0	193.5	-	-	82.3	623.5	11.0	37.5	-	-	-	-	-	57.0	-	16.0
smartweed	4.0	5.0	-	-	11.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.0
stinging nettle	-	-	-	-	-	-	-	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-
velvetleaf	-	-	-	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
white clover	388.7	473.3	-	8.0	-	24.0	20.5	3.0	-	-	107.7	257.0	-	-	-	-	-	-	-	-	72.3
white sweet clover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-
whitestar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41.0	-	-	-	-	-	-
whorled milkweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-
wild mustard	-	-	-	-	-	33.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
yellow sweet clover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	-	-	-

Table 2: 2017 nectar plant species: mean count across all surveys

Nectar Plant Species	all1	all2	arm1	arm2	ber1	ber3	cre1	dun2	dun3	gro1	gro2	nkn1	nkn2	nor1	pio1	pio2	prd1	prd2	sie1	sut2	ver1
alfalfa	-	-	-	24.5	-	-	-	-	-	62.0	-	-	-	-	-	-	-	-	-	-	-
bedstraw	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1287.0	-	-	-	-	-
birdsfoot trefoil	-	-	16.0	-	-	-	-	-	-	-	-	574.3	184.0	-	-	-	-	-	-	-	105.0
black eyed susan	1.5	-	-	2.0	-	-	7.0	3.0	-	3.0	4.0	22.0	110.0	9.0	-	3.0	1.0	6.0	-	1.0	3.0
black medic	5.0	-	-	-	1.0	1.0	-	298.0	164.0	-	-	-	-	16.3	1.5	204.3	-	-	1.0	-	-
bladder campion	51.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
blue vervain	-	-	-	1.0	-	-	-	-	-	-	-	-	90.0	751.5	-	-	-	-	-	-	-
brown eyed susan	-	1.0	1.0	-	-	-	-	2.0	5.0	-	-	-	-	-	9.0	-	-	3.0	-	-	1.0
buffalobur nightshade	-	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
canada anenome	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.0	-	-
canada thistle	-	-	-	-	-	-	-	-	-	-	7.0	-	-	3.0	-	-	-	-	-	-	-
chicory	-	-	-	-	-	-	-	-	-	-	-	55.0	8.0	-	-	-	-	-	-	-	-
clasping venus looking glass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.0	-	-	-	-	-
common cinquefoil	-	-	-	-	-	1.0	-	-	-	-	-	1.0	12.0	2.0	-	-	-	-	-	-	1.0
common dandelion	-	-	1.0	16.5	-	9.0	-	6.0	-	1.5	2.0	59.0	62.0	1.0	-	-	-	1.7	-	21.0	1.0
common mallow	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-
common mullein	-	-	-	-	-	-	-	1.0	1.0	-	-	-	-	-	-	-	-	-	-	-	-
common purslane	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-
common yarrow	-	-	-	-	-	-	-	-	-	-	-	7.0	266.0	-	-	-	-	-	-	-	-
compass plant	-	-	-	-	-	-	-	-	4.0	-	-	-	-	-	-	-	-	13.0	-	-	-
culvers root	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-
eastern black nightshade	-	-	-	6.0	-	-	-	20.0	-	-	-	-	-	-	-	-	1.0	-	-	-	-
eastern daisy fleabane	-	-	-	-	35.0	39.0	74.5	9.0	73.7	-	-	-	-	-	3.0	29.0	-	-	-	-	30.0
field pennycress	-	-	-	-	-	-	-	-	-	60.0	3.0	4.0	-	-	-	-	-	-	-	-	-
foxglove beardtongue	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	15.0	-
groundcherry	-	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-
hawkweed	-	-	-	-	-	-	-	-	-	-	-	320.0	-	-	-	-	-	-	-	-	-
hoary vervain	-	-	-	-	-	-	-	-	-	-	-	-	13.0	1.0	-	-	-	-	-	-	-
ironweed	-	-	-	-	-	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
morning glory	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
musk thistle	-	-	-	6.0	-	-	-	19.0	1.0	-	-	3.0	-	-	-	-	-	-	-	-	-
ox eye sunflower	-	-	-	-	-	-	-	-	-	1.0	1.0	-	-	-	-	-	-	-	-	-	-
partridge pea	-	-	3.0	3.0	-	-	-	10.0	1.0	-	-	1.5	13.0	24.0	8.0	6.0	-	8.0	1.0	6.0	-
pineapple weed	40.0	-	-	-	-	-	-	5.0	2.0	-	-	-	-	-	-	-	-	-	-	-	-
prairie cinquefoil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
prickly sowthistle	-	-	-	-	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
prostrate knotweed	-	10.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	2.0	-	-	-
prostrate vervain	36000.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
queen annes lace	-	404.0	-	-	-	-	145.0	6.0	12.5	-	-	64.5	101.5	10.0	-	1.0	-	-	4.5	-	240.0
red clover	4.0	29.3	194.5	101.5	356.3	18.5	12.0	14.0	506.7	808.0	360.0	594.0	2.0	2.0	2.0	21.0	-	-	-	-	24.0
rough avens	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
shepherds purse	-	-	4.0	27.0	-	-	-	-	-	8.0	95.0	6.0	10.0	-	-	-	63.0	1.0	-	1.0	-
shortstalk chickweed	-	-	-	-	-	-	-	46.0	-	-	-	-	-	-	-	-	-	-	-	-	-
smartweed	4.0	43.0	4.0	10.0	218.3	71.5	10.5	7.0	17.0	15.0	30.0	782.7	257.3	-	-	-	-	-	-	-	-
venice mallow	-	-	-	-	-	-	-	-	-	-	-	1.0	-	-	-	-	-	-	-	-	-
white clover	-	-	3.5	87.3	-	50.5	2.0	74.7	605.7	5.0	-	74.7	174.3	13.5	-	-	-	-	-	-	278.0
white sweet clover	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
wild mustard	-	-	-	-	-	-	-	-	-	27.5	20.0	3.0	-	-	-	2.0	-	-	-	-	-
yellow coneflower	-	-	-	-	-	-	-	-	-	-	-	-	6.0	-	-	-	-	-	-	-	-
yellow sweet clover	-	-	-	-	-	-	-	-	5.0	-	-	-	-	-	4.0	-	-	-	-	-	-
yellow wood sorrel	-	-	-	-	-	-	-	31.0	47.5	-	-	-	-	60.0	-	6.5	-	-	-	-	4.0

Table 3: 2017 nectar plant species: mean count across all surveys

Nectar Plant Species	all1	all2	arm1	arm2	ber1	ber3	cre1	dun2	dun3	gro1	gro2	kn1	kn2	nor1	pio1	pio2	prd1	prd2	sie1	sut2	ver1
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Table 4: 2016 Nectar plant species density: average density (count / m2) across all rounds

Nectar Plant Species	tall1a	tall2a	tappla	tarm1b	tarm2a	tbcrla	tbcrla	tber2a	tber1a	tber3a	tbydl1a	tbydl2a	tcrala	tcrela	tdun2a	tdun3a	tfisla	tgrola	tgro2a	tharla
alfalfa	-	-	-	-	12	-	-	-	-	-	568	193	-	-	-	-	-	680	51	67
birdsfoot trefoil	-	-	-	46	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-
black eyed susan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
black medic	-	25	-	-	-	-	-	-	-	-	-	102	-	-	-	-	-	-	-	-
bladder campion	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
blue vervain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
blue wild indigo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
brown eyed susan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
canada goldenrod	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
canada thistle	-	12	-	-	-	-	-	-	-	-	-	-	-	-	2	50	-	233	113	153
carolina horsenettle	-	-	-	-	-	-	-	22	7	-	-	-	-	-	8	29	-	-	29	-
chicory	-	-	-	-	-	-	-	-	-	-	-	-	37	-	-	-	-	-	-	-
common cinquefoil	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-
common dandelion	4	3	-	-	-	-	-	-	4	-	-	2	6	-	-	-	-	-	-	-
common evening primrose	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
common mallow	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
common milkweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5	3
common mullein	10	16	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
common yarrow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
compass plant	6	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
eastern daisy fleabane	-	-	-	-	-	-	-	2	-	-	-	-	5	7	18	-	-	-	-	-
flowering spurge	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
golden alexanders	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-
hoary vervain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
lanceleaf fogfruit	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	-	-	-	-
morning glory	463	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	43	27	-
musk thistle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ox eye sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-
plantain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	122
prickly lettuce	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
purple prairie clover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
queen ames lace	-	-	-	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
red clover	12	-	100	7	377	-	-	2	372	87	106	230	206	129	-	-	-	137	1039	62
sawtooth sunflower	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
smartweed	8	10	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-
stinging nettle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	-
velvetleaf	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
white clover	777	947	20	-	8	126	-	-	48	645	757	192	27	-	3	-	-	-	-	330
white sweet clover	-	-	-	-	-	-	-	-	-	5	-	7	-	-	-	-	-	-	-	-
whitestar	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
whorled milkweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
wild bergamot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
wild mustard	-	-	-	-	-	-	-	-	-	66	-	-	-	-	-	-	-	-	-	-
wild parsnip	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
yellow sweet clover	-	-	-	-	-	-	-	-	-	-	-	3	10	-	-	-	-	-	-	43

[illegible]