

The Intentional & the Accidental:
The Role of Cultivated and Uncultivated Flowers in
Supporting Plant Diversity and Insect Abundance on
Farms.

Ironwood Farm Report



Farmer-Ecologist Research Circle
Feb. 2026

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Farm Description

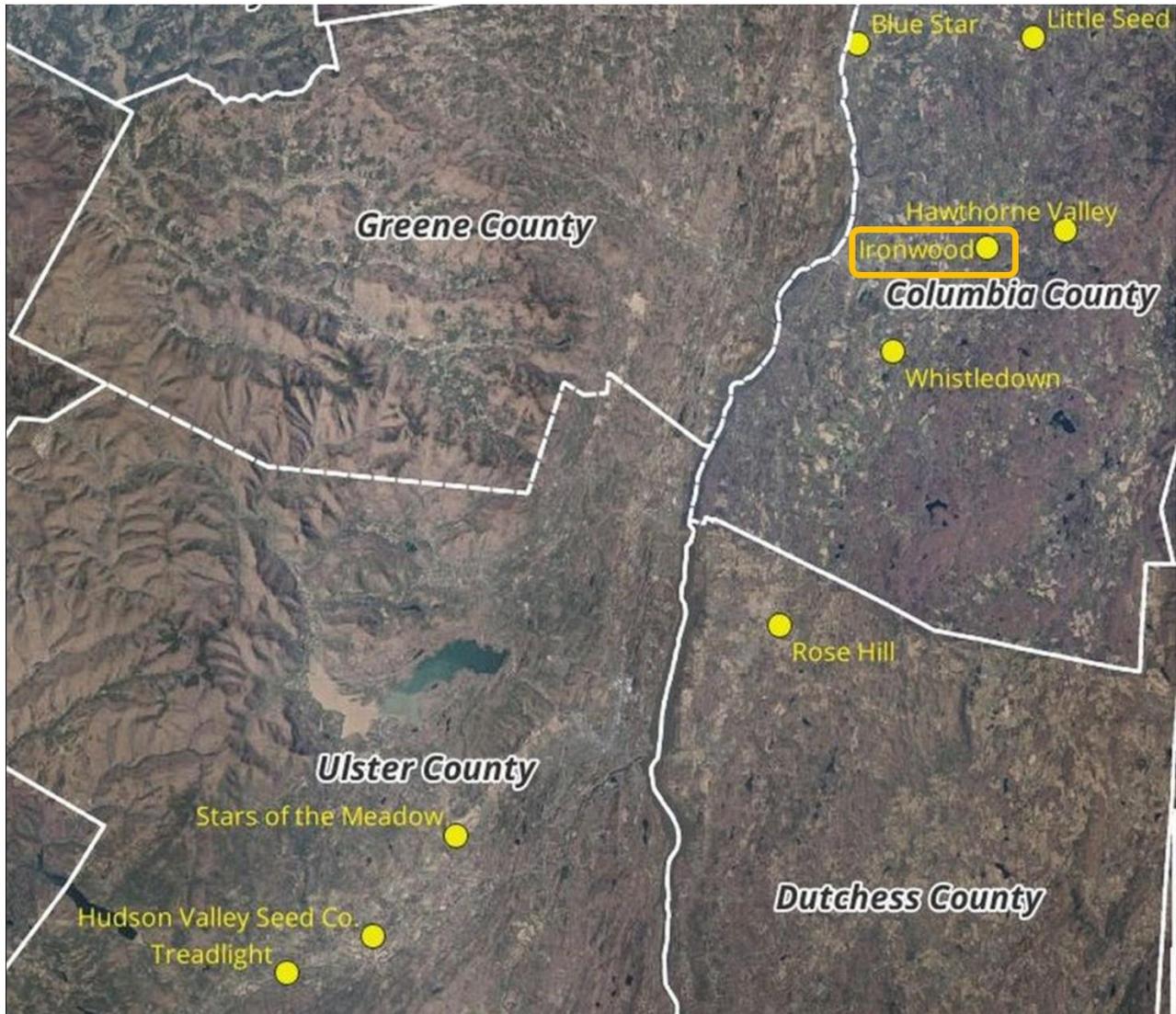


Figure 1. Ironwood is located in the center of Columbia County.

Ironwood is a seven acre organic vegetable farm in Claverack, NY. It was downsizing its commercial production in 2025 and so had more room for fallows and wildflower seedings. We studied approximately 2.3 acres of this farm focused around a set of contiguous beds north of the greenhouses. The management regimes represented in the study area were cultivated veggies, culinary herbs, flowers, and cover crops, as well as extensive wild areas (old fallows and a shrubby hillside; see Fig. 2).

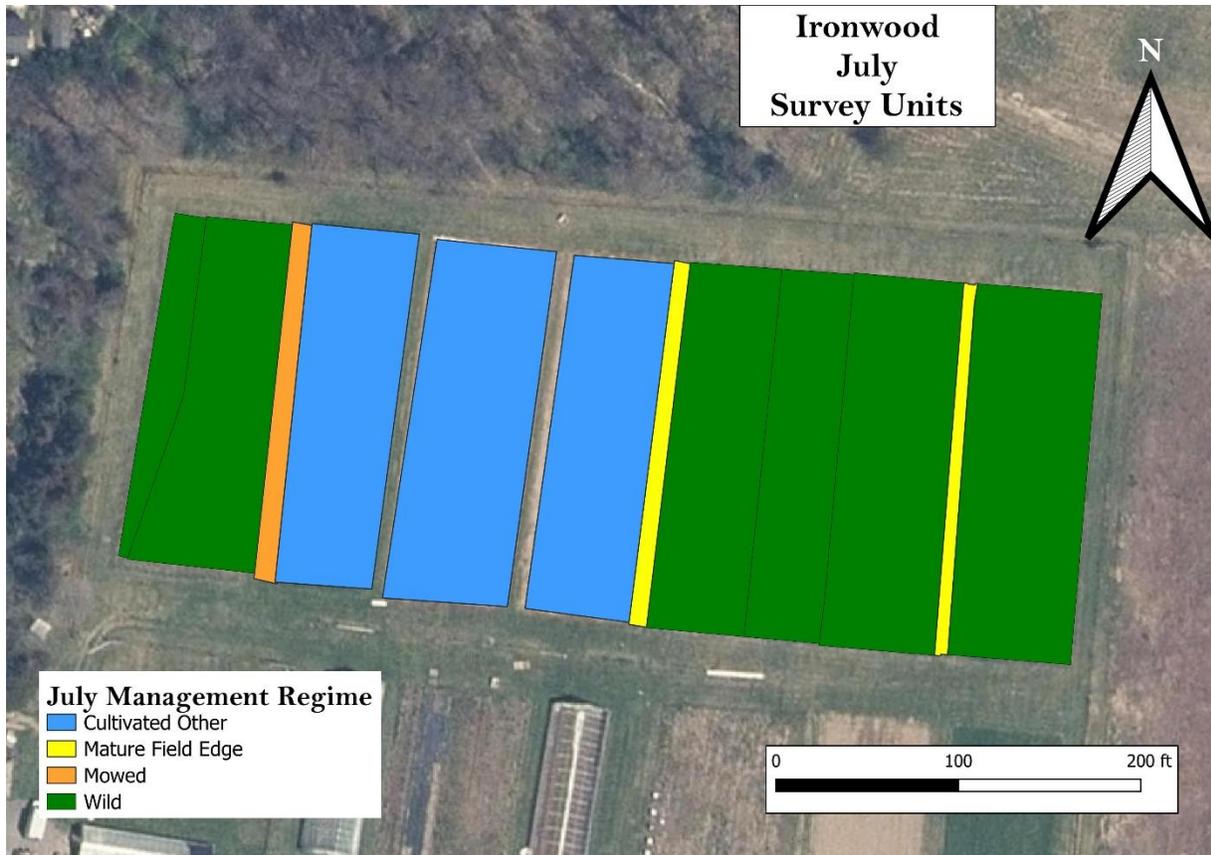


Figure 2. Generalized management regimes in the Ironwood survey units during July.

Botany

We found a total of 88 different flowers within the area studied at Ironwood (see Appendix). Please remember that this does NOT represent a full botanical inventory of the studied portion of this farm – it only includes those plants actually seen in flower during our three survey outings. The plant list in the Appendix includes all species we have observed in bloom during our 2025 inventories in the survey units on June 12 (“June”), July 18 (“July”), and Aug. 22 (“Aug/Sept”). The list is organized alphabetically by common name. It also includes rows with (1) the scientific name of each species, (2) its native status (when known), (3) its regional rarity, (4) its ubiquity across the survey units at Ironwood during its flowering season, (5) duration of its observed flowering season at this farm, and (6) the specific months of when we saw it flowering. Please see the caption of the Appendix for more details.

We did not find many rare/uncommon native species in bloom at Ironwood Farm. Only one, Clammy Ground-cherry, was growing wild and blooming in the wild beds. The other, Hoary(?) Mountain-mint, was cultivated in the vegetable bed. Overall, Ironwood Farm had only five unique flower species (6% of the total of 88 flower species) which were not observed at any other farm during our 2025 study.

Figure 3 shows the number of flowering species at Ironwood during our three monthly visits in 2025. The species were grouped into four categories: wild-growing, native species; wild-growing, non-native species and wild-growing species we were unable to identify with certainty as native; cultivated native species; and cultivated non-native species.

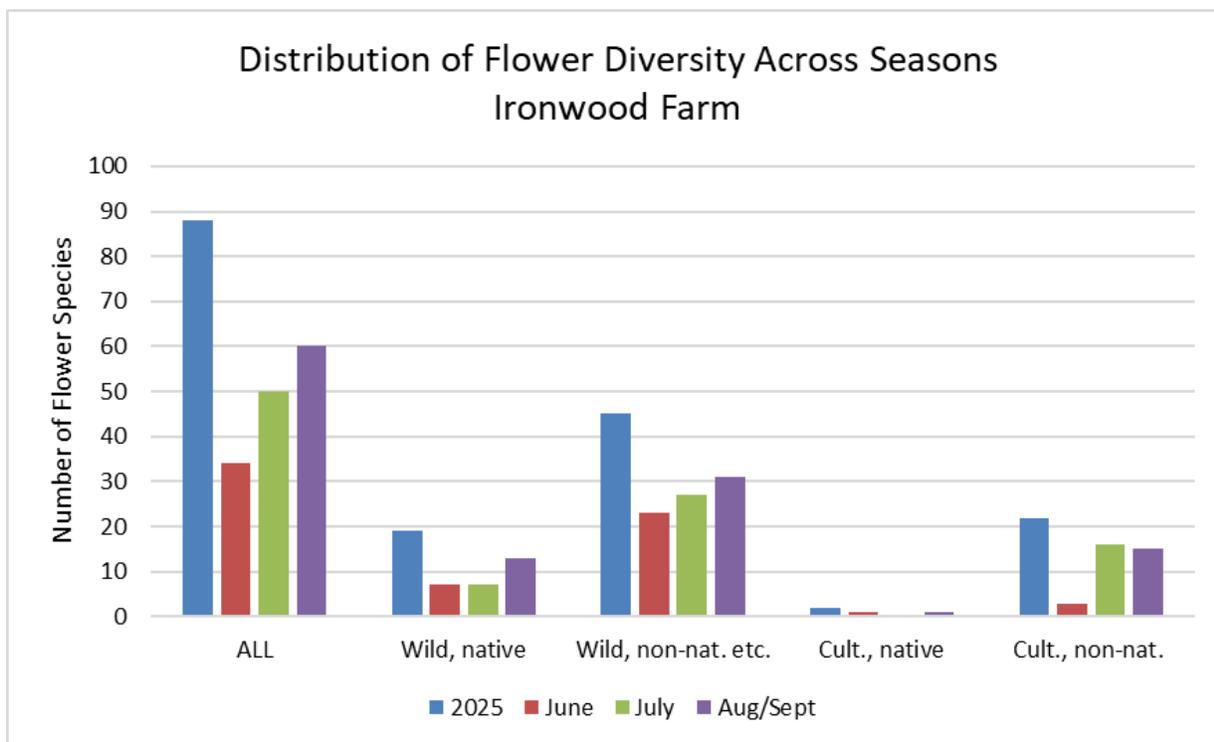


Figure 3. Distribution of flower diversity across the season at Ironwood

Most of the plants that bloomed from June to Aug/Sept at Ironwood were wild-growing plants. As in most farms we studied in 2025, the diversity of all plants in bloom increased from June to Aug/Sept. In contrast to most other farms in the study, this pattern was mostly driven by the wild-growing, non-native species.

Figure 4 illustrates how much more wild-growing plants (compared to cultivated ones) contributed to the flower diversity in the survey units at Ironwood across the season. Only a single unit (a mixed bed of cultivated vegetables, culinary herbs, and flowers) had a higher diversity of cultivated than wild-growing flowers in August and a comparable diversity of cultivated and wild-growing flowers in July. All other units had a higher diversity of wild-growing flowers during all three sampling dates.

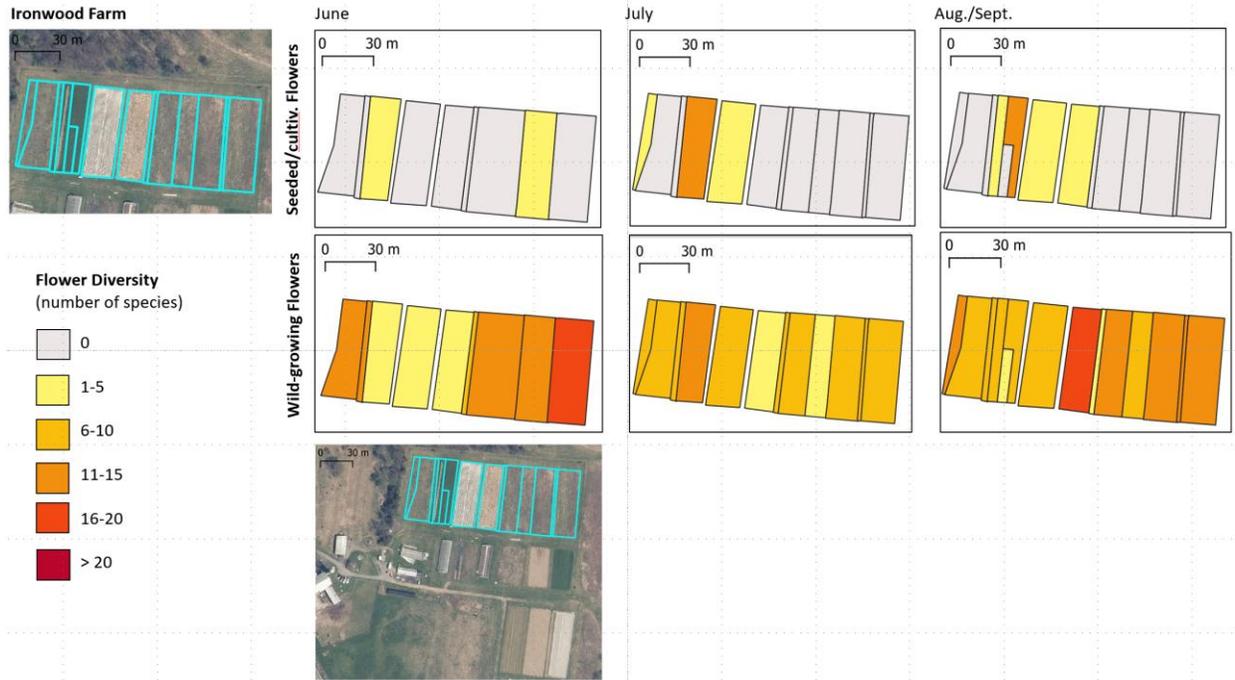


Figure 4. Comparative diversity of seeded/cultivated flowers (above) and wild-growing flowers (below) in the survey units at Ironwood.

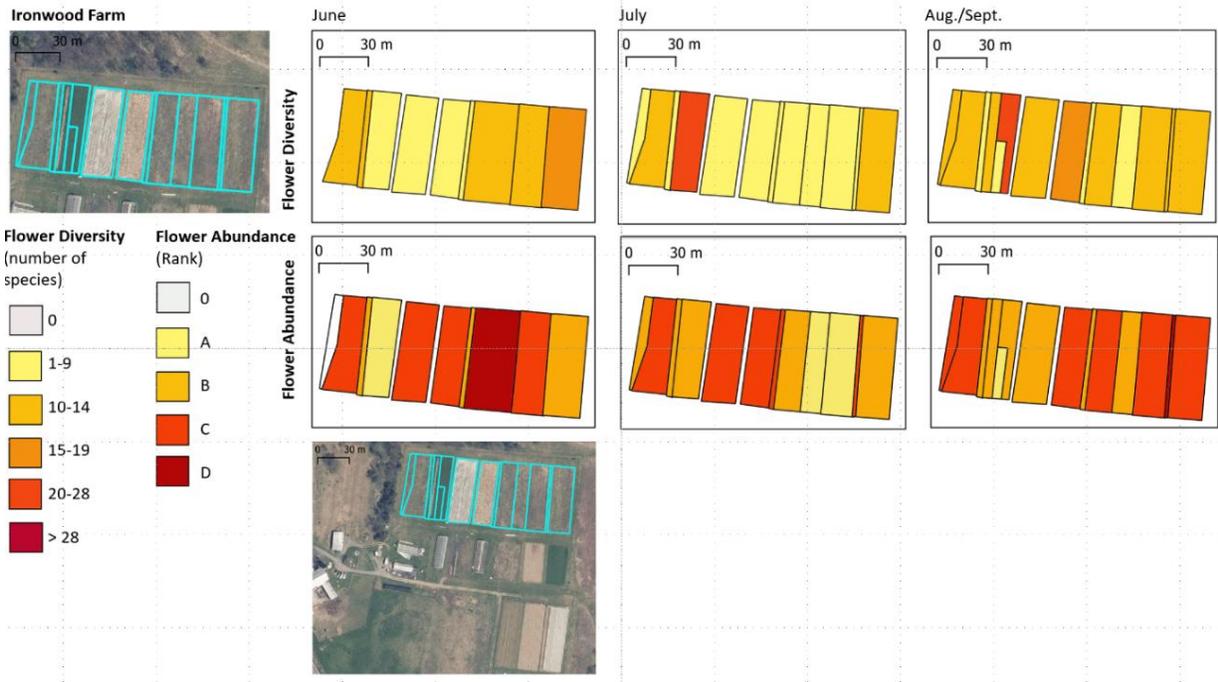


Figure 5. Flower diversity (row of maps above) and abundance (row of maps below) in the survey units at Ironwood. Claudia ranked flower abundances from A (least) to D (most) and also had a zero category

Figure 5 illustrates that flower diversity and abundance change quite independently of each other between survey units and across time, although—compared to all other farms in the study—both, flower diversity and abundance were high across survey units and season. Nevertheless, some survey units had a high abundance of the flowers but relatively few species.

Flower Visitor Community.

Aside from notably low Honey Bee and low wasp observations and high ‘other bee’ observations, Ironwood insect sightings were generally slightly below average (Figure 6).

In our somewhat anecdotal but more detailed data on the identity of the ‘other bees’, rather than excelling in any one species or genus of bee, Ironwood seemed to have decent numbers across those taxa we could distinguish.

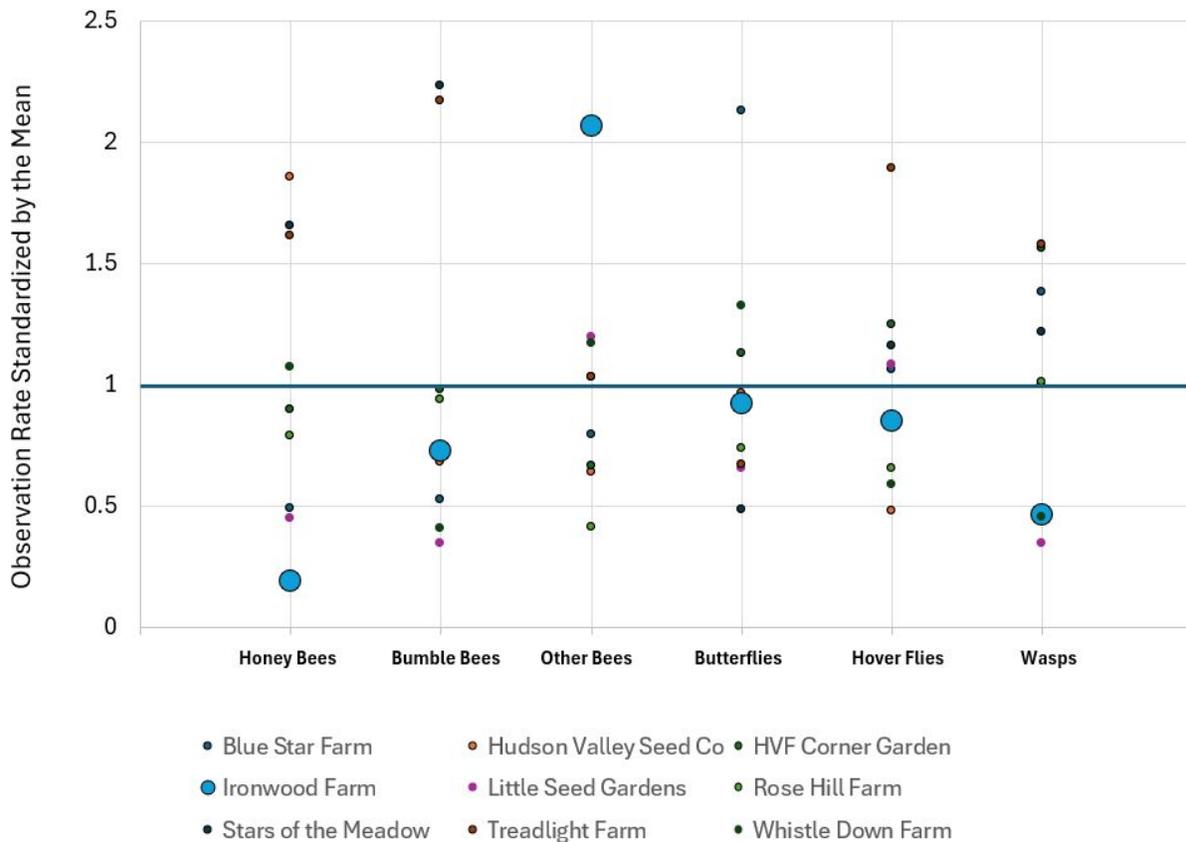


Figure 6. The standardized Ironwood observation rates for the various insect groups relative to the mean for all farms (the solid line at 1).

Table 1. Most favored plants by our six insect groups, based on data from all farms and all outings. Lists are alphabetical and only include those flowers with notably higher than average visitation rates by the given groups. Plant species native to the Hudson Valley are marked with an asterisk. Colored boxes highlight those species found on three or more lists. Black blocking indicates flowering times observed during the season.

Bumble Bee	Jun	Jul	Aug-Sep
Anise Hyssop			
Appalachian Mountain-mint			
Basil			
Beach Rose			
Blackberry*			
Common Milkweed*			
Hairy/Foxglove Beard Tongue*			
Hedge Bindweed			
Long-leaved Speedwell			
Pincushion			
Purpletop Vervain			
Red Clover			
Rocket Larkspur			
Spotted Bee Balm*			
Statice			
Tomatillo			
Tufted or Hairy Vetch			
Viper's Bugloss			
Virginia Mountain-mint*			
Wild Bergamot*			

Honey Bee	Jun	Jul	Aug-Sep
Arugala			
Basil			
Broccoli			
Canada Thistle			
Cilantro			
Clustered Mountain-mint*			
Common Milkweed*			
Garden Asparagus			
Goldenrod*			
Knapweed			
Lambsquarters			
Narrow-leaved Mountain Mint*			
Purple Loosestrife			
Sedum, Orpine			
Smooth Blue Aster*			
Spotted Bee Balm*			
Turnip/Tail Hedge Mustard			
Viper's Bugloss			
Virginia mountain-mint*			
Watermelon			
White Foxglove			
White Japanese Burnet			

Other Bees	Jun	Jul	Aug-Sep
Anise Hyssop			
Asian Greens			
Bachelor Buttons			
Common Sunflower			
Coreopsis			
Corn Chamomile			
Field Bindweed			
Goldenrod*			
Large Hop Clover			
Long-leaved Speedwell			
Oxeye Daisy			
Quickweed			
Sedum, Orpine			
Smooth Blue Aster*			
Sulphur Cinquefoil			
Summer Squash			
Viper's Bugloss			
White Lace Flower			

Wasps	Jun	Jul	Aug-Sep
Bachelor Buttons			
Broad-leaved Mountain Mint*			
Calico Aster*			
Cilantro			
Common Boneset*			
Common Elder*			
Garden Strawflower			
Goldenrod*			
Grass-leaved Goldenrod*			
Narrow-leaved Mountain Mint*			
Oxeye Daisy			
Partridge Pea*			
Rose			
Smooth Blue Aster*			
Spotted Bee Balm*			
Tall Buttercup			
Watermelon			
Wild Carrot			

Butterflies	Jun	Jul	Aug-Sep
Appalachian Mountain-mint			
Asian Greens			
Beans			
Blackberry*			
Black-eyed Susan			
Canada Thistle			
Chicory			
Clustered Mountain-mint*			
Common Dandelion			
Common Milkweed*			
Common St. John's-wort			
Feather Celosia			
Globe Amaranth			
Grass-leaved Goldenrod*			
Heal All*			
Joe-Pye Weed*			
Knapweed			
Marigold			
Oxeye Daisy			
Pincushion			
Purple Loosestrife			
Purple-stemmed Aster*			
Purpletop Vervain			
Red Clover			
Rocket Larkspur			
Smooth Blue Aster*			
Statice			
Sweet William			
Tufted or Hairy Vetch			
Turnip/Tail Hedge Mustard			
Viper's Bugloss			
Wild Bergamot*			
Zinnia			

Hover Fly	Jun	Jul	Aug-Sep
Appalachian Mountain-mint			
Arugala			
Asian Greens			
Bachelor Buttons			
Common Ragweed*			
Common St. John's-wort			
Common Yarrow*			
Coreopsis			
Corn Chamomile			
Curly Dock			
Dill			
Persicaria spp			
Quickweed			
Spotted Jewelweed*			
Sulphur Cinquefoil			
Viper's Bugloss			
White Japanese Burnet			
White Lace Flower			
Whorled Tickseed			
Wild Bergamot*			
Wild Madder			

Flower-favorability Data & Maps

For convenience, the flower favorability table from the main blog is repeated here (Table 1), even though those data are a summary of observations across all farms and outings.

Figures 7A-F show the flower favorability maps for Ironwood. As confirmed by Fig. 8, the flower offering was, relatively speaking, stellar. For all insect groups, it was the highest favorability of any farm included in our 2025 study. This should not be surprising given the reduced intensity of farming here. Favorability for bumble bees (Fig. 7A) and butterflies (Fig. 7E) seemed especially high.

As was the case for Little Seed Gardens, we are again left with the conundrum of high flower favorability scores but somewhat low insect activity levels, although 'other bees' did seem to be celebrating. The relatively low Honey Bee sightings occurred despite the presence of hives at the farm. However, hives were present on or near most farms and so, relatively speaking, may have been largely irrelevant. The explanation may partially involve ecological lag times – in the previous years, more of this ground had been intensively cultivated and/or regularly mowed. Thus, flower abundance probably did increase somewhat in 2024 and 2025 as Ironwood downsized its veggie operations, and it's possible that some insect populations had not yet completely adjusted to these new resource levels. Our work on installed wildflower meadows at the Hudson Valley Farm suggests such a lag can occur. It would be interesting to repeat our Ironwood work in 2026 and see if insect populations appear to adjust upwards. Various other factors may also be contributing, including the possibility that nesting sites were now limiting and/or that insects were being attracted to flower resources outside the study area. Finally, year-to-year variation in insect populations is notoriously high and may respond, in part, to microclimatic conditions.

Management Considerations

Ironwood seemed to provide ample offerings to most of the flower visitors we studied during June - Aug. It is difficult to suggest improvements in the flower repertoire. Installation of sand piles (for ground nesting bees) and bee hotels might help boost bee populations if, in fact, nesting sites and not flower resources are limiting.

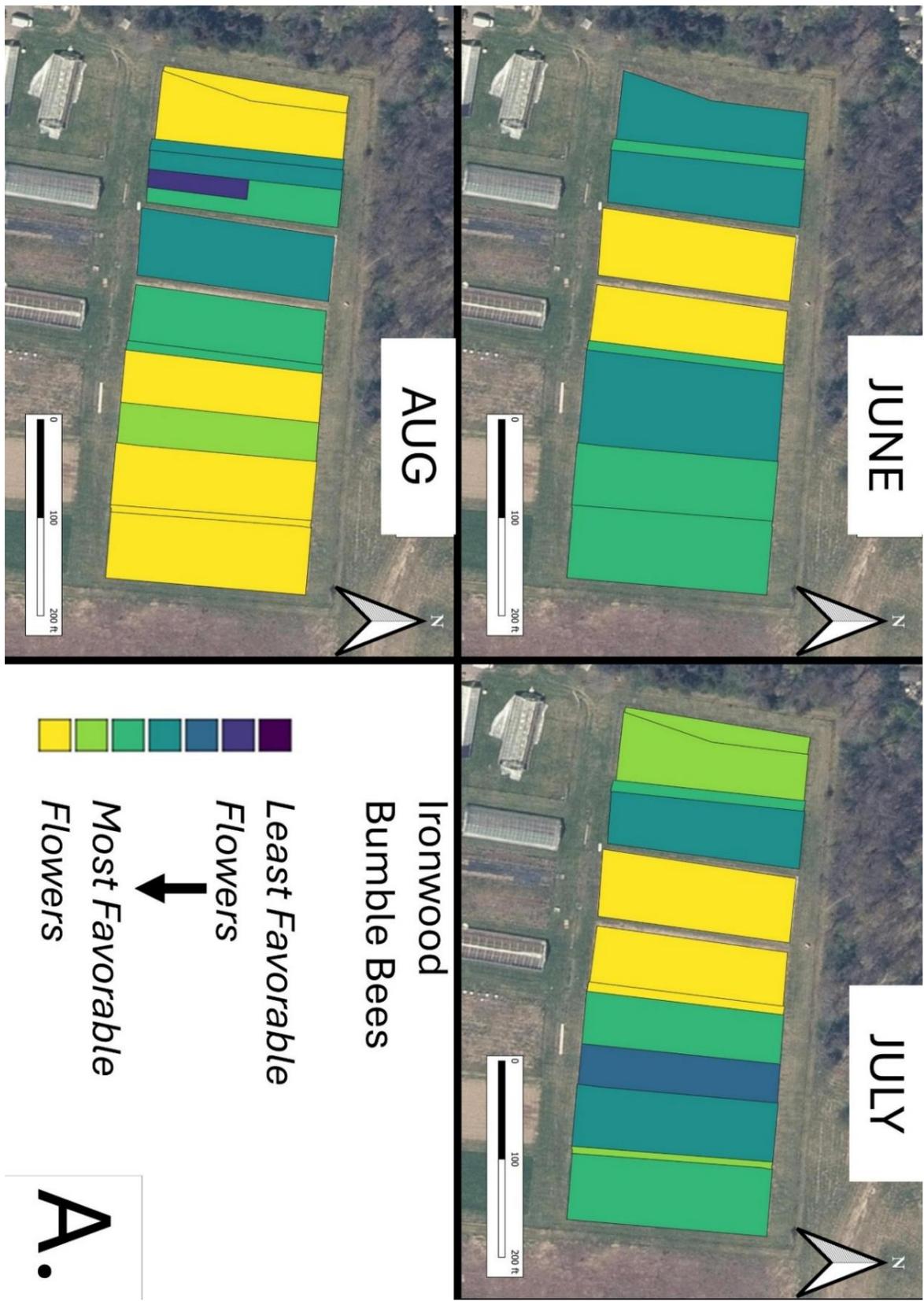


Figure 7A. Flower favorability for bumble bees in the different survey units and different months at Ironwood. Generally, darker signifies less favored flowers, and lighter colors mean more favored.

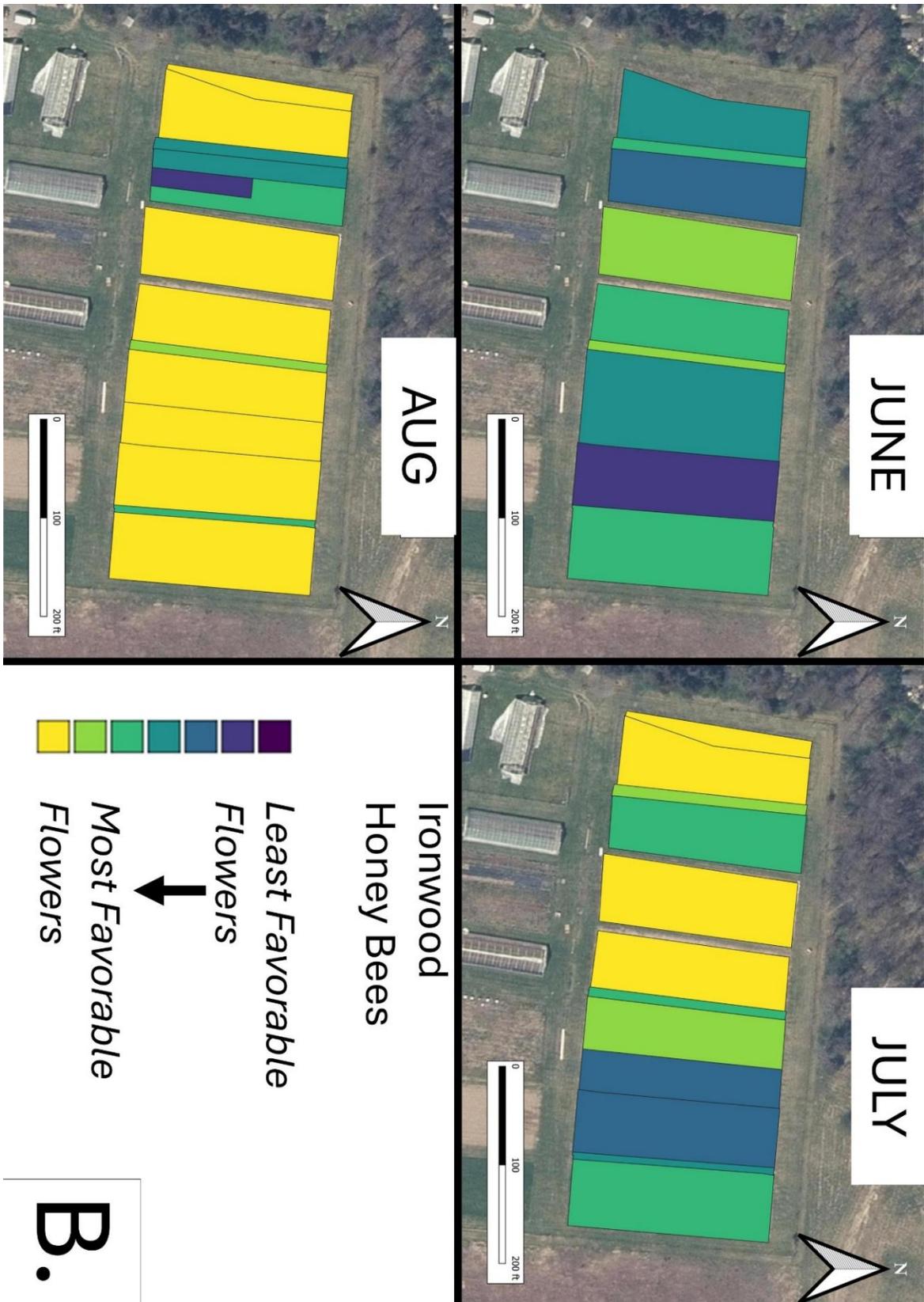


Figure 7B. Flower favorability for honey bees in the different survey units and different months at Ironwood. Generally, darker signifies less favored flowers, and lighter colors mean more favored.

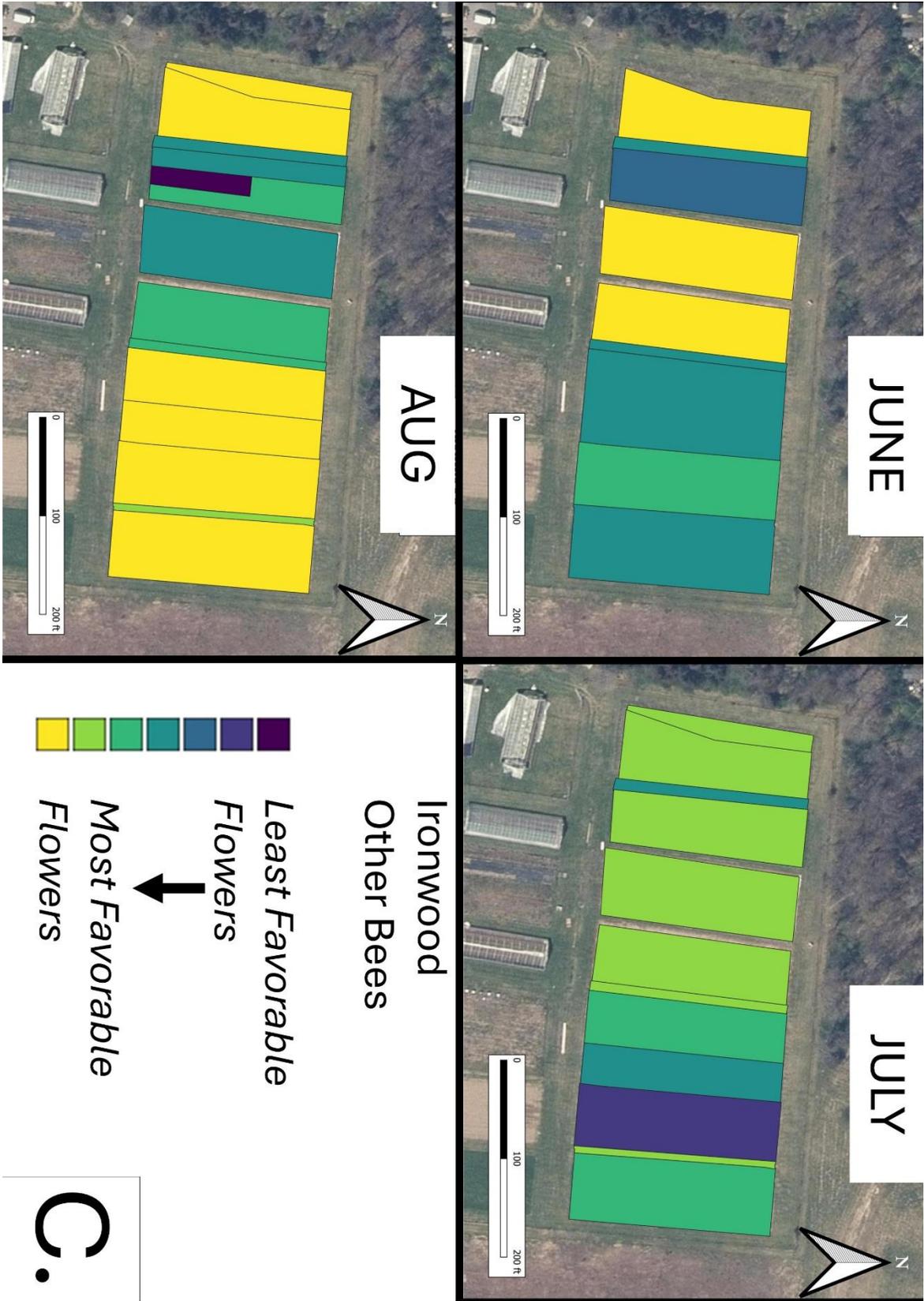


Figure 7C. Flower favorability for other bees in the different survey units and different months at Ironwood. Generally, darker signifies less favored flowers, and lighter colors mean more favored.

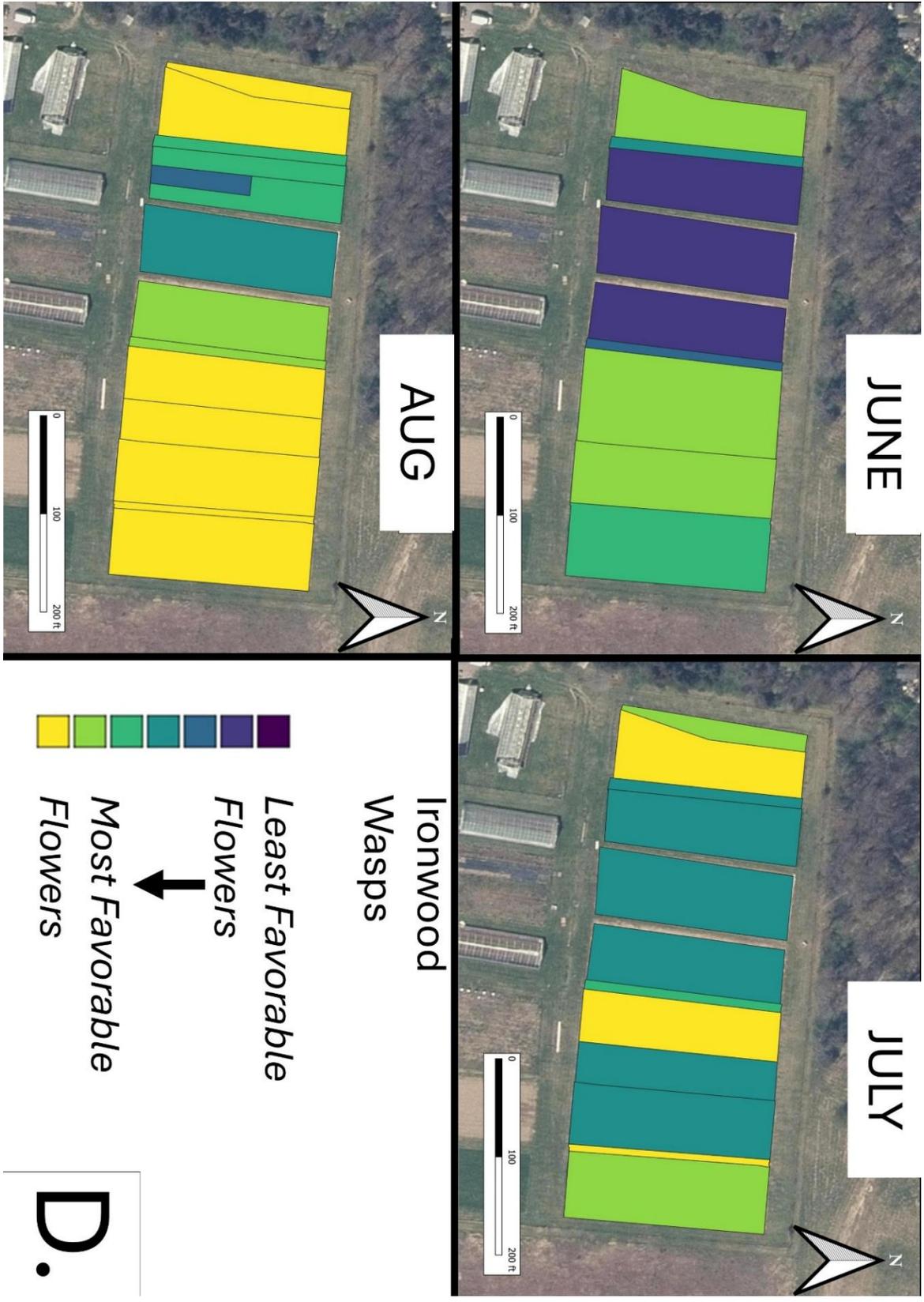


Figure 7D. Flower favorability for wasps in the different survey units and different months at Ironwood. Generally, darker signifies less favored flowers, and lighter colors mean more favored.

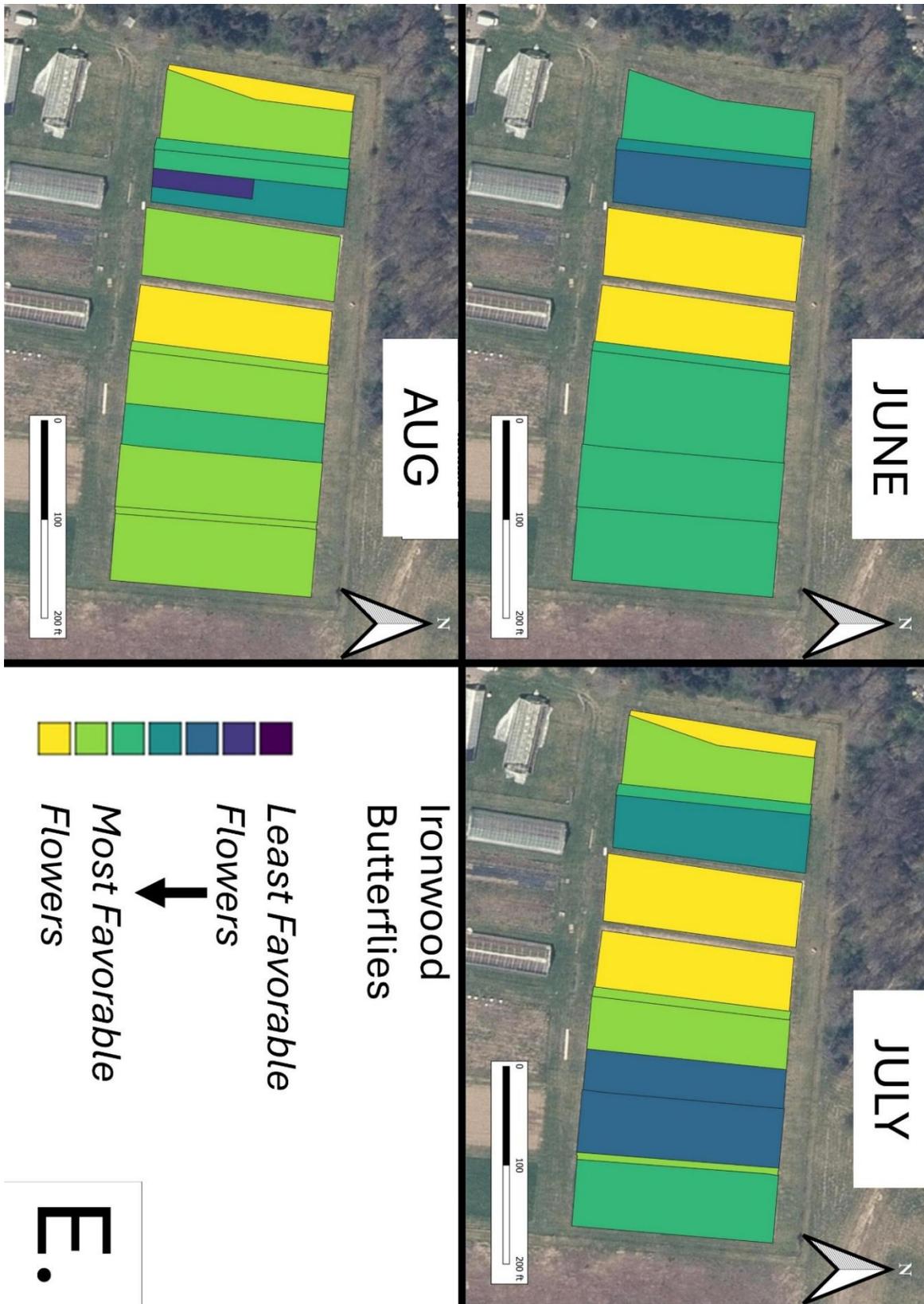


Figure 7E. Flower favorability for butterflies in the different survey units and different months at Ironwood. Generally, darker signifies less favored flowers, and lighter colors mean more favored.

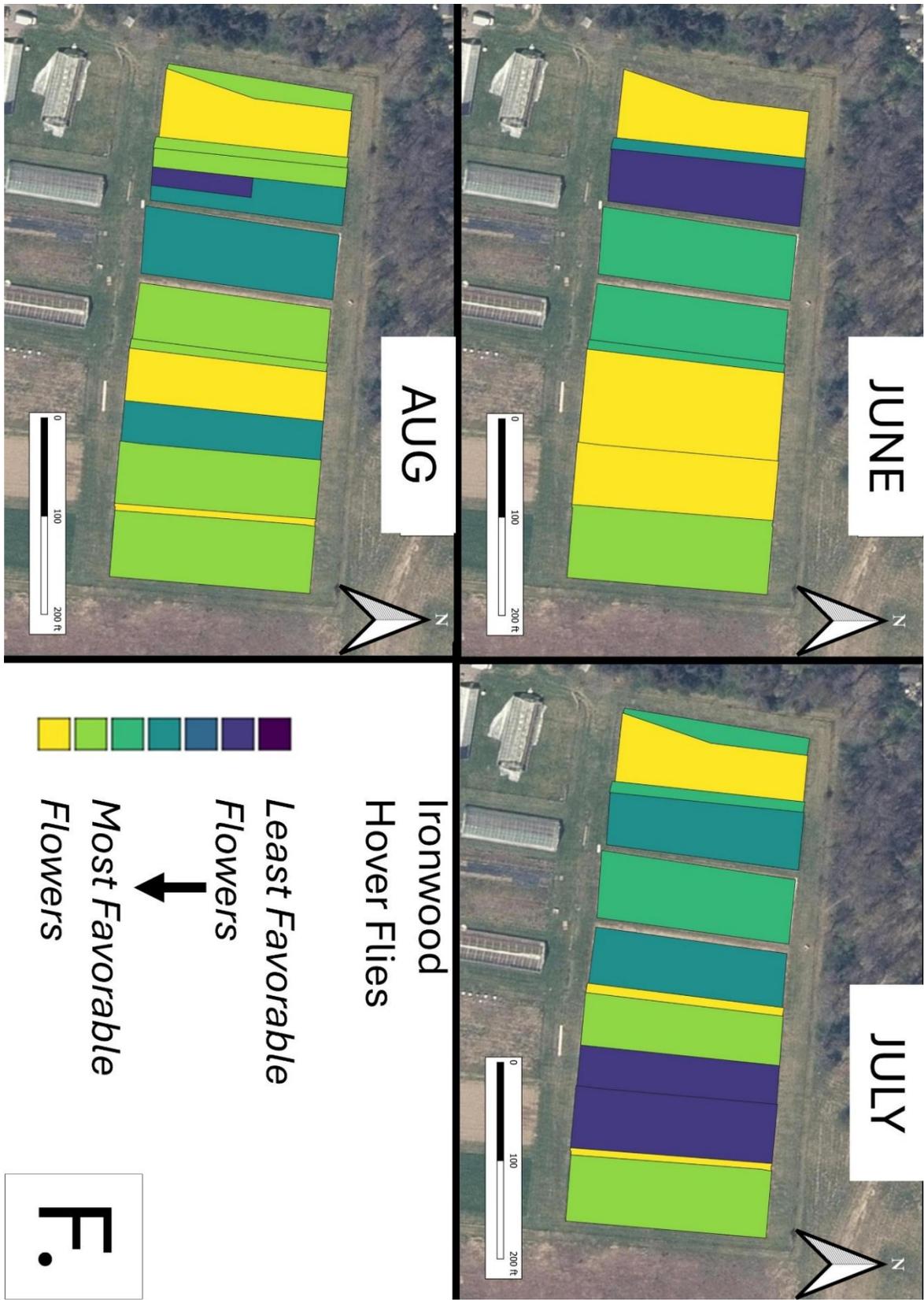


Figure 7F. Flower favorability for hover flies in the different survey units and different months at Ironwood. Generally, darker signifies less favored flowers, and lighter colors mean more favored.

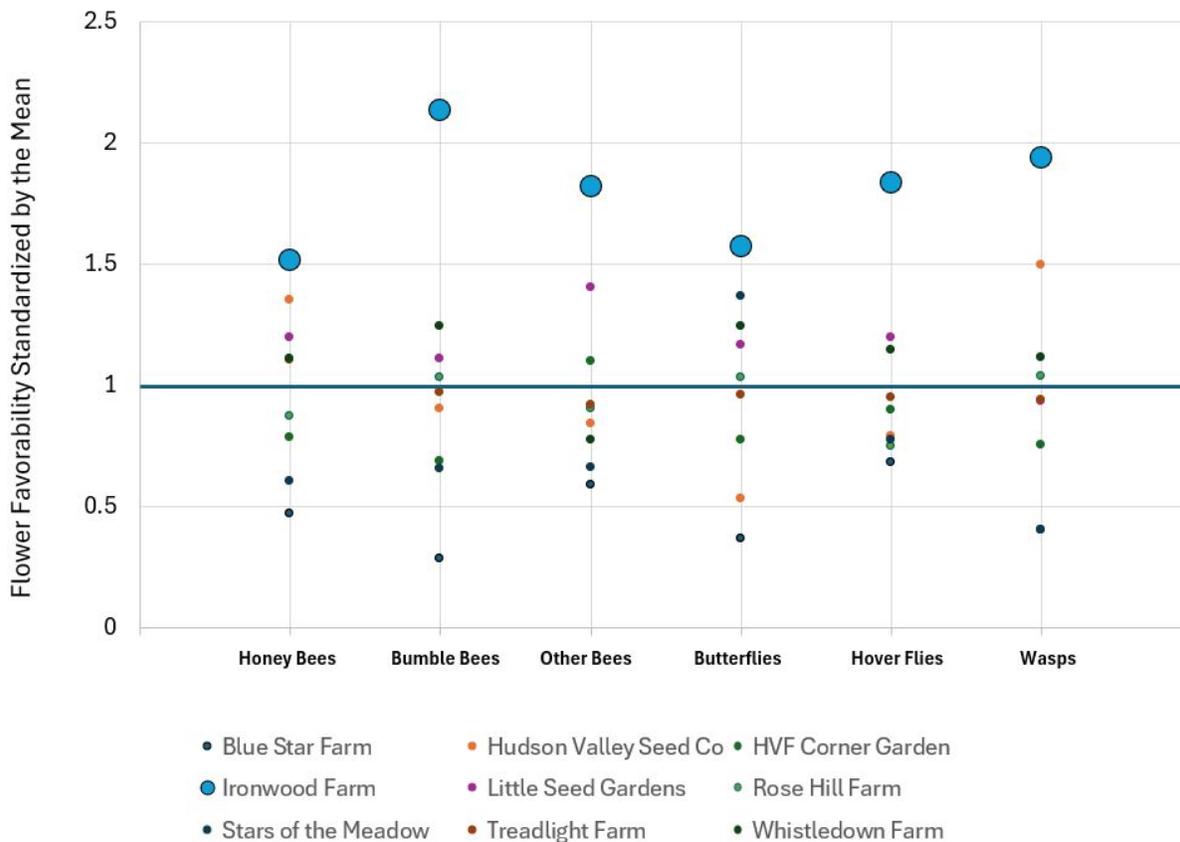


Figure 8. Standardized flower favorability scores by insect group. The solid line at one indicates the mean value across all farms.

Potential Next Steps

Assessing the Ironwood spring flower offering (as also suggested for Little Seed) and repeating the insect assessments in the study area might help us understand if the relatively modest insect abundances were just a result of ecological lag or whether some resource other than summer flowers may be missing. It would also be interesting to have a closer look at the landscape context to find any clues about the reason(s) for the relatively low insect activity in the study area. Ironically, both inhospitable surroundings (e.g., conventional farms applying pesticides) and highly appealing surroundings (e.g., nest-limited bees foraging on more attractive flowers nearby) could result in relatively low observed rates of flower visitation within the study area.

Acknowledgment

Our thanks to Lauren Jones for enthusiastically facilitating our work.

Appendix: List of Flowers Observed.

On the following three pages, you find the appendix with the list of plants seen in bloom in the survey units of Ironwood during three surveys in 2026. The column annotations are explained below.

Native: Indicates whether a species is considered native to the Hudson Valley, "Y" or not, "N." Non-native invasive species are denoted "N-I." Wild-growing species have only the entry "Y," "N," or "N-I." Cultivated species have an added "cult." Additional entries in parentheses indicate that a usually wild-growing plant is occasionally cultivated, "(cult)," or a usually cultivated plant is occasionally also found wild, "(wild)."

Rarity: A star * in this column flags species we consider rare or uncommon in the Hudson Valley.

Ubiquity: The values are calculated as the average % of survey units at the farm which contained the species in bloom during the months of its flowering season.

Duration: The number of months (1 to 3) in which the species was observed in bloom at the farm.

Fl. Season: Indicates with an "x" the months in which the species was observed in bloom at the farm.

Appendix: List of Plants Found in Bloom in the Study Units of Ironwood Farm During Three Surveys in 2025

Common Name by Groups	Scientific Name	Native	Rarity	Ubiquity	Duration	Fl. Season		
			regionally rare/uncommon	avg. % of units during flowering season	# months in bloom (of 3)	June	July	Aug/Sep
amaranth, red-rooted	<i>Amaranthus retroflexus</i>	Y		35.7	1			x
aster, awl	<i>Symphyotrichum pilosum</i>	Y		7.1	1			x
aster, New England	<i>Symphyotrichum novae-angliae</i>	Y		7.1	1			x
basil	<i>Ocimum basilicum</i>	N cult		7.1	1			x
bean	<i>Phaseolus vulgaris</i>	N cult		7.7	2		x	x
beardtongue, foxglove	<i>Penstemon digitalis</i>	Y cult (wild)		11.1	1	x		
bedstraw, hedge (wild madder)	<i>Galium mollugo</i>	N		57.0	3	x	x	x
beebalm, lemon	<i>Monarda citriodora</i>	N cult		7.1	1			x
bindweed, black	<i>Fallopia convolvulus</i>	N		14.3	1			x
bindweed, hedge	<i>Calystegia sepium</i>	N		7.7	2		x	x
blanketflower, annual	<i>Gaillardia pulchella</i>	N cult		7.1	1			x
buckwheat	<i>Fagopyrum esculentum</i>	N cult (wild)		7.7	2		x	x
butter-and-eggs	<i>Linaria vulgaris</i>	N		7.7	2		x	x
buttercup, tall	<i>Ranunculus acris</i>	N		11.1	1	x		
calendula; marigold	<i>Calendula officinalis</i>	N cult		7.7	2		x	x
campion, white	<i>Silene latifolia</i>	N		14.4	3	x	x	x
carpetweed	<i>Mollugo verticillata</i>	N		8.3	1		x	
carrot, wild	<i>Daucus carota</i>	N		65.5	2		x	x
chickweed, mouse-eared	<i>Cerastium fontanum ssp. vulgare</i>	N		33.3	1	x		
chicory	<i>Cichorium intybus</i>	N		7.7	2		x	x
clover, alsike	<i>Trifolium hybridum</i>	N		29.4	3	x	x	x
clover, large hop	<i>Trifolium aureum</i>	N		23.7	3	x	x	x
clover, red	<i>Trifolium pratense</i>	N (cult)		55.7	3	x	x	x
clover, white	<i>Trifolium repens</i>	N		25.5	3	x	x	x
corn	<i>Zea mais</i>	N cult		8.3	1		x	
cress, field penny	<i>Thlaspi arvense</i>	N		7.1	1			x
cress, winter	<i>Barbarea vulgaris</i>	N		11.1	1	x		
cucumber	<i>Cucumis sativus</i>	N cult		8.3	1		x	
daisy, oxeye	<i>Leucanthemum vulgare</i>	N		15.3	2	x	x	
dandelion, common	<i>Taraxacum officinale</i>	N		36.1	2	x	x	
dock, curly	<i>Rumex crispus ssp. crispus</i>	N		44.4	1	x		
eggplant	<i>Solanum melongena</i>	N cult		7.7	2		x	x
fleabane, daisy	<i>Erigeron annuus</i>	Y		58.3	3	x	x	x
fleabane, Philadelphia	<i>Erigeron philadelphicus var. philadelphicus</i>	Y		33.3	1	x		

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			regionally rare/uncommon	avg. % of units during flowering season	# months in bloom (of 3)	June	July	Aug/Sep
goldenrod, early	<i>Solidago juncea</i>	Y		25.6	2		x	x
goldenrod, flat-topped	<i>Euthamia graminifolia</i>	Y		25.6	2		x	x
goldenrod, smooth	<i>Solidago gigantea</i>	Y		28.6	1			x
goldenrod, tall	<i>Solidago altissima ssp. altissima</i>	Y		35.7	1			x
ground-cherry, clammy	<i>Physalis heterophylla</i>	Y	*	9.7	2	x	x	
ground-ivy	<i>Glechoma hederacea</i>	N-I		37.5	2	x	x	
hawkweed, meadow	<i>Pilosella caespitosa</i>	N		44.4	1	x		
heal-all	<i>Prunella vulgaris</i>	U		7.1	1			x
horse-nettle	<i>Solanum carolinense var. carolinense</i>	Y		14.3	1			x
horseweed	<i>Erigeron canadensis var. canadensis</i>	Y		21.4	1			x
Indian-hemp	<i>Apocynum cannabinum</i>	Y		22.2	1	x		
Indian-tobacco	<i>Lobelia inflata</i>	Y		14.9	2		x	x
kale, broccoli, etc. (white or ye fl)	<i>Brassica oleracea (all varieties)</i>	N cult		8.3	1		x	
knapweed, brown	<i>Centaurea jacea</i>	N-I		37.5	2		x	x
knapweed, spotted	<i>Centaurea stoebe ssp. micranthos</i>	N-I		22.6	2		x	x
lady's-thumb	<i>Persicaria maculosa</i>	N		22.0	2		x	x
lettuce, prickly	<i>Lactuca serriola</i>	N		14.3	1			x
loosestrife, purple	<i>Lythrum salicaria</i>	N-I		15.5	2		x	x
mallow, common	<i>Malva neglecta</i>	N		7.7	2		x	x
marigold (all varieties)	<i>Tagetes sp. (all varieties)</i>	N cult		11.3	2		x	x
milkweed, common	<i>Asclepias syriaca</i>	Y		11.1	1	x		
mountain-mint, hoary	<i>Pycnanthemum cf. incanum</i>	Y cult	*	7.1	1			x
mustard, tower	<i>Arabis glabra</i>	Y		11.1	1	x		
mustard, tumble /tall hedge	<i>Sisymbrium altissimum/loeselii</i>	N		39.2	3	x	x	x
nepitella	<i>Calamintha nepeta</i>	N cult		8.9	3	x	x	x
nightshade, black	<i>Solanum nigrum/ptycanthum</i>	U		14.3	1			x
pepper	<i>Capsicum sp.</i>	N cult		8.9	3	x	x	x
plantain, narrow-leaved	<i>Plantago lanceolata</i>	N		19.0	3	x	x	x
potato	<i>Solanum tuberosum</i>	N cult		9.7	2	x	x	
purslane, common	<i>Portulaca oleracea</i>	N		7.1	1			x
quickweed	<i>Galinsoga sp.</i>	N		22.6	2		x	x
radish, wild	<i>Raphanus raphanistrum</i>	N		7.1	1			x
ragweed, common	<i>Ambrosia artemisiifolia</i>	Y		42.9	1			x
rose, multiflora	<i>Rosa multiflora</i>	N-I		11.1	1	x		

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			regionally rare/uncommon	avg. % of units during flowering season	# months in bloom (of 3)	June	July	Aug/Sep
sandwort, thyme-leaved	<i>Arenaria serpyllifolia</i>	N		11.1	1	x		
sorrel, common yellow wood	<i>Oxalis stricta</i>	Y		55.6	3	x	x	x
spearmint	<i>Mentha spicata ssp. spicata</i>	N		11.3	2		x	x
squash (summer)/zucchini	<i>Cucurbita pepo</i>	N cult		7.7	2		x	x
St. John's-wort, common	<i>Hypericum perforatum ssp. perforatum</i>	N		8.3	1		x	
stitchwort, common	<i>Stellaria graminea</i>	N		33.3	1	x		
strawflower, garden	<i>Xerochrysum bracteatum</i>	N cult		7.1	1			x
Susan, black-eyed	<i>Rudbeckia hirta</i>	N cult (wild)		8.3	1		x	
thistle, Canada	<i>Cirsium arvense</i>	N-l		8.9	3	x	x	x
thyme, garden	<i>Thymus vulgaris</i>	N cult		8.3	1		x	
tomato	<i>Solanum lycopersicum</i>	N cult		7.1	1			x
trefoil, bird's foot	<i>Lotus corniculatus</i>	N		29.4	3	x	x	x
tulsi	<i>Ocimum sp.</i>	N cult		8.3	1		x	
velvetleaf	<i>Abutilon theophrasti</i>	N		7.1	1			x
vetch, slender	<i>Vicia tetrasperma</i>	N		11.1	1	x		
vetch, tufted or hairy	<i>Vicia cracca/villosa</i>	N		50.8	3	x	x	x
violet, European field	<i>Viola arvensis</i>	N		7.1	1			x
watermelon	<i>Citrullus lanatus</i>	N cult		7.7	2		x	x
yarrow, common	<i>Achillea millefolium</i>	Y (cult)		8.3	1		x	
za'atar	<i>Origanum syriacum</i>	N cult		7.1	1			x