## ISU Monarch Data Summary for NCIG

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Table 1: Bee species: mean count across all surveys

| year | Bee Species | Native Status | tbyd1a | tbyd2a | tcra1a | tuth1a | tuth2a | tuth3b |
|------|-------------|---------------|--------|--------|--------|--------|--------|--------|
| 2016 | bumble      | introduced    | -      | 1      | -      | -      | 1      | -      |
| 2016 | honey       | introduced    | -      | 2      | 1      | -      | -      | -      |
| 2016 | honey       | native        | -      | -      | -      | -      | -      | 2      |
| 2016 | solitary    | introduced    | -      | 2      | 1      | -      | -      | -      |
| 2016 | solitary    | native        | -      | -      | -      | -      | -      | 2      |
| 2017 | bumble      | introduced    | -      | -      | -      | 6      | -      | -      |
| 2017 | bumble      | native        | 2      | -      | -      | 1      | -      | -      |
| 2017 | honey       | introduced    | -      | -      | 5      | -      | -      | -      |
| 2017 | solitary    | both          | -      | -      | 2      | -      | -      | -      |
| 2017 | solitary    | introduced    | -      | -      | 2      | -      | 2      | -      |
| 2017 | solitary    | native        | -      | -      | 1      | -      | -      | -      |
| 2018 | bumble      | introduced    | 3      | 4      | -      | -      | 3      | -      |
| 2018 | bumble      | native        | 13     | 5      | -      | -      | -      | 2      |
| 2018 | honey       | introduced    | 2      | 1      | 4      | -      | -      | -      |
| 2018 | honey       | native        | 4      | 10     | 8      | -      | 1      | 2      |
| 2018 | solitary    | both          | -      | 1      | -      | -      | -      | -      |
| 2018 | solitary    | introduced    | 54     | 43     | 7      | -      | 4      | 11     |
| 2018 | solitary    | native        | 5      | 9      | 6      | 8      | 49     | 13     |

Table 2: 2018 bee species: mean count across all surveys

| year | Bee Species | Nectar Plant Species  | tbyd1a | tbyd2a | tcra1a | tuth1a | tuth2a | tuth3b |
|------|-------------|-----------------------|--------|--------|--------|--------|--------|--------|
| 2018 | bumble      | field thistle         | -      | -      | _      | -      | -      | 0.20   |
| 2018 | bumble      | musk thistle          | -      | -      | -      | -      | 0.30   | -      |
| 2018 | bumble      | ox eye sunflower      | 0.10   | -      | -      | -      | -      | -      |
| 2018 | bumble      | red clover            | 0.30   | 0.40   | -      | -      | -      | -      |
| 2018 | bumble      | yellow coneflower     | 1.20   | 0.50   | -      | -      | -      | -      |
| 2018 | honey       | black eyed susan      | -      | -      | 0.80   | -      | -      | 0.30   |
| 2018 | honey       | hoary vervain         | -      | -      | -      | -      | 0.10   | -      |
| 2018 | honey       | ox eye sunflower      | 0.20   | 0.40   | -      | -      | -      | -      |
| 2018 | honey       | white clover          | 0.20   | 0.10   | 0.40   | -      | -      | -      |
| 2018 | honey       | wild parsnip          | 0.10   | -      | -      | -      | -      | -      |
| 2018 | honey       | yellow coneflower     | 0.20   | 0.60   | -      | -      | -      | 0.10   |
| 2018 | solitary    | black eyed susan      | -      | -      | 0.40   | -      | -      | 0.70   |
| 2018 | solitary    | brown eyed susan      | 0.10   | -      | -      | -      | -      | -      |
| 2018 | solitary    | buffalobur nightshade | -      | -      | -      | 0.20   | -      | -      |
| 2018 | solitary    | butterfly milkweed    | -      | -      | 0.40   | -      | -      | -      |
| 2018 | solitary    | canada thistle        | -      | -      | -      | -      | 0.10   | -      |
| 2018 | solitary    | common dandelion      | -      | 0.10   | -      | -      | -      | -      |
| 2018 | solitary    | common milkweed       | -      | -      | 0.10   | -      | -      | -      |
| 2018 | solitary    | field thistle         | -      | -      | -      | -      | -      | 0.40   |
| 2018 | solitary    | hoary vervain         | -      | -      | -      | 0.10   | 0.30   | -      |
| 2018 | solitary    | marestail             | -      | -      | 0.30   | 1.00   | 4.60   | 2.10   |
| 2018 | solitary    | marijuana             | -      | -      | -      | -      | 0.40   | -      |
| 2018 | solitary    | musk thistle          | -      | -      | -      | -      | 0.20   | 0.40   |
| 2018 | solitary    | ox eye sunflower      | 0.30   | 0.20   | -      | -      | -      | 0.10   |
| 2018 | solitary    | partridge pea         | -      | -      | -      | -      | -      | 0.10   |
| 2018 | solitary    | red clover            | 0.25   | 0.20   | 0.20   | -      | -      | -      |
| 2018 | solitary    | white clover          | 5.60   | 3.85   | 0.25   | -      | -      | 0.15   |
| 2018 | solitary    | white sweet clover    | 0.60   | -      | -      | -      | -      | -      |
| 2018 | solitary    | wild parsnip          | 1.95   | 1.95   | -      | -      | -      | 2.50   |
| 2018 | solitary    | yellow coneflower     | 0.10   | 0.70   | 0.20   | -      | -      | 0.25   |
| 2018 | solitary    | yellow sweet clover   | -      | 1.20   | -      | -      | -      |        |

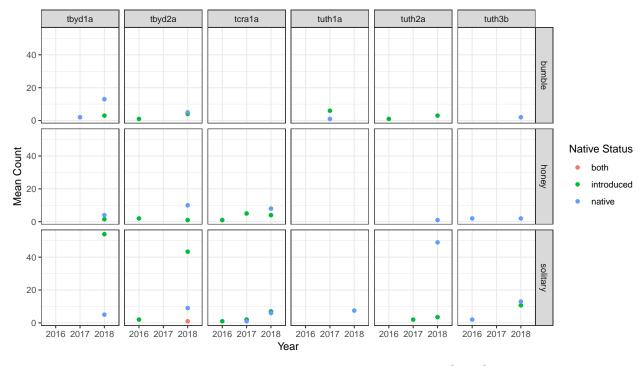


Figure 1: This is a visual representation of Table  $ef\{t:bee\}$ .

Table 3: Bee species: yearly counts across all species

| 2016 | 2017 | 2018 |  |  |
|------|------|------|--|--|
| 16   | 23   | 539  |  |  |

Table 4: Bee species: yearly counts broken down by species

| Bee Species | 2016 | 2017 | 2018 |
|-------------|------|------|------|
| bumble      | 2    | 9    | 30   |
| honey       | 8    | 5    | 35   |
| solitary    | 6    | 9    | 474  |