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DEPARTMENT OF TRANSPORTATION

Habitat Credit Program for Pollinators/Monarchs

FINAL REPORT

April 29, 2024

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16. Abstract

We examined daylight and paired non-daylight sites at 12 locations in central Pennsylvania to determine if daylighting had secondary benefits to native plants and pollinators. Daylight sites had significantly more species of native flowering forbs and shrubs than non-daylight sites. However, daylight sites also harbored significantly more species of non-native plants and noxious weeds. Pollinator assessment scores did not differ significantly between daylight and non-daylight sites. Pollinator habitat would be improved in daylight sites by controlling for non-native plants following daylight activity. In addition, pollinator habitat would be improved by considering other habitat components needed by pollinators such as wintering habitat and nesting habitat. Overall, we feel with additional management, daylighting can provide benefits to pollinators where it is implemented in Pennsylvania. In particular, these benefits were most apparent along secondary rural roads.

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INTRODUCTION

Loss of habitat and loss of habitat connectivity are two of the greatest human threats to wildlife. Transportation and utility rights-of-way (ROW) that are managed responsibly are increasingly seen as potential habitat for a wide range of plant and animal taxa, including rare and endangered species.

Pollinators in particular are thought to potentially benefit from utility ROW, as early successional habitats are important to many pollinator species, and the goal of Integrated Vegetation Management (IVM) for right-of-way (ROW) corridors is to create stable, low-growing (i.e., early successional) plant communities (Russo et al 2021). Transportation ROW, when properly managed, are also seen as targets for pollinator conservation.

One of the goals of the U.S. National Pollinator Health Strategy is to *"restore or enhance seven million acres of land for pollinators over the next five years"* (USEPA 2017). There are an estimated five to eight million acres of powerline ROW in the United States (Russell et al 2005), and according to an estimate by Ament et al (2014), state Departments of Transportation manage a total of 17 million acres of land that is suitable for carbon capture and storage via enhancing and managing roadside vegetation. Restoring or enhancing these millions of acres of utility and transportation ROW may help to achieve that seven-million-acre goal, but more importantly, may provide a potential lifeline for our pollinators.

In order to effectively manage utility and transportation corridors for pollinator conservation, it is important to first evaluate the habitat quality of those ROW. Pollinator habitat assessments are important tools for ROW managers to make informed management decisions. In turn, these assessments can generate data that benefit ecological research. Well-designed habitat assessments have the potential to help bridge the information gap between science and industry.

Our research project was initiated to assist the Commonwealth of Pennsylvania in meeting the requirements of the U.S. Fish and Wildlife Service (USFWS) policy regarding voluntary prelisting conservation actions for the Monarch butterfly. PennDOT, in turn, developed a program entitled "Adopt and Beautify" with the advisory assistance of the interagency, stakeholder PennDOT pollinator working group. This PennDOT program attempts to improve conservation for all pollinators by improving pollinator habitat on transportation ROW in the Commonwealth. As pollinator habitat is identified, protected, and/or restored, PennDOT may receive mitigation credit for USFWS Endangered Species Act consultations for PennDOT actions if pollinator species (e.g. the Monarch butterfly) become federally listed. The first task of our research program is to assist PennDOT in assessing pollinator habitat along transportation ROW by first testing and then recommending a pollinator habitat assessment tool—specifically, an assessment tool that best "*provides adequate credit verification results and can be achieved the most rapidly by individuals with limited botanical and entomological experience*."

Daylighting

Daylighting along transportation corridors improves drivers' sight lines by removing vegetation adjacent to roadways (daylighting may refer to other constructed sight-line improvements as well). The removal of vegetation along roadways not only can improve drivers' sightlines but exposes road surfaces to increased sunlight and, therefore, may reduce icing. In addition, daylighting may open up the forest canopy along roadways and thus encourage the growth of low-growing flowering vegetation. This method is seen as providing benefits to pollinators by creating early successional habitat, which is crucial for native butterflies, moths, beetles, flies, and wild bees.

Task/Objective

This report addresses Task 1 of a comprehensive research project to assess the effectiveness of creating pollinator habitat along roadways in Pennsylvania. Specifically, as noted in the original research proposal our task was as follows:

Task 1: Assess pollinator habitat and vegetation (native and non-native) vegetation at rural roadside sites where daylighting was implemented.

Task 1 had three components that were completed and are presented in this report (below):

Components of Task 1

1. Assess pollinator habitat and vegetation species richness (native and non-native) at roadside sites where daylighting was implemented, From 2022 to 2023, the Penn State team performed pollinator habitat assessments and vegetation species sampling at 10-12 different roadside sites where daylighting was implemented.

2. Compare pollinator assessments and vegetation species richness between treated (daylighting) and untreated (control) sites: The team's comparisons between treated plots and their paired control plots can be found on pages 10-97 of this report.

3. Progress Report: Upon completion of field work, a progress report describing the project's tasks/objectives, methods (including site information), and a brief summary of results (including rankings of sites by pollinator habitat scores) by month and year was provided to PennDOT twenty-two (22) months after the notice to proceed date (the current report).

Supplemental Studies for Task 1

In addition to the task 1 components listed above, the Penn State team additionally examined the noxious, plant species present at every pair of sites, for every month and year of pollinator habitat assessments. These data provided further insight into the 'quality' of habitat at those sites and how well each assessment measures that quality.

METHODS

Pollinator Habitat Assessment Tool Selection

To perform our pollinator habitat assessesments, we selected the ***Rights-of-Way as Habitat Pollinator Scorecard (ROWHWG), Tier 3 (v2.2)*** pollinator habitat assessment to evaluate 10 study sites per year for two years in central Pennsylvania. This assessment approach was tested and adopted during a previous research project funded by PennDOT (A copy of this assessment can be found in **SUPPLEMENTAL MATERIALS: Pollinator Habitat Assessment Scorecard**).

The Rights-of-Way as Habitat Working Group (ROWHWG) is a collaboration of members from academia, industry, government agencies and non-profit organizations. The ROWHWG, hosted and facilitated by the Energy Resources Center at the University of Illinois at Chicago, has a common interest in promoting the concept of managing utility and transportation corridors to conserve vital habitat and support healthy ecosystems. The mission of the ROWHWG is:

> *"to engage diverse stakeholders in a collaborative environment that promotes pollinator habitats and healthy ecosystems along rights-of-way by providing expertise, cost-effective best management practices, and industry-driven tools and resources"*[1]

The Tier 3 pollinator scorecard provides a detailed answer to the question: "what is the composition of the pollinator habitat?". Our team selected Tier 3 for our Task 1 assessment tests of daylighting's effect on creating pollinator habitat. .

The *Rights-of-Way as Habitat Pollinator Scorecard -Tier 3* ("ROWHWG") assessment is four pages long. Habitat scores are calculated on the first two pages; the remaining two pages contain sections for recording the pollinators observed, for noting the perceived threats and opportunities for the site, and for making additional observations and comments. The assessment ends with three plant species worksheets for nectar plants, milkweeds, and invasives. The ROWHWG assessment has six main scoring metrics (NOTE: points per metric are specific to version 2.2):

- Potentially Flowering Nectar Cover ____ 30 points
- Additional Habitat Resources (e.g., nesting materials) ____ 24 points
- Number of Nectar Plant Species ____ 17 points
- Number of Native Nectar Plant Species ____ 7 points
- Abundance of Milkweed ____ 13 points
- Invasive Species & Noxious Weed Cover ____ 6 points

= 97 points

The ROWHWG assessment's qualitative rankings for specified ranges of scores are:

"Improvement Opportunity"	= 0-20 points
"Basic Habitat Quality"	= 21-35 points
"Moderate Habitat Quality"	= 36-50 points
"High Habitat Quality"	= 51-75 points
"Exemplary"	= 76+ points

[1] http://rightofway.erc.uic.edu/about/

One of the many challenges of using an assessment tool ('scorecards') to evaluate pollinator habitat is determining what is acceptable or unacceptable habitat for pollinators. Because pollinators require many components in their habitat for persistence (e.g., nectar resources, nesting resources, habitat connectivity), there are many considerations for what makes a habitat suitable for pollinators. In addition, most native pollinators have a degree of ecological specialization in flower preference and, therefore, the resources that are utilized by one pollinator may be ignored or inaccessible to another (see Armbruster 2016). The assessment tool that we used in our research does not necessarily indicate when a habitat is 'unfit' for pollinators. However, the completed components of this research project—both required and supplemental—may help to better determine such thresholds, and we provide initial thoughts in our conclusions and recommendations.

Site Assessment Personnel

Three people of varying backgrounds and degrees of experience performed the three assessments at each of the ten sites. Dr. Hannah Stout ("HLCS") is a freelance entomologist whose main work is on insect diversity of utility and transportation ROW, and her experience with identifying plants is generally limited to taxa which are important to pollinators. Brad Ross ("BDR") is an ecologist and instructor at Penn State Altoona. His background is in avian diversity, and he has years of experience performing both floral and faunal surveys. Abigail Seltzer ("AWS") is an undergraduate student at Penn State University Park and is a budding ecologist.

HLCS and BDR have extensive experience with performing wild bee surveys. Although AWS does not yet have bee survey experience, she has at least a basic 'sense' of what is high- or low-quality pollinator habitat through our field work on other projects.

Site Selection

The twelve total pairs of sites that were assessed for Task 1 were selected from a subset of daylighted sites that were chosen by PennDOT and visited by PennDOT and BDR, in order to verify the locations of potential pairs of Treatment and Control plots for this study. (**Table 1**). These twelve pairs of sites were located in six different counties across central Pennsylvania **(Figs. 1, 2**).

Table 1. Task 1 Site Information. Sites 1 and 4 were assessed in 2022 only. Site 2-3 and 5-10 were assessed in 2022 and 2023. Sites 11 and 12 were assessed in 2023 only.

Site #	Site Name	Lat	Long	Route #	County	Township	Location at Lat/Long
1	Clinton - Union	41.041864	-77.129635	80	Union	Lewis	right side, eastbound
2	120 - 820	41.204620	-77.565154	120	Clinton	Grugan	right side, eastbound
3	Eagleton	41.184597	-77.554464	120	Clinton	Bald Eagle	right side, eastbound
4	170.4	41.023048	-77.567778	80	Centre	Marion	right side, westbound
5	Black Snake Road - N	40.585508	-78.513498	1014	Cambria	Dean	right side, eastbound
6	Black Snake Road - S	40.574102	-78.505433	1014	Cambria	Dean	right side, westbound
7	Reservoir	40.630477	-78.383398	865	Blair	Antis	right side, northbound
8	Bel - Tip	40.631356	-78.326323	4021	Blair	Antis	right side, northbound
9	80 - Woodland	41.005341	-78.277636	80	Clearfield	Bradford	right side, eastbound
10	322 - Pt Matilda	40.820322	-78.098908	322	Centre	Worth	left side, eastbound
11	Fox Hollow Road - N	40.830729	-77.879706	n/a	Centre	Patton	right side, heading NW
12	Fox Hollow Road - S	40.826344	-77.871506	n/a	Centre	Patton	right side, heading NW

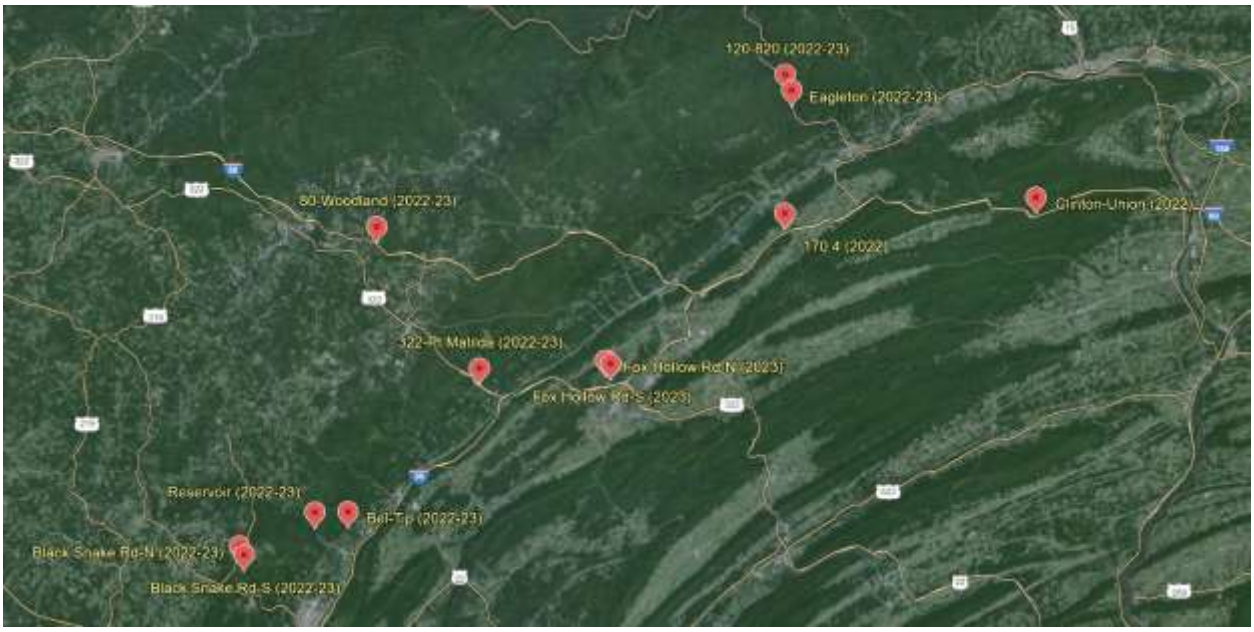

Figure 1. Task 1 Sites

Figure 2. Detailed Task 1 Site Map

Pollinator Habitat Assessment Implementation

Pre-assessment Preparation

Equipment and supplies required to conduct the pollinator habitat assessments:

- PennDOT-provided background information on the sites (e.g., maps, satellite photos)
- PennDOT-provided HI-VIS vest and hard hat
- User Guide for the ROWHWG assessment
- 480 copies of the ROWHWG Tier 3 assessment: twelve per site (10), per month (2), per year (2)
- 100m/333ft field tape measure
- Flagging
- Three clipboards
- Pens, pencils, and permanent markers

In the days before Task 1 field work began, HLCS distributed users guides for the ROWHWG assessment to BDR and AWS. The three also reviewed the methods upon arrival on the first day of field work.

Plot Delineation within Sites

The ROWHWG assessment is designed to be performed in 10' x 150' (1500 ft^2) linear or 22' radius circular plots. Upon arrival at each site for the first round of assessments, a 1500 ft^2 plot in the daylighted area of the site was measured and the corners and centers of the plot were flagged. This represented the "Treatment" (or "Tx") plot of the site. After the team completed their pollinator habitat assessments at the Tx plot, the team moved approximately 30 meters into the untreated, wooded area adjacent and running parallel to the treated area. In this untreated area, a 1500 ft^2 plot was measured and the corners and centers of the plot were flagged. This represented the "Control" (or "C") plot of the site (**Fig. 3**).

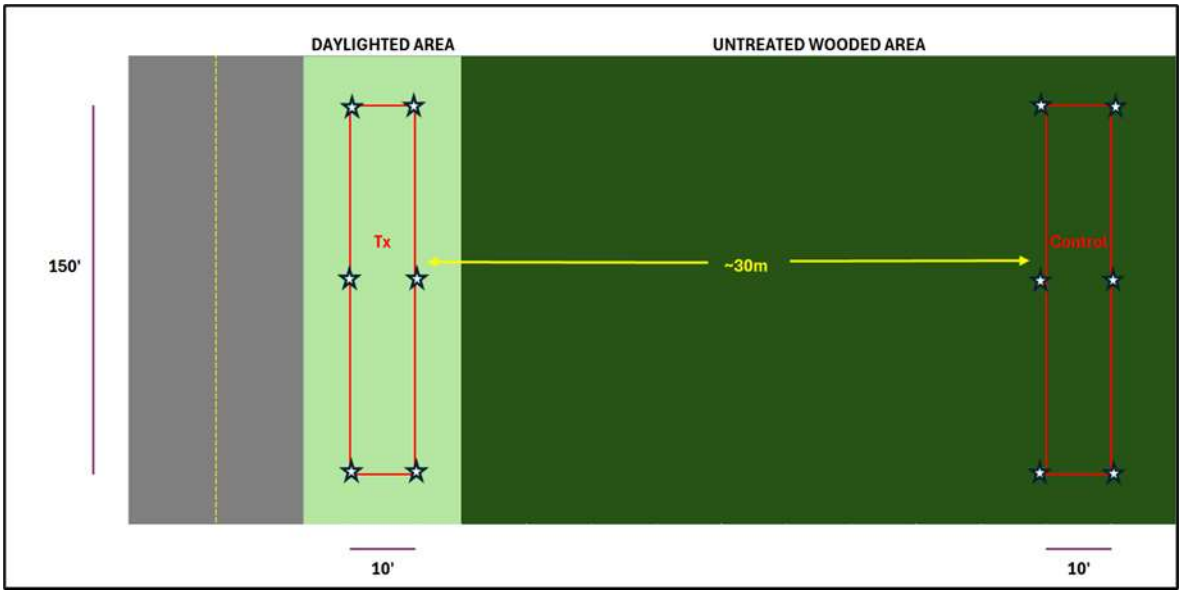

Figure 3. Diagram of Tx and Control plots at each site. Star-shaped symbols represent location of flags. Not to scale.

Site Assessments

Terms such as "scorecard user", "user", and "assessor" are interchangeable for the purposes of this report, and refer to HLCS, BDR, and AWS (and CGM in August 2023).

To begin each site assessment, the scorecard users recorded the start time on the ROWHWG pollinator habitat scorecard, then walked the length of the Tx plot to observe their characteristics (plants, woody debris, rocks, etc.). As the user walked the Tx plot, they recorded the plant species that they observed on pages 3 and 4 of the ROWHWG scorecard. Plant IDs were done from memory or via the use of a plant ID app (HLCS, BDR and AWS all used the "PictureThis" app). Plant IDs were not discussed or collectively performed among the assessors. After completing their plant lists, the users completed their remaining fields of the scorecard. When the assessment was completed, the user recorded the end time. The assessors then moved to the corresponding C plot and repeated this process. Users were asked to not attempt to distinguish between native and non-native plants, but rather simply record what species they observed. Scoring was not performed in the field. After completing the two assessments and before leaving the site, the users handed their pair of unscored assessments to HLCS.

Scoring of Assessments

For the scoring rubric of the ROWHWG assessment, see **SUPPLEMENTAL MATERIALS: Pollinator Habitat Assessment Scorecard**.

An important metric for the ROWHWG assessment is the number of native plant species within the assessed plots. HLCS used the information from the completed assessments to compile a plant list, and then checked the list against the USDA Plant Database (USDA 2024) to determine the nativity of the plants observed by the three users. For the purposes of scoring, "native" was defined according to the USDA Plant Database as simply being native to the lower 48 states.

With the list of native and non-native plants at hand, HLCS completed the scoring.

Scoring for the ROWHWG assessment is straightforward, as the scores are shown on the ROWHWG packet and no background site information is needed to calculate the scores. ROWHWG scores can be calculated 'offline' or via the Survey123 app after registering in the Rights-of-Way as Habitat Geospatial Database (http://rightofway.erc.uic.edu/geospatial-database/).

Vegetation Species Richness Sampling

To objectively quantify plant species richness and percent plant cover in our pollinator plots, we used a point intercept (PO) sampling method (Caratti 2006). This method is designed to sample within plot variation and to quantify changes in plant species cover and/or ground cover over time. This method is best suited for sampling ground cover and grasses, forbs, and shrubs less than 3' in height. This method also works well for herbaceous plant communities, fine leaved plant species, and species found in open canopies (e.g., grasslands, fields, and wet meadows). Although it can be difficult to detect rare plants with the PO method, this method is the most objective way to sample plant cover. Finally, the PO method offers quick and efficient data collection and estimates percent plant cover values with minimal bias and error.

We employed the PO method in our 10' x 150' (1500 ft^2) pollinator plot by establishing 3, 10' transects placed 25' apart and crossing the plot. We used an ocular tube to determine the plant species encountered at 1' intervals along each transect. For forbs and flowering shrubs we also documented whether the plant was blooming. We then converted plant species 'hits' to percent cover for each transect and then averaged plant species cover across all 3 transects. For example, if the ocular tube 'hits' goldenrod 2 times in a transect, then we determine that goldenrod covers 20% of that transect. Most plants were identified to species but milkweeds and goldenrods were classified by genus (*Asclepias* and *Solidago*, respectively). We sampled plants using this method corresponding to pollinator report card assessments. We also noted plant species that were incidentally found in our plot and combined this information to compile a plant presence/absence list for each plot location. Because we found no difference in vegetation species richness between years or months, we combined our yearly findings to determine if vegetation species richness differed significantly between daylight and non-daylight sites.

Noxious Plant Species Present at the Sites

In order to provide additional insight into the habitat quality of each site, the Penn State team supplemented their Task 1 work with a tabular display of the noxious plant species that were recorded at all of the sites, for both 2022 and 2023.

Noxious plant species were defined according to two sources: the Pennsylvania Department of Agriculture (PA Dept of Ag 2024) and the Pennsylvania Department of Conservation and Natural Resources (PA DCNR 2024). Using these two sources, HLCS highlighted the noxious plant species on each of the 480 scorecards, then created two sets of tables: one for the Tx plots and a second for the Control plots.

RESULTS

Pollinator Habitat Assessment Completion Time

All users were asked to record the start and finish times for each assessment. This was optional and had no effect on the habitat scores. For all users, the amount of time that it took to complete the ROWHWG Tier 3 v2.2 pollinator habitat assessment varied, from a minimum of eight minutes, to a maximum of 48 minutes. The overall mean completion time was 18.96 minutes (N = 176). For each user, the mean completion times were: 19.40 minutes (HLCS, n = 77), 18.86 minutes (BDR, n = 77), and 17.77 minutes (AWS, n = 22).

Pollinator Habitat Assessment Site Scores

Because there were three different assessors of varying backgrounds and experience, there were three different observations, and scores for the same site tended to differ among users. Therefore, this section will present the metrics values recorded by all three users as ranges where applicable.

For the "scores and scoring details" Figures (**Figs. 4 - 70**), numbers in **red** denote the lowest scoring value for that assessment period and user. For example, for all Tx plots in July 2022 (**Fig. 4**), **Clinton - Union**

had the lowest # of Pollinator Habitat Resources according to HLCS. Numbers in **green** denote the highest scoring value for that assessment period and user (e.g. for all Tx plots in July 2022 (**Fig. 4**), **Clinton - Union** had the lowest % Invasive Plant Species Cover according to HLCS).

When statistically compared, there was no difference in pollinator habitat assessment scores between daylight (Tx) and non-daylight (Control) sites (paired t-tests; t = 0.644, p = 0.26).

Site 1 – "Clinton - Union"

July 2022

(For July 2022 scores and scoring details for **Clinton - Union**, see **Fig. 4**)

Tx

- *Scores*: 23 to 28 ("Basic")
- *Nectar plant taxa*: 11 to 13
- *Native nectar plant taxa*: 4 to 6
- *% Native nectar taxa*: 33.3% to 46.2%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 1 to 3
- *Noxious plant species*: 1
- *% Noxious plant species*: 7.7% to 9.1%
- *% Invasive plant cover*: 1-5% to 6-10%

Control

- *Scores*: 37 to 60 ("Moderate" to "High")
- *Nectar plant taxa*: 14 to 24
- *Native nectar plant taxa*: 11 to 17
- *% Native nectar taxa*: 70.8% to 78.6%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 1 to 6
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 1-5% to 6-10%

Clinton - Union (July 2022)

HLCS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	28	12	4	33.3%	0	3	1	8.3%	6-10%
Control	51	14	11	78.6%	0	6	0	0.0%	6-10%

BDR

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	28	13	6	46.2%	0	1	1	7.7%	1-5%
Control	60	24	17	70.8%	0	3	0	0.0%	1-5%

AWS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	23	11	4	36.4%	0	1	1	9.1%	1-5%
Control	37	18	14	77.8%	0	1	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 4. July 2022 scores and scoring details for Site 1 "Clinton - Union".

August 2022

(For August 2022 scores and scoring details for **Clinton - Union**, see **Fig. 5**)

Tx

- *Scores*: 22 to 47 ("Basic" to "Moderate")
- *Nectar plant taxa*: 13 to 19
- *Native nectar plant taxa*: 4 to 7
- *% Native nectar taxa*: 28.6% to 46.2%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 1 to 2
- *Noxious plant species*: 0 to 2
- *% Noxious plant species*: 0% to 10.5%
- *% Invasive plant cover*: 1-5% to 6-10%

Control

- *Scores*: 57 to 72 ("High")
- *Nectar plant taxa*: 18 to 25
- *Native nectar plant taxa*: 14 to 24
- *% Native nectar taxa*: 73.7% to 96%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 0% to 1-5%

Clinton - Union (August 2022)

HLCS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	22	14	4	28.6%	0	2	1	6.7%	6-10%
Control	72	25	24	96.0%	0	6	0	0.0%	0%

BDR

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	47	19	7	36.8%	0	1	2	10.5%	6-10%
Control	58	19	14	73.7%	0	4	0	0.0%	1-5%

AWS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	33	13	6	46.2%	0	2	0	0.0%	1-5%
Control	57	18	16	88.9%	0	3	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 5. August 2022 scores and scoring details for Site 1 "Clinton - Union".

July + August 2022

(For July + August 2022 mean scores for **Clinton - Union**, see **Fig. 6**)

Tx

- *Mean by Assessor*: 22.5% to 35.5% ("Basic")
- *Mean for July 2022 (all)*: 25 ("Basic")
- *Mean for August 2022 (all)*: 31.3 ("Basic")
- *Total mean for 2022*: 28.2 ("Basic")

Control

- *Mean by Assessor*: 47 to 61.5 ("Moderate" to "High")
- *Mean for July 2022 (all)*: 49.3 ("Moderate")
- *Mean for August 2022 (all)*: 62.3 ("High")
- *Total mean for 2022*: 55.8 ("High")

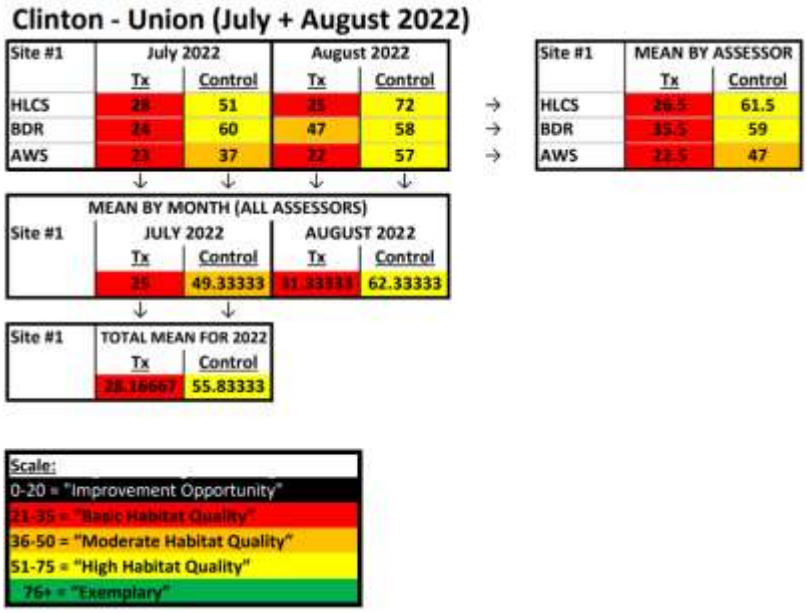

Figure 6. 2022 mean scores for Site 1 "Clinton - Union". Site 1 was assessed in 2022 only.

Site 2 – "120 - 820"

July 2022

(For July 2022 scores and scoring details for **120 - 820**, see **Fig. 7**)

Tx

- *Scores*: 43 to 48 ("Moderate")
- *Nectar plant taxa*: 12 to 25
- *Native nectar plant taxa*: 4 to 13
- *% Native nectar taxa*: 33.3% to 68.4%
- *Milkweed stems*: 6 to 10
- *Pollinator habitat resources*: 2 to 3
- *Noxious plant species*: 3 to 5
- *% Noxious plant species*: 19.2% to 25%
- *% Invasive plant cover*: 51-75%

Control

- *Scores*: 37.5 to 55 ("Moderate" to "High")
- *Nectar plant taxa*: 11 to 19
- *Native nectar plant taxa*: 10 to 18
- *% Native nectar taxa*: 89.5% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 4
- *Noxious plant species*: 0 to 1
- *% Noxious plant species*: 0% to 5.3%
- *% Invasive plant cover*: 1-5% to 51-100%

120 - 820 (July 2022)

HLCS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	43	12	4	33.3%	8	3	3	23.1%	51-75%
Control	39	11	10	90.9%	0	4	0	0.0%	1-5%

BDR

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	48	25	11	44.0%	8	3	5	19.2%	51-75%
Control	55	19	17	89.5%	0	3	1	5.3%	11-25%

AWS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	48	19	13	68.4%	6-10	2	5	25.0%	51-75%
Control	37.5	18	18	100.0%	0	2	0	0.0%	51-100%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 7. July 2022 scores and scoring details for Site 2 "120 - 820".

August 2022

(For August 2022 scores and scoring details for **120 - 820**, see **Fig. 8**)

Tx

- *Scores*: 41 to 62 ("Moderate" to "High")
- *Nectar plant taxa*: 18 to 22
- *Native nectar plant taxa*: 11 to 12
- *% Native nectar taxa*: 50% to 66.7%
- *Milkweed stems*: 2 to 6
- *Pollinator habitat resources*: 3 to 4
- *Noxious plant species*: 4 to 6
- *% Noxious plant species*: 21.1% to 26.1%
- *% Invasive plant cover*: 6-10% to 76-100%

Control

- *Scores*: 42 – 61 ("Moderate" to "High")
- *Nectar plant taxa*: 13 to 17
- *Native nectar plant taxa*: 12 to 15
- *% Native nectar taxa*: 80% to 92.3%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 7
- *Noxious plant species*: 1 to 3
- *% Noxious plant species*: 5.9% to 20%
- *% Invasive plant cover*: 1-5% to 51-75%

120 - 820 (August 2022)

HLCS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	41	18	12	66.7%	6	4	4	21.1%	76-100%
Control	61	13	12	92.3%	0	7	1	7.7%	1-5%

BDR

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	62	22	11	50.0%	2-5	4	5	21.7%	51-75%
Control	56	17	15	88.2%	0	4	1	5.9%	11-25%

AWS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	50	22	11	50.0%	4	3	6	26.1%	6-10%
Control	42	15	12	80.0%	0	4	3	20.0%	51-75%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 8. August 2022 scores and scoring details for Site 2 "120 - 820".

July + August 2022

(For July + August 2022 mean scores for **120 - 820**, see **Fig. 9**)

Tx

- *Mean by Assessor*: 42 to 55 ("Moderate" to "High")
- *Mean for July 2022 (all)*: 46.3 ("Moderate")
- *Mean for August 2022 (all)*: 51 ("High")
- *Total mean for 2022*: 48.7 ("Moderate")

Control

- *Mean by Assessor*: 39.8 to 55.5 ("Moderate" to "High")
- *Mean for July 2022 (all)*: 43.8 ("Moderate")
- *Mean for August 2022 (all)*: 53 ("High")
- *Total mean for 2022*: 48.4 ("Moderate")

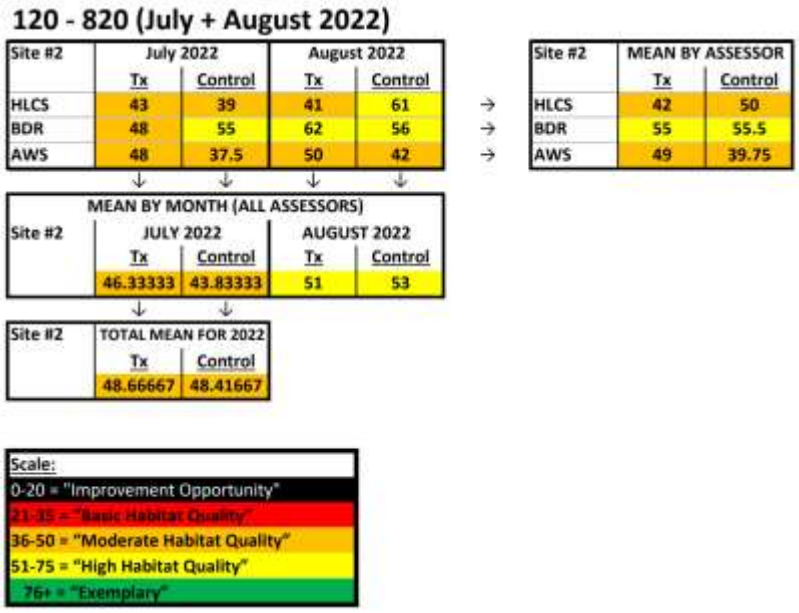

Figure 9. 2022 mean scores for Site 2 "120 - 820". Site 2 was assessed in 2022 and 2023.

July 2023

(For July 2023 scores and scoring details for **120 - 820**, see **Fig. 10**)

Tx

- *Scores*: 27 to 43 ("Basic" to "Moderate")
- *Nectar plant taxa*: 14 to 19
- *Native nectar plant taxa*: 8 to 11
- *% Native nectar taxa*: 53.3% to 64.3%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 5
- *Noxious plant species*: 4
- *% Noxious plant species*: 20% to 26.7%
- *% Invasive plant cover*: 51-75% to 76-100%

Control

- *Scores*: 23 – 67 ("Basic" to "High")
- *Nectar plant taxa*: 9 to 15
- *Native nectar plant taxa*: 9 to 14
- *% Native nectar taxa*: 86.7% to 100%
- *Milkweed stems*: 0 to 3
- *Pollinator habitat resources*: 4 to 7
- *Noxious plant species*: 0 to 1
- *% Noxious plant species*: 0% to 6.7%
- *% Invasive plant cover*: 1-5% to 26-50%

120 - 820 (July 2023)

HLCS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	43	14	9	64.3%	0	5	4	26.7%	76-100%
Control	67	15	14	93.3%	0	7	1	6.7%	1-5%

BDR

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	43	15	8	53.3%	0	3	4	25.0%	76-100%
Control	59	15	13	86.7%	3	5	1	6.7%	6-10%

AWS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	37	19	11	57.9%	0	3	4	20.0%	51-75%
Control	33	9	9	100.0%	0	4	0	0.0%	26-50%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 10. July 2023 scores and scoring details for Site 2 "120 - 820".

August 2023

(For August 2023 scores and scoring details for **120 - 820**, see **Fig. 11**)

Tx

- *Scores*: 23 – 50 ("Basic" to "Moderate")
- *Nectar plant taxa*: 18 to 23
- *Native nectar plant taxa*: 12 to 13
- *% Native nectar taxa*: 56.5% to 66.7%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 1 to 2
- *Noxious plant species*: 3 to 4
- *% Noxious plant species*: 12.5% to 17.4%
- *% Invasive plant cover*: 76-100%

Control

- *Scores*: 32 – 66 ("Basic" to "High")
- *Nectar plant taxa*: 11 to 17
- *Native nectar plant taxa*: 11 to 16
- *% Native nectar taxa*: 94.1% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 5 to 7
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 6-10% to 26-50%

120 - 820 (August 2023)

HLCS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	35	18	12	66.7%	0	2	3	15.8%	76-100%
Control	66	11	11	100.0%	0	7	0	0.0%	6-10%

BDR

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	50	23	13	56.5%	0	2	3	12.5%	76-100%
Control	54	17	16	94.1%	0	5	0	0.0%	26-50%

AWS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	46	22	13	59.1%	0	1	4	17.4%	76-100%
Control	82	14	14	100.0%	0	6	0	0.0%	26-50%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 11. August 2023 scores and scoring details for Site 2 "120 - 820".

July + August 2023

(For July + August 2023 mean scores for **120 - 820**, see **Fig. 12**)

Tx

- *Mean by Assessor*: 25 to 46.5 ("Basic" to "Moderate")
- *Mean for July 2023 (all)*: 37.7 ("Moderate")
- *Mean for August 2023 (all)*: 36 ("Moderate")
- *Total mean for 2023*: 36.8 ("Moderate")

Control

- *Mean by Assessor*: 27.5 to 66.5 ("Basic" to "High")
- *Mean for July 2023 (all)*: 49.7 ("Moderate")
- *Mean for August 2023 (all)*: 50.7 ("Moderate")
- *Total mean for 2023*: 50.2 ("Moderate")

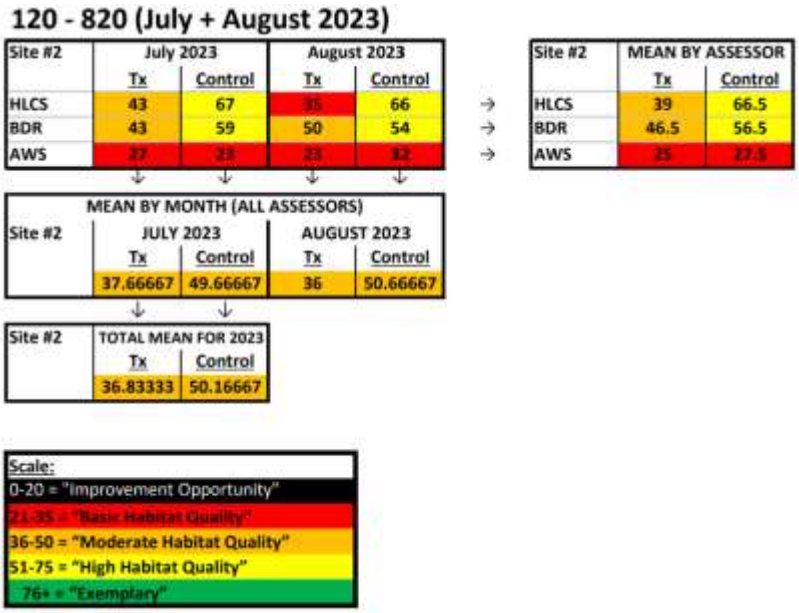

Figure 12. 2023 mean scores for Site 2 "120 - 820". Site 2 was assessed in 2022 and 2023.

2022 + 2023

(For July + August 2022 + 2023 mean scores for **120 - 820**, see **Fig. 13**)

Tx

- *Mean by Assessor*: 37 to 50.8 ("Moderate")
- *Mean for July 2022 + 2023 (all)*: 42 ("Moderate")
- *Mean for August 2022 + 2023 (all)*: 43.5 ("Moderate")
- *Total mean for 2022 + 2023*: 42.8 ("Moderate")

Control

- *Mean by Assessor*: 33.6 to 58.3 ("Basic" to "High")
- *Mean for July 2022 + 2023 (all)*: 46.8 ("Moderate")
- *Mean for August 2022 + 2023 (all)*: 51.8 ("High")
- *Total mean for 2022 + 2023*: 49.3 ("Moderate")

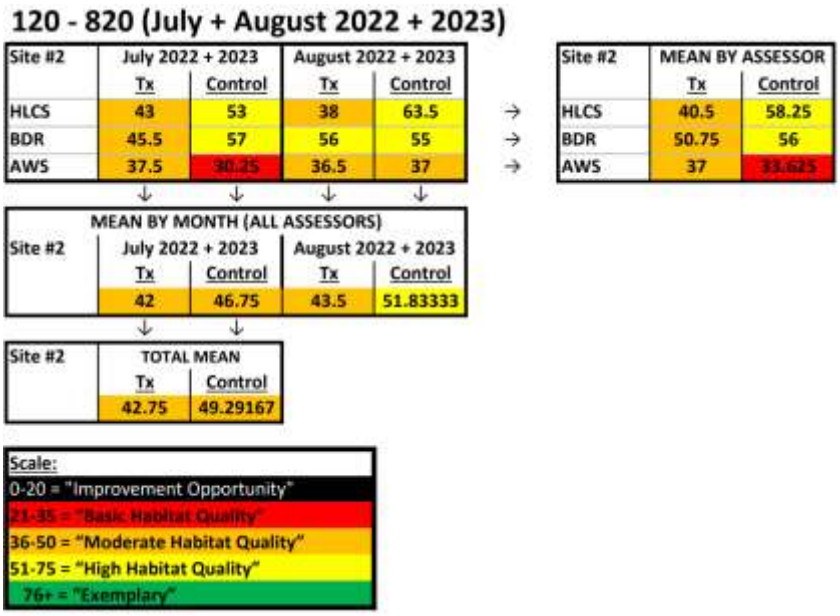

Figure 13. 2022 + 2023 mean scores for Site 2 "120 - 820".

Site 3 – "Eagleton"

July 2022

(For July 2022 scores and scoring details for **Eagleton**, see **Fig. 14**)

Tx

- *Scores*: 28 to 45 ("Basic" to "Moderate")
- *Nectar plant taxa*: 19 to 26
- *Native nectar plant taxa*: 9 to 17
- *% Native nectar taxa*: 47.4% to 72.7%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 4
- *Noxious plant species*: 1 to 3
- *% Noxious plant species*: 5.3% to 11.5%
- *% Invasive plant cover*: 1-5% to 11-25%

Control

- *Scores*: 35 to 49 ("Basic" to "Moderate")
- *Nectar plant taxa*: 7 to 12
- *Native nectar plant taxa*: 4 to 11
- *% Native nectar taxa*: 57.1% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 4
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 0% to 76-100%

Eagleton (July 2022)

HLCS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	39	19	9	47.4%	0	3	1	5.3%	11-25%
Control	49	7	4	57.1%	0	4	0	0.0%	0%

BDR

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	44	26	17	65.4%	0	4	3	11.5%	6-10%
Control	44	12	11	91.7%	0	3	0	0.0%	76-100%

AWS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	45	22	16	72.7%	0	2	2	9.1%	1-5%
Control	35	11	11	100.0%	0	2	0	0.0%	76-100%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 14. July 2022 scores and scoring details for Site 3 "Eagleton".

August 2022

(For August 2022 scores and scoring details for **Eagleton**, see **Fig. 15**)

Tx

- *Scores*: 45 to 64 ("Moderate" to "High")
- *Nectar plant taxa*: 29 to 35
- *Native nectar plant taxa*: 22 to 30
- *% Native nectar taxa*: 68.8% to 89.7%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 8
- *Noxious plant species*: 3
- *% Noxious plant species*: 8.6% to 10.3%
- *% Invasive plant cover*: N/A to 6-10%

Control

- *Scores*: 37 to 58 ("Moderate" to "High")
- *Nectar plant taxa*: 18 to 21
- *Native nectar plant taxa*: 17 to 20
- *% Native nectar taxa*: 89.5% to 95.2%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 7
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: N/A to 76-100%

Eagleton (August 2022)

HLCS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	64	29	26	89.7%	0	8	3	10.3%	6-10%
Control	58	18	17	94.4%	0	7	0	0.0%	n/a

BDR

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	55	32	22	68.8%	0	3	3	9.4%	6-10%
Control	52	19	17	89.5%	0	3	0	0.0%	76-100%

AWS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	45	35	30	85.7%	0	3	3	8.6%	n/a
Control	37	21	20	95.2%	0	3	0	0.0%	76-100%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 15. August 2022 scores and scoring details for Site 3 "Eagleton".

July + August 2022

(For July + August 2022 mean scores for **Eagleton**, see **Fig. 16**)

Tx

- *Mean by Assessor*: 45 to 49.5 ("Moderate")
- *Mean for July 2022 (all)*: 39 ("Moderate")
- *Mean for August 2022 (all)*: 54.7 ("High")
- *Total mean for 2022*: 46.8 ("Moderate")

Control

- *Mean by Assessor*: 36 to 53.5 ("Moderate" to "High")
- *Mean for July 2022 (all)*: 42.7 ("Moderate")
- *Mean for August 2022 (all)*: 49 ("Moderate")
- *Total mean for 2022*: 45.8 ("Moderate")

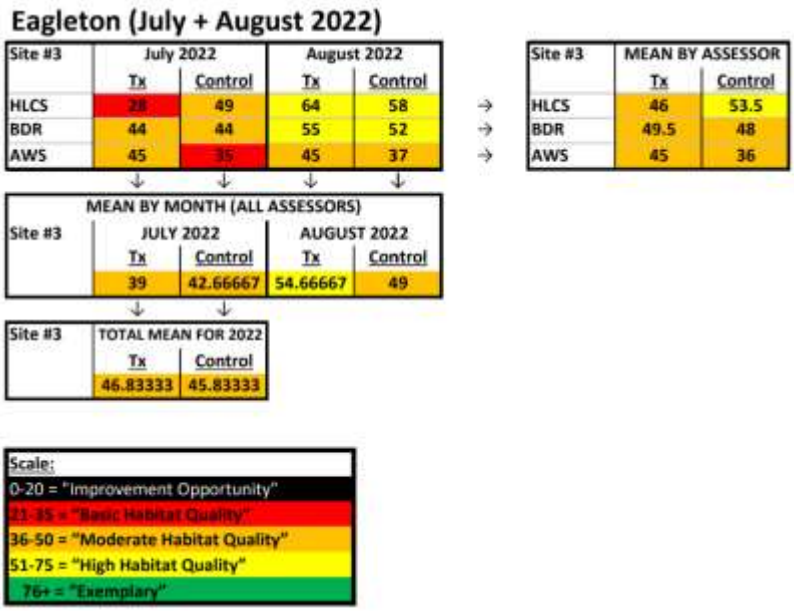

Figure 16. 2022 mean scores for Site 3 "Eagleton". Site 3 was assessed in 2022 and 2023.

July 2023

(For July 2023 scores and scoring details for **Eagleton**, see **Fig. 17**)

Tx

- *Scores*: 50 to 66 ("Moderate" to "High")
- *Nectar plant taxa*: 36 to 48
- *Native nectar plant taxa*: 24 to 31
- *% Native nectar taxa*: 60.4% to 77.5%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 5
- *Noxious plant species*: 4 to 5
- *% Noxious plant species*: 9.8% to 13.5%
- *% Invasive plant cover*: 11-25% to 26-50%

Control

- *Scores*: 21 to 64 ("Basic" to "High")
- *Nectar plant taxa*: 12 to 16
- *Native nectar plant taxa*: 12 to 15
- *% Native nectar taxa*: 93.8% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 0 to 1
- *% Noxious plant species*: 0% to 5.9%
- *% Invasive plant cover*: 1-5% to 76-100%

Eagleton (July 2023)

HLCS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	66	40	31	77.5%	0	5	4	9.8%	11-25%
Control	64	12	12	100.0%	0	6	0	0.0%	1-5%

BDR

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	63	48	29	60.4%	0	4	5	10.2%	11-25%
Control	18	16	15	93.8%	0	5	1	5.9%	76-100%

AWS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	50	36	24	66.7%	0	4	5	13.5%	26-50%
Control	18	15	15	100.0%	0	3	0	0.0%	76-100%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 17. July 2023 scores and scoring details for Site 3 "Eagleton".

August 2023

(For August 2023 scores and scoring details for **Eagleton**, see **Fig. 18**)

Tx

- *Scores*: 43 – 63 ("Moderate" to "High")
- *Nectar plant taxa*: 35 to 47
- *Native nectar plant taxa*: 25 to 28
- *% Native nectar taxa*: 59.6% to 71.4%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 6
- *Noxious plant species*: 4 to 6
- *% Noxious plant species*: 10.4% to 15%
- *% Invasive plant cover*: 6-10% to 51-75%

Control

- *Scores*: 23 to 72 ("Basic" to "High")
- *Nectar plant taxa*: 17 to 20
- *Native nectar plant taxa*: 17 to 20
- *% Native nectar taxa*: 94.4% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 8
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 1-5% to 76-100%

Eagleton (August 2023)

HLCS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	63	35	25	71.4%	0	6	4	11.1%	11-25%
Control	72	17	17	100.0%	0	8	0	0.0%	1-5%

BDR

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	61	47	28	59.6%	0	2	5	10.4%	51-75%
Control	49	18	17	94.4%	0	4	0	0.0%	76-100%

AWS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	43	39	27	69.2%	0	3	6	15.0%	6-10%
Control	31	20	20	100.0%	0	3	0	0.0%	76-100%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 18. August 2023 scores and scoring details for Site 3 "Eagleton".

July + August 2023

(For July + August 2023 mean scores for **Eagleton**, see **Fig. 19**)

Tx

- *Mean by Assessor*: 46.5 to 64.5 ("Moderate" to "High")
- *Mean for July 2023 (all)*: 59.7 ("High")
- *Mean for August 2023 (all)*: 55.7 ("High")
- *Total mean for 2023*: 57.7 ("High")

Control

- *Mean by Assessor*: 22 to 68 ("Basic" to "High")
- *Mean for July 2023 (all)*: 38 ("Moderate")
- *Mean for August 2023 (all)*: 48 ("Moderate")
- *Total mean for 2023*: 43 ("Moderate")

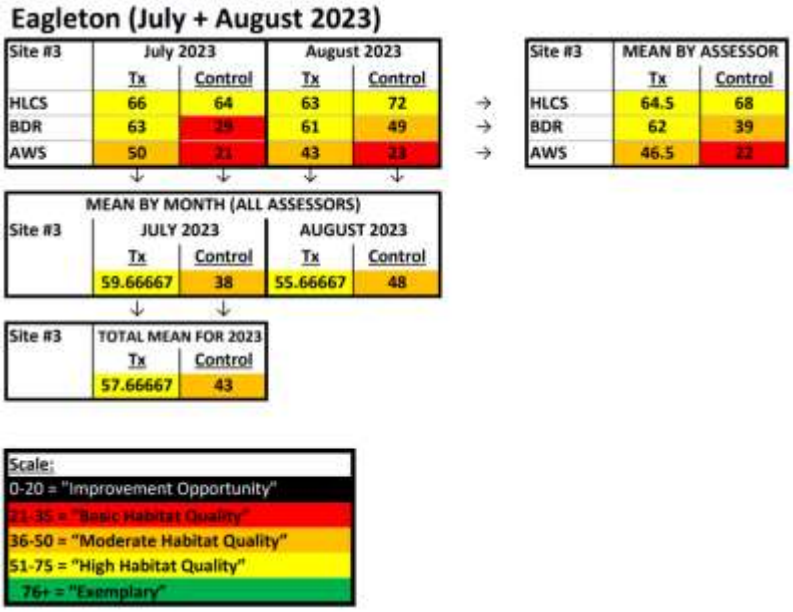

Figure 19. 2023 mean scores for Site 3 "Eagleton". Site 3 was assessed in 2022 and 2023.

2022 + 2023

(For July + August 2022 + 2023 mean scores for **Eagleton**, see **Fig. 20**)

Tx

- *Mean by Assessor*: 45.8 to 55.8 ("Moderate" to "High")
- *Mean for July 2022 + 2023 (all)*: 49.3 ("Moderate")
- *Mean for August 2022 + 2023 (all)*: 55.2 ("High")
- *Total mean for 2022 + 2023*: 52.3 ("High")

Control

- *Mean by Assessor*: 29 to 60.8 ("Basic" to "High")
- *Mean for July 2022 + 2023 (all)*: 40.3 ("Moderate")
- *Mean for August 2022 +2023 (all)*: 48.5 ("Moderate")
- *Total mean for 2022 + 2023*: 44.4 ("Moderate")

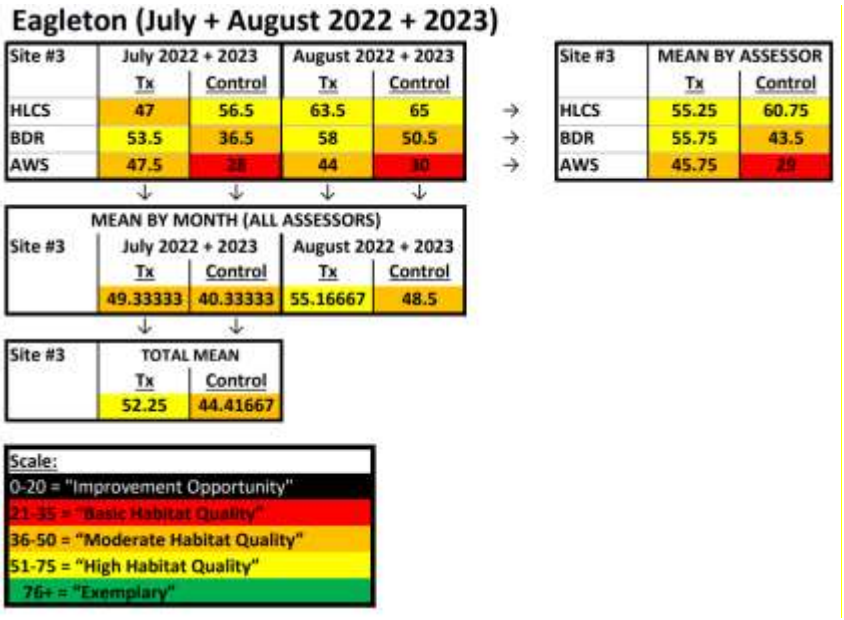

Figure 20. 2022 + 2023 mean scores for Site 3 "Eagleton"..

Site 4 – "170.4"

July 2022

(For July 2022 scores and scoring details for **170.4**, see **Fig. 21**)

Tx

- *Scores*: 24 to 31 ("Basic")
- *Nectar plant taxa*: 12 to 20
- *Native nectar plant taxa*: 2 to 6
- *% Native nectar taxa*: 16.7% to 30%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 3
- *Noxious plant species*: 2 to 5
- *% Noxious plant species*: 16.7% to 41.7%
- *% Invasive plant cover*: 1-5% to 76-100%

Control

- *Scores*: 35 to 63 ("Moderate" to "High")
- *Nectar plant taxa*: 20 to 39
- *Native nectar plant taxa*: 9 to 31
- *% Native nectar taxa*: 45% to 79.5%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 5
- *Noxious plant species*: 2 to 4
- *% Noxious plant species*: 10% to 15.4%
- *% Invasive plant cover*: 6-10% to 11-25%

170.4 (July 2022)

HLCS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	38	12	2	16.7%	0	3	2	16.7%	76-100%
Control	48	20	9	45.0%	0	5	2	10.0%	6-10%

BDR

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	31	20	6	30.0%	0	2	5	25.0%	11-25%
Control	63	39	31	79.5%	0	2	4	10.3%	11-25%

AWS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	38	12	2	16.7%	0	2	5	41.7%	1-5%
Control	55	26	17	65.4%	0	2	4	15.4%	11-25%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 21. July 2022 scores and scoring details for Site 4 "170.4".

August 2022

(For August 2022 scores and scoring details for **170.4**, see **Fig. 22**)

Tx

- *Scores*: 13 – 48 ("Improvement" to "Moderate")
- *Nectar plant taxa*: 15 to 22
- *Native nectar plant taxa*: 2 to 11
- *% Native nectar taxa*: 13.3% to 50%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 1 to 4
- *Noxious plant species*: 4 to 5
- *% Noxious plant species*: 22.7% to 26.7%
- *% Invasive plant cover*: 11-25% to 76-100%

Control

- *Scores*: 41 to 67 ("Moderate" to "High")
- *Nectar plant taxa*: 18 to 37
- *Native nectar plant taxa*: 15 to 28
- *% Native nectar taxa*: 75.7% to 84%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 5
- *Noxious plant species*: 2 to 3
- *% Noxious plant species*: 8% to 16.7%
- *% Invasive plant cover*: 6-10% to 51-75%

170.4 (August 2022)

HLCS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	40	22	11	50.0%	0	4	5	22.7%	26-50%
Control	54	18	15	83.3%	0	5	3	16.7%	6-10%

BDR

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	48	17	5	29.4%	0	2	4	23.5%	11-25%
Control	67	37	28	75.7%	0	3	3	8.1%	6-10%

AWS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	13	15	2	13.3%	0	1	4	26.7%	76-100%
Control	41	25	21	84.0%	0	2	2	8.0%	51-75%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 22. August 2022 scores and scoring details for Site 4 "170.4".

July + August 2022

(For July + August 2022 mean scores for 170.4, see **Fig. 23**)

Tx

- *Mean by Assessor*: 19.5 to 39.5 ("Improvement" to "Moderate")
- *Mean for July 2022 (all)*: 27 ("Basic")
- *Mean for August 2022 (all)*: 33.7 ("Basic")
- *Total mean for 2022*: 30.3 ("Basic")

Control

- *Mean by Assessor*: 44.5 to 65 ("Moderate" to "High")
- *Mean for July 2022 (all)*: 51 ("High")
- *Mean for August 2022 (all)*: 54 ("High")
- *Total mean for 2022*: 52.5 ("High")

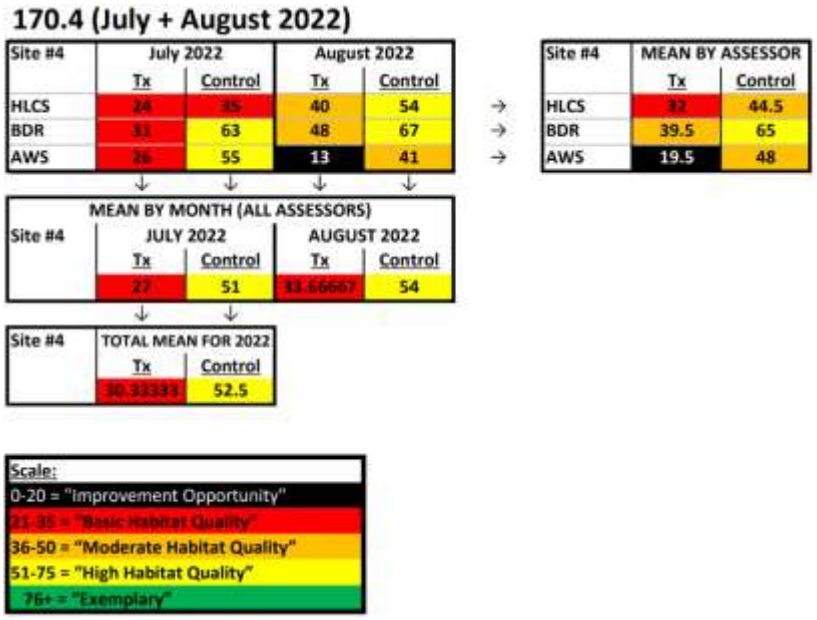

Figure 23. 2022 mean scores for Site 4 "170.4". Site 4 was assessed in 2022 only.

Site 5 – "Black Snake Road - N"

July 2022

(For July 2022 scores and scoring details for **Black Snake Road - N**, see **Fig. 24**)

Tx

- *Scores*: 53 to 58 ("High")
- *Nectar plant taxa*: 31 to 45
- *Native nectar plant taxa*: 11 to 26
- *% Native nectar taxa*: 35.5% to 57.8%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 7
- *Noxious plant species*: 4 to 5
- *% Noxious plant species*: 10.9% to 12.5%
- *% Invasive plant cover*: 6-10% to 26.50%

Control

- *Scores*: 40 to 65 ("Moderate" to "High")
- *Nectar plant taxa*: 14 to 37
- *Native nectar plant taxa*: 13 to 25
- *% Native nectar taxa*: 60.9% to 92.9%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 0 to 3
- *% Noxious plant species*: 0% to 8.1%
- *% Invasive plant cover*: 6-10% to 26.50%

Black Snake Road - N (July 2022)

HLCS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	55	31	11	35.5%	0	7	4	12.5%	26-50%
Control	54	23	14	60.9%	0	6	0	0.0%	6-10%

BDR

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	58	40	19	47.5%	0	3	5	12.2%	11-25%
Control	65	37	25	67.6%	0	3	3	8.1%	26-50%

AWS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	58	45	26	57.8%	0	4	5	10.9%	6-10%
Control	40	14	13	92.9%	0	3	1	7.1%	26-50%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 24. July 2022 scores and scoring details for Site 5 "Black Snake Road - N".

August 2022

(For August 2022 scores and scoring details for **Black Snake Road - N**, see **Fig. 25**)

Tx

- *Scores*: 66 to 71 ("High")
- *Nectar plant taxa*: 42 to 47
- *Native nectar plant taxa*: 21 to 33
- *% Native nectar taxa*: 50% to 73.3%
- *Milkweed stems*: 1 to 4
- *Pollinator habitat resources*: 4 to 6
- *Noxious plant species*: 4 to 6
- *% Noxious plant species*: 9.3% to 12.5%
- *% Invasive plant cover*: 11-25% to 51-75%

Control

- *Scores*: 57 to 71 ("High")
- *Nectar plant taxa*: 22 to 32
- *Native nectar plant taxa*: 21 to 28
- *% Native nectar taxa*: 81.3% to 96.6%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 6
- *Noxious plant species*: 0 to 2
- *% Noxious plant species*: 0% to 6.3%
- *% Invasive plant cover*: 1-5% to 11-25%

Black Snake Road - N (August 2022)

HLCS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	66	45	33	73.3%	3	6	5	10.9%	51-75%
Control	71	29	28	96.6%	0	6	1	3.4%	1-5%

BDR

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	71	42	21	50.0%	1	4	4	9.3%	26-50%
Control	60	32	26	81.3%	0	3	2	6.3%	11-25%

AWS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	68	47	28	59.6%	4	4	6	12.5%	11-25%
Control	57	22	21	95.5%	0	2	0	0.0%	11-25%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 25. August 2022 scores and scoring details for Site 5 "Black Snake Road - N".

July + August 2022

(For July + August 2022 mean scores for **Black Snake Road - N**, see **Fig. 26**)

Tx

- *Mean by Assessor*: 60.5 to 64.5 ("High")
- *Mean for July 2022 (all)*: 57 ("High")
- *Mean for August 2022 (all)*: 68.3 ("High")
- *Total mean for 2022*: 62.7 ("High")

Control

- *Mean by Assessor*: 48.5 to 62.5 ("Moderate" to "High")
- *Mean for July 2022 (all)*: 53 ("High")
- *Mean for August 2022 (all)*: 62.7 ("High")
- *Total mean for 2022*: 57.8 ("High")

Figure 26. 2022 mean scores for Site 5 "Black Snake Road - N". Site 5 was assessed in 2022 and 2023.

July 2023

(For July 2023 scores and scoring details for **Black Snake Road - N**, see **Fig. 27**)

Tx

- *Scores*: 60 to 67 ("High")
- *Nectar plant taxa*: 43 to 49
- *Native nectar plant taxa*: 26 to 30
- *% Native nectar taxa*: 55.1% to 65.2%
- *Milkweed stems*: 1 to 5
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 5 to 6
- *% Noxious plant species*: 11.4% to 12.8%
- *% Invasive plant cover*: 6-10% to 26-50%

Control

- *Scores*: 33 to 70 ("Basic" to "High")
- *Nectar plant taxa*: 24 to 38
- *Native nectar plant taxa*: 20 to 27
- *% Native nectar taxa*: 71.1% to 86.2%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 1 to 3
- *% Noxious plant species*: 4.2% to 7.9%
- *% Invasive plant cover*: 6-10% to 26-50%

Black Snake Road - N (July 2023)

HLCS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	67	43	26	60.5%	1	6	5	11.4%	6-10%
Control	70	29	25	86.2%	0	6	2	6.9%	6-10%

BDR

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	64	49	27	55.1%	2-5	3	6	12.0%	26-50%
Control	59	38	27	71.1%	0	3	3	7.9%	26-50%

AWS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	60	46	30	65.2%	1	4	6	12.8%	11-25%
Control	33	24	20	83.3%	0	4	1	4.2%	6-10%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 27. July 2023 scores and scoring details for Site 5 "Black Snake Road - N".

August 2023

(For August 2023 scores and scoring details for **Black Snake Road - N**, see **Fig. 28**)

Tx

- *Scores*: 55 to 67 ("High")
- *Nectar plant taxa*: 34 to 49
- *Native nectar plant taxa*: 11 to 33
- *% Native nectar taxa*: 32.4% to 75%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 7
- *Noxious plant species*: 4 to 7
- *% Noxious plant species*: 9.1 to 14.3%
- *% Invasive plant cover*: 26-50% to 51-75%

Control

- *Scores*: 39 to 74 ("Moderate" to "High")
- *Nectar plant taxa*: 19 to 25
- *Native nectar plant taxa*: 13 to 23
- *% Native nectar taxa*: 68.4% to 92%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 7
- *Noxious plant species*: 1 to 2
- *% Noxious plant species*: 4% to 10%
- *% Invasive plant cover*: 1-5% to 51-75%

Black Snake Road - N (August 2023)

HLCS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	55	44	33	75.0%	0	4	4	9.1%	51-75%
Control	74	25	23	92.0%	0	7	1	4.0%	1-5%

BDR

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	67	49	27	55.1%	0	4	7	14.0%	51-75%
Control	62	24	19	79.2%	0	5	2	8.0%	51-75%

CGM*

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	55*	34	11	32.4%	0	7	5	14.3%	26-50%
Control	39*	19	13	68.4%	0	4	2	10.0%	6-10%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 28. August 2023 scores and scoring details for Site 5 "Black Snake Road - N". CGM (Project PI) filled in for AWS in August 2023.

July + August 2023

(For July + August 2023 mean scores for **Black Snake Road - N**, see **Fig. 29**)

Tx

- *Mean by Assessor*: 57.5 to 65.5 ("High")
- *Mean for July 2023 (all)*: 63.7 ("High")
- *Mean for August 2023 (all)*: 59 ("High")
- *Total mean for 2023*: 61.3 ("High")

Control

- *Mean by Assessor*: 36 to 72 ("Moderate" to "High")
- *Mean for July 2023 (all)*: 54 ("High")
- *Mean for August 2023 (all)*: 58.3 ("High")
- *Total mean for 2023*: 56.2 ("High")

Figure 29. 2023 mean scores for Site 5 "Black Snake Road - N". Site 5 was assessed in 2022 and 2023. CGM (Project PI) filled in for AWS in August 2023.

2022 + 2023

(For July + August 2022 + 2022 mean scores for **Black Snake Road - N**, see **Fig. 30**)

Tx

- *Mean by Assessor*: 60.3 to 65 ("High")
- *Mean for July 2022 + 2023 (all)*: 60.3 ("High")
- *Mean for August 2022+ 2023 (all)*: 63.7 ("High")
- *Total mean for 2022 + 2023*: 62 ("High")

Control

- *Mean by Assessor*: 42.3 to 67.3 ("Moderate" to "High")
- *Mean for July 2022 +2023 (all)*: 53.5 ("High")
- *Mean for August 2022 +2023 (all)*: 60.5 ("High")
- *Total mean for 2022 + 2023*: 57 ("High")

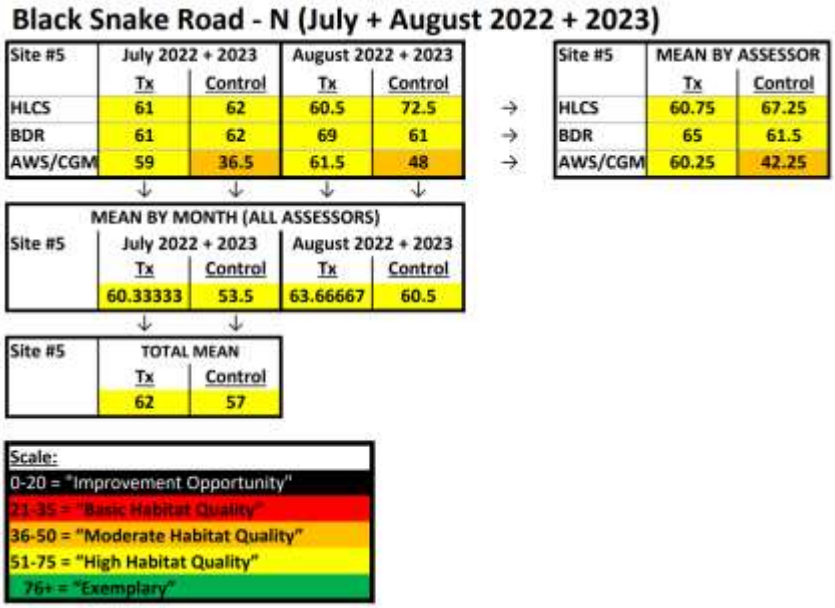

Figure 30. 2022 + 2023 mean scores for Site 5 "Black Snake Road - N". CGM (Project PI) filled in for AWS in August 2023.

Site 6 – "Black Snake Road - S"

July 2022

(For July 2022 scores and scoring details for **Black Snake Road - S**, see **Fig. 31**)

Tx

- *Scores*: 61 to 74 ("High")
- *Nectar plant taxa*: 31 to 43
- *Native nectar plant taxa*: 15 to 28
- *% Native nectar taxa*: 48.4% to 65.1%
- *Milkweed stems*: 2 to 5
- *Pollinator habitat resources*: 4 to 5
- *Noxious plant species*: 3 to 4
- *% Noxious plant species*: 7.1% to 9.4%
- *% Invasive plant cover*: N/A to 11-25%

Control

- *Scores*: 48 to 66 ("Moderate" to "High")
- *Nectar plant taxa*: 13 to 25
- *Native nectar plant taxa*: 10 to 24
- *% Native nectar taxa*: 76.9% to 96%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 7
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 1-5% to 11-25%

Black Snake Road - S (July 2022)

HLCS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	61	31	15	48.4%	3	5	3	9.4%	11-25%
Control	48	13	10	76.9%	0	7	0	0.0%	1-5%

BDR

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	68	42	25	59.5%	4	4	3	7.1%	11-25%
Control	60	18	17	94.4%	0	4	0	0.0%	1-5%

AWS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	74	43	28	65.1%	2-5	5	4	9.3%	n/a
Control	66	25	24	96.0%	0	5	0	0.0%	11-25%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 31. July 2022 scores and scoring details for Site 6 "Black Snake Road - S".

August 2022

(For August 2022 scores and scoring details for **Black Snake Road - S**, see **Fig. 32**)

Tx

- *Scores*: 61 to 71 ("High")
- *Nectar plant taxa*: 33 to 42
- *Native nectar plant taxa*: 20 to 34
- *% Native nectar taxa*: 60.6% to 82.9%
- *Milkweed stems*: 0 to 2
- *Pollinator habitat resources*: 2 to 6
- *Noxious plant species*: 1 to 2
- *% Noxious plant species*: 2.4% to 4.8%
- *% Invasive plant cover*: 1-5% to 26-50%

Control

- *Scores*: 61 to 64 ("High")
- *Nectar plant taxa*: 17 to 19
- *Native nectar plant taxa*: 16 to 17
- *% Native nectar taxa*: 89.5% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 7
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 0% to 1-5%

Black Snake Road - S (August 2022)

HLCS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	71	41	34	82.9%	0	6	1	2.4%	1-5%
Control	63	17	16	94.1%	0	7	0	0.0%	1-5%

BDR

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	61	33	20	60.6%	2	2	1	3.0%	6-10%
Control	61	19	17	89.5%	0	4	0	0.0%	0%

AWS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	61	42	27	64.3%	2	2	2	4.8%	26-50%
Control	64	17	17	100.0%	0	5	0	0.0%	0%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 32. August 2022 scores and scoring details for Site 6 "Black Snake Road - S".

July + August 2022

(For July + August 2022 mean scores for **Black Snake Road - S**, see **Fig. 33**)

Tx

- *Mean by Assessor*: 64.5 to 67.5 ("High")
- *Mean for July 2022 (all)*: 67.7 ("High")
- *Mean for August 2022 (all)*: 64.3 ("High")
- *Total mean for 2022*: 66 ("High")

Control

- *Mean by Assessor*: 55.5 to 65 ("High")
- *Mean for July 2022 (all)*: 58 ("High")
- *Mean for August 2022 (all)*: 62.7 ("High")
- *Total mean for 2022*: 60.3 ("High")

Figure 33. 2022 mean scores for Site 6 "Black Snake Road - S". Site 6 was assessed in 2022 and 2023.

July 2023

(For July 2023 scores and scoring details for **Black Snake Road - S**, see **Fig. 34**)

Tx

- *Scores*: 49 to 67 ("Moderate" to "High")
- *Nectar plant taxa*: 34 to 49
- *Native nectar plant taxa*: 26 to 29
- *% Native nectar taxa*: 59.2% to 76.5%
- *Milkweed stems*: 1 to 6
- *Pollinator habitat resources*: 4 to 7
- *Noxious plant species*: 1
- *% Noxious plant species*: 2% to 2.9%
- *% Invasive plant cover*: 6-10% to 51-75%

Control

- *Scores*: 36 – 66 ("Moderate" to "High")
- *Nectar plant taxa*: 17 to 22
- *Native nectar plant taxa*: 17 to 21
- *% Native nectar taxa*: 95.5% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 6
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 1-5%

Black Snake Road - S (July 2023)

HLCS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	67	34	26	76.5%	6	7	1	2.9%	6-10%
Control	66	17	17	100.0%	0	6	0	0.0%	1-5%

BDR

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	58	49	29	59.2%	1	4	1	2.0%	51-75%
Control	54	20	20	100.0%	0	4	0	0.0%	1-5%

AWS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	49	39	29	74.4%	5	4	1	2.6%	26-50%
Control	36	22	21	95.5%	0	4	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 34. July 2023 scores and scoring details for Site 6 "Black Snake Road – S".

August 2023

(For August 2023 scores and scoring details for **Black Snake Road - S**, see **Fig. 35**)

Tx

- *Scores*: 47 to 69 ("Moderate" to "High")
- *Nectar plant taxa*: 27 to 40
- *Native nectar plant taxa*: 18 to 30
- *% Native nectar taxa*: 66.7% to 78.9%
- *Milkweed stems*: 2 to 5
- *Pollinator habitat resources*: 5 to 6
- *Noxious plant species*: 2 to 4
- *% Noxious plant species*: 5.3% to 10%
- *% Invasive plant cover*: 11-25% to 51-75%

Control

- *Scores*: 27 – 74 ("Basic" to "High")
- *Nectar plant taxa*: 13 to 24
- *Native nectar plant taxa*: 13 to 23
- *% Native nectar taxa*: 95.8% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 7
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 0% to 1-5%

Black Snake Road - S (August 2023)

HLCS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	65	38	30	78.9%	2	5	2	5.3%	11-25%
Control	74	23	23	100.0%	0	7	0	0.0%	1-5%

BDR

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	69	40	28	70.0%	3	5	4	10.0%	51-75%
Control	59	24	23	95.8%	0	4	0	0.0%	1-5%

CGM*

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	47*	27	18	66.7%	"2-5"	6	2	7.4%	26-50%
Control	37*	13	13	100.0%	0	3	0	0.0%	0%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 35. August 2023 scores and scoring details for Site 6 "Black Snake Road - S". CGM (Project PI) filled in for AWS in August 2023.

July + August 2023

(For July + August 2023 mean scores for **Black Snake Road - S**, see **Fig. 36**)

Tx

- *Mean by Assessor*: 48 to 66 ("Moderate" to "High")
- *Mean for July 2023 (all)*: 58 ("High")
- *Mean for August 2023 (all)*: 60.3 ("High")
- *Total mean for 2023*: 59.2 ("High")

Control

- *Mean by Assessor*: 31.5 to 70 ("Basic" to "High")
- *Mean for July 2023 (all)*: 52 ("High")
- *Mean for August 2023 (all)*: 53.3 ("High")
- *Total mean for 2023*: 52.7 ("High")

Figure 36. 2023 mean scores for Site 6 "Black Snake Road - S". CGM (Project PI) filled in for AWS in August 2023.

2022 + 2023

(For July + August 2022 + 2023 mean scores for **Black Snake Road - S**, see **Fig. 37**)

Tx

- *Mean by Assessor*: 57.8 to 66 ("High")
- *Mean for July 2022 + 2023 (all)*: 62.8 ("High")
- *Mean for August 2022 + 2023 (all)*: 62.3 ("High")
- *Total mean for 2022 + 2023*: 62.6 ("High")

Control

- *Mean by Assessor*: 48.3 to 62.8 ("Moderate" to "High")
- *Mean for July 2022 + 2023 (all)*: 55 ("High")
- *Mean for August 2022 + 2023 (all)*: 58 ("High")
- *Total mean for 2022 + 2023*: 56.5 ("High")

Black Snake Road - S (July + August 2022 + 2023)

Site #6	July 2022 + 2023		August 2022 + 2023	
	Tx	Control	Tx	Control
HLCS	64	57	68	68.5
BDR	63	57	65	60
AWS/CGM	61.5	51	54	45.5

Site #6	MEAN BY ASSESSOR	
	Tx	Control
HLCS	66	62.75
BDR	64	58.5
AWS/CGM	57.75	48.25

MEAN BY MONTH (ALL ASSESSORS)				
Site #6	July 2022 + 2023		August 2022 + 2023	
	Tx	Control	Tx	Control
	62.83333	55	62.33333	58

Site #6	TOTAL MEAN	
	Tx	Control
	62.58333	56.5

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 37. 2022 + 2023 mean scores for Site 6 "Black Snake Road - S". CGM (Project PI) filled in for AWS in August 2023.

Site 7 – "Reservoir"

July 2022

(For July 2022 scores and scoring details for **Reservoir**, see **Fig. 38**)

Tx

- *Scores*: 43 – 57 ("Moderate" to "High")
- *Nectar plant taxa*: 17 to 27
- *Native nectar plant taxa*: 7 to 20
- *% Native nectar taxa*: 41.2% to 74.1%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 4
- *Noxious plant species*: 1 to 4
- *% Noxious plant species*: 5.9% to 14.3%
- *% Invasive plant cover*: 6-10% to 11-25%

Control

- *Scores*: 53 to 63 ("High")
- *Nectar plant taxa*: 17 to 25
- *Native nectar plant taxa*: 14 to 21
- *% Native nectar taxa*: 73.7% to 88.2%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 0% to 1-5%

Reservoir (July 2022)

HLCS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	43	17	7	41.2%	0	4	1	5.9%	11-25%
Control	53	19	14	73.7%	0	6	0	0.0%	0%

BDR

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	55	27	20	74.1%	0	4	4	14.3%	11-25%
Control	63	25	21	84.0%	0	3	0	0.0%	0%

AWS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	57	21	15	71.4%	0	3	3	13.6%	6-10%
Control	58	17	15	88.2%	0	4	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 38. July 2022 scores and scoring details for Site 7 "Reservoir".

August 2022

(For August 2022 scores and scoring details for **Reservoir**, see **Fig. 39**)

Tx

- *Scores*: 32 to 64 ("Basic" to "High")
- *Nectar plant taxa*: 27 to 33
- *Native nectar plant taxa*: 18 to 29
- *% Native nectar taxa*: 66.7% to 87.9%
- *Milkweed stems*: 0 to 1
- *Pollinator habitat resources*: 3 to 7
- *Noxious plant species*: 1 to 3
- *% Noxious plant species*: 3% to 11.1%
- *% Invasive plant cover*: 1-5% to 11-25%

Control

- *Scores*: 62 to 65 ("High")
- *Nectar plant taxa*: 23 to 28
- *Native nectar plant taxa*: 21 to 23
- *% Native nectar taxa*: 78.6% to 91.3%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 6
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 1-5%

Reservoir (August 2022)

HLCS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	64	33	29	87.9%	1	7	1	3.0%	6-10%
Control	65	23	21	91.3%	0	6	0	0.0%	1-5%

BDR

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	32	28	22	78.6%	0	3	1	3.6%	1-5%
Control	65	28	22	78.6%	0	4	0	0.0%	1-5%

AWS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	55	27	18	66.7%	0	4	3	11.1%	11-25%
Control	62	27	23	85.2%	0	5	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 39. August 2022 scores and scoring details for Site 7 "Reservoir".

July + August 2022

(For July + August 2022 mean scores for **Reservoir**, see **Fig. 40**)

Tx

- *Mean by Assessor*: 43.5 to 56 ("Moderate" to "High")
- *Mean for July 2022 (all)*: 51.7 ("High")
- *Mean for August 2022 (all)*: 50.3 ("Moderate")
- *Total mean for 2022*: 51 ("High")

Control

- *Mean by Assessor*: 59 to 64 ("High")
- *Mean for July 2022 (all)*: 58 ("High")
- *Mean for August 2022 (all)*: 64 ("High")
- *Total mean for 2022*: 61 ("High")

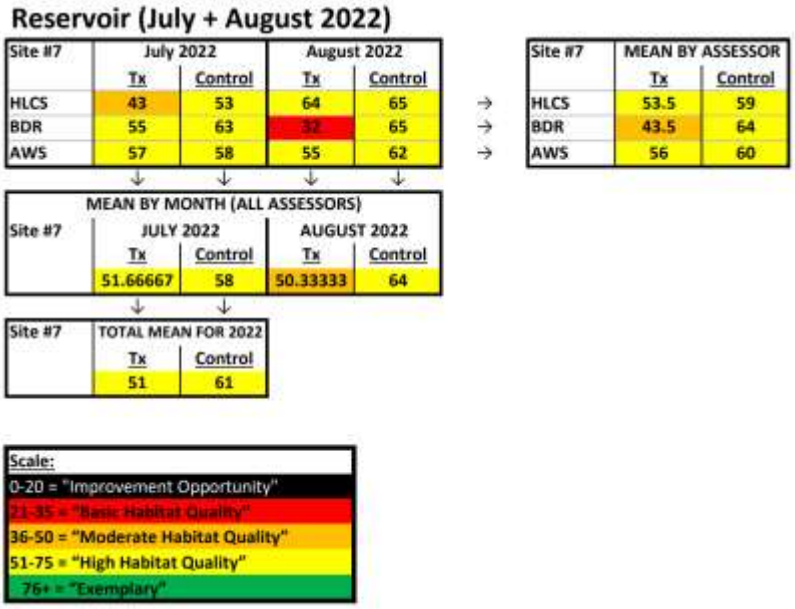

Figure 40. 2022 mean scores for Site 7 "Reservoir". Site 7 was assessed in 2022 and 2023.

July 2023

(For July 2023 scores and scoring details for **Reservoir**, see **Fig. 41**)

Tx

- *Scores*: 38 to 58 ("Moderate" to "High")
- *Nectar plant taxa*: 23 to 29
- *Native nectar plant taxa*: 15 to 21
- *% Native nectar taxa*: 65.2% to 80.8%
- *Milkweed stems*: 0 to 1
- *Pollinator habitat resources*: 4 to 6
- *Noxious plant species*: 0 to 3
- *% Noxious plant species*: 0% to 13%
- *% Invasive plant cover*: 6-10% to 26-50%

Control

- *Scores*: 38.5 to 66 ("Moderate" to "High")
- *Nectar plant taxa*: 20 to 28
- *Native nectar plant taxa*: 19 to 24
- *% Native nectar taxa*: 85.7% to 95.5%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 5
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 0% to 1-5%

Reservoir (July 2023)

HLCS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	57	23	15	65.2%	1	6	3	13.0%	6-10%
Control	57	20	19	95.0%	0	5	0	0.0%	1-5%

BDR

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	58	29	20	69.0%	0	5	2	6.9%	11-25%
Control	66	28	24	85.7%	0	4	0	0.0%	0%

AWS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	38	26	21	80.8%	0	4	0	0.0%	26-50%
Control	38.5	22	21	95.5%	0	4	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 41. July 2023 scores and scoring details for Site 7 "Reservoir".

August 2023

(For August 2023 scores and scoring details for **Reservoir**, see **Fig. 42**)

Tx

- *Scores*: 51 to 71 ("High")
- *Nectar plant taxa*: 24 to 33
- *Native nectar plant taxa*: 13 to 21
- *% Native nectar taxa*: 54.2% to 72%
- *Milkweed stems*: 1
- *Pollinator habitat resources*: 6
- *Noxious plant species*: 2
- *% Noxious plant species*: 6.1% to 8%
- *% Invasive plant cover*: 6-10% to 26-50%

Control

- *Scores*: 34 to 70 ("Basic" to "High")
- *Nectar plant taxa*: 12 to 23
- *Native nectar plant taxa*: 12 to 20
- *% Native nectar taxa*: 87% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 8
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 1-5%

Reservoir (August 2023)

HLCS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	58	25	18	72.0%	1	6	2	8.0%	11-25%
Control	70	13	13	100.0%	0	8	0	0.0%	1-5%

BDR

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	71	33	21	63.6%	1	6	2	6.1%	26-50%
Control	57	23	20	87.0%	0	4	0	0.0%	1-5%

AWS / CGM

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
CGM → Tx	51*	24	13	54.2%	1	6	2	8.0%	6-10%
AWS → Control	39	12	12	100.0%	0	4	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 42. August 2023 scores and scoring details for Site 7 "Reservoir". CGM (Project PI) filled in for AWS in August 2023 at the Tx plot only.

July + August 2023

(For July + August 2023 mean scores for **Reservoir**, see **Fig. 43**)

Tx

- *Mean by Assessor*: 44.5 to 64.5 ("Moderate" to "High")
- *Mean for July 2023 (all)*: 51 ("High")
- *Mean for August 2023 (all)*: 60 ("High")
- *Total mean for 2023*: 55.5 ("High")

Control

- *Mean by Assessor*: 36.3 to 63.5 ("Moderate" to "High")
- *Mean for July 2023 (all)*: 53.8 ("High")
- *Mean for August 2023 (all)*: 53.7 ("High")
- *Total mean for 2023*: 53.8 ("High")

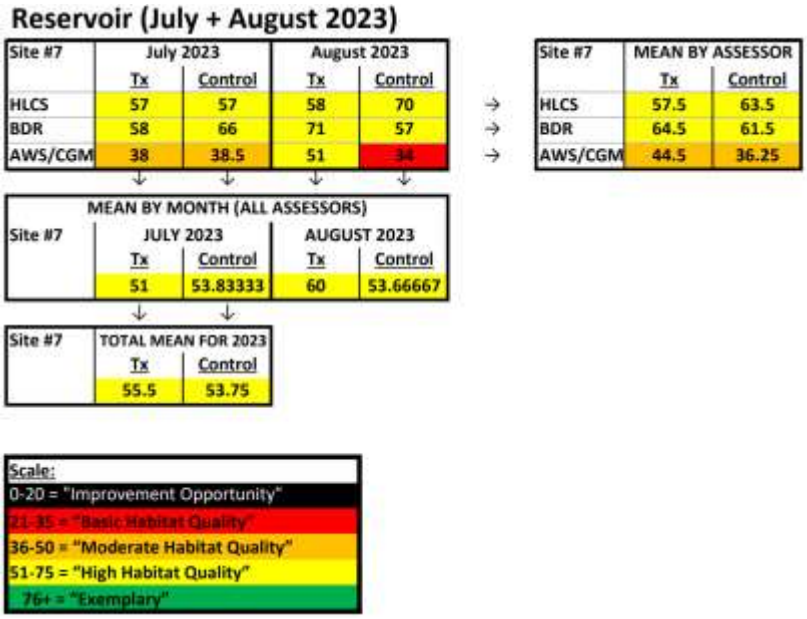

Figure 43. 2023 mean scores for Site 7 "Reservoir". CGM (Project PI) filled in for AWS in August 2023 at the Tx plot only.

2022 + 2023

(For July + August 2022 + 2023 mean scores for **Reservoir**, see **Fig. 44**)

Tx

- *Mean by Assessor*: 50.3 to 55.5 ("Moderate" to "High")
- *Mean for July 2022 + 2023 (all)*: 51.3 ("High")
- *Mean for August 2022 + 2023 (all)*: 55.2 ("High")
- *Total mean for 2022 + 2023*: 53.3 ("High")

Control

- *Mean by Assessor*: 48.1 to 62.8 ("Moderate" to "High")
- *Mean for July 2022 + 2023 (all)*: 55.9 ("High")
- *Mean for August 2022 +2023 (all)*: 58.8 ("High")
- *Total mean for 2022 + 2023*: 57.4 ("High")

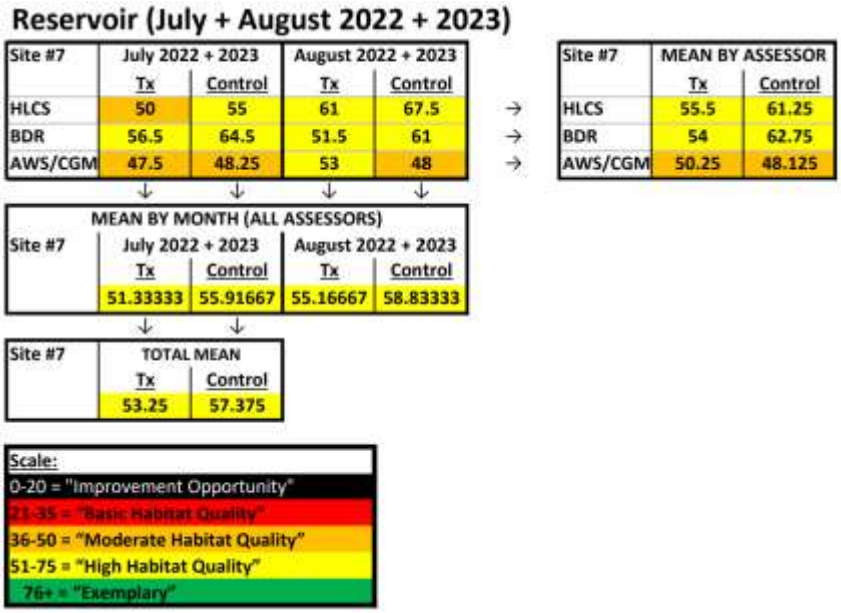

Figure 44. 2022 + 2023 mean scores for Site 7 "Reservoir". CGM (Project PI) filled in for AWS in August 2023 at the Tx plot only.

Site 8 – "Bel - Tip"

July 2022

(For July 2022 scores and scoring details for **Bel - Tip**, see **Fig. 45**)

Tx

- *Scores*: 38 to 67 ("Moderate" to "High")
- *Nectar plant taxa*: 28 to 35
- *Native nectar plant taxa*: 14 to 22
- *% Native nectar taxa*: 50% to 62.9%
- *Milkweed stems*: 6 to 7
- *Pollinator habitat resources*: 3 to 5
- *Noxious plant species*: 2 to 3
- *% Noxious plant species*: 5.7% to 8.8%
- *% Invasive plant cover*: 1-5% to 11-25%

Control

- *Scores*: 47 to 60 ("Moderate" to "High")
- *Nectar plant taxa*: 10 to 19
- *Native nectar plant taxa*: 8 to 18
- *% Native nectar taxa*: 80% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 5
- *Noxious plant species*: 0 to 1
- *% Noxious plant species*: 0% to 5.3%
- *% Invasive plant cover*: 0% to 1-5%

Bel - Tip (July 2022)

HLCS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	62	28	14	50.0%	7	5	2	7.1%	11-25%
Control	47	10	8	80.0%	0	5	0	0.0%	0%

BDR

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	67	34	20	58.8%	7	4	3	8.8%	11-25%
Control	53	13	13	100.0%	0	2	0	0.0%	0%

AWS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	38	35	22	62.9%	6	3	2	5.7%	1-5%
Control	60	19	18	94.7%	0	4	1	5.3%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 45. July 2022 scores and scoring details for Site 8 "Bel - Tip".

August 2022

(For August 2022 scores and scoring details for **Bel - Tip**, see **Fig. 46**)

Tx

- *Scores*: 68 to 79 ("High" to "Exemplary")
- *Nectar plant taxa*: 38 to 55
- *Native nectar plant taxa*: 25 to 40
- *% Native nectar taxa*: 65.8% to 72.7%
- *Milkweed stems*: 2 to 3
- *Pollinator habitat resources*: 4 to 5
- *Noxious plant species*: 2 to 6
- *% Noxious plant species*: 5.3% to 12.8%
- *% Invasive plant cover*: 1-5% to 11-25%

Control

- *Scores*: 46 to 59 ("Moderate" to "High")
- *Nectar plant taxa*: 12 to 14
- *Native nectar plant taxa*: 12 to 13
- *% Native nectar taxa*: 92.9% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 6
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 0% to 1-5%

Bel - Tip (August 2022)

HLCS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	68	55	40	72.7%	3	4	5	9.1%	11-25%
Control	59	12	12	100.0%	0	6	0	0.0%	0%

BDR

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	79	38	25	65.8%	3	5	2	5.3%	1-5%
Control	59	12	12	100.0%	0	4	0	0.0%	0%

AWS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	79	46	32	69.6%	2	5	6	12.8%	1-5%
Control	46	14	13	92.9%	0	4	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 46. August 2022 scores and scoring details for Site 8 "Bel - Tip".

July + August 2022

(For July + August 2022 mean scores for **Bel - Tip**, see **Fig. 47**)

Tx

- *Mean by Assessor*: 58.5 to 73 ("High")
- *Mean for July 2022 (all)*: 55.7 ("High")
- *Mean for August 2022 (all)*: 75.3 ("High")
- *Total mean for 2022*: 65.5 ("High")

Control

- *Mean by Assessor*: 53 to 56 ("High")
- *Mean for July 2022 (all)*: 53.3 ("High")
- *Mean for August 2022 (all)*: 54.7 ("High")
- *Total mean for 2022*: 54 ("High")

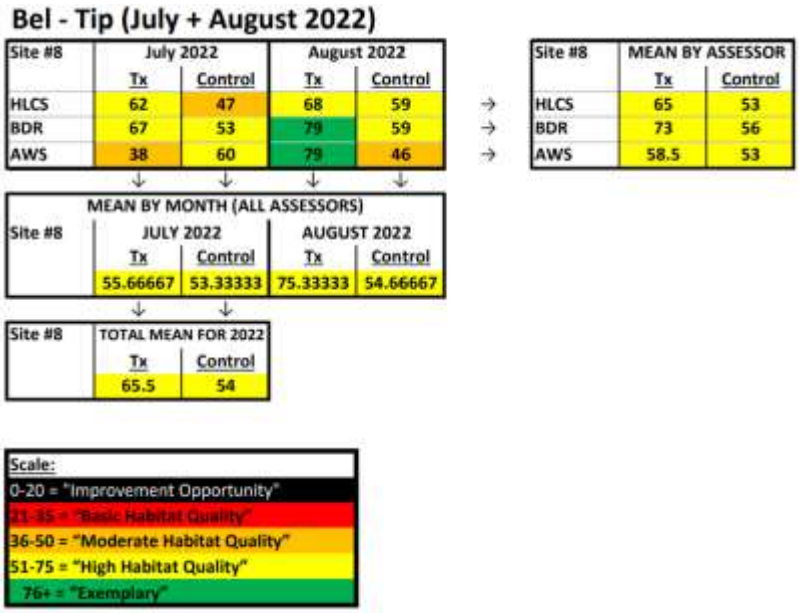

Figure 47. 2022 mean scores for Site 8 "Bel - Tip". Site 8 was assessed in 2022 and 2023.

July 2023

(For July 2023 scores and scoring details for **Bel - Tip**, see **Fig. 48**)

Tx

- *Scores*: 63 to 68 ("High")
- *Nectar plant taxa*: 38 to 44
- *Native nectar plant taxa*: 22 to 30
- *% Native nectar taxa*: 57.9% to 72.5%
- *Milkweed stems*: 4 to 6
- *Pollinator habitat resources*: 4 to 6
- *Noxious plant species*: 3 to 5
- *% Noxious plant species*: 6.8% to 12.5%
- *% Invasive plant cover*: 6-10% to 51-75%

Control

- *Scores*: 32 to 64 ("Basic" to "High")
- *Nectar plant taxa*: 12 to 17
- *Native nectar plant taxa*: 12 to 16
- *% Native nectar taxa*: 94.1% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 6
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 0% to 1-5%

Bel - Tip (July 2023)

HLCS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	68	40	29	72.5%	4	6	5	12.5%	51-75%
Control	64	14	14	100.0%	0	6	0	0.0%	1-5%

BDR

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	68	44	30	68.2%	6	4	3	6.8%	26-50%
Control	55	17	16	94.1%	0	4	0	0.0%	0%

AWS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	63	38	22	57.9%	5	6	4	10.5%	6-10%
Control	32	12	12	100.0%	0	5	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 48. July 2023 scores and scoring details for Site 8 "Bel - Tip".

August 2023

(For August 2023 scores and scoring details for **Bel - Tip**, see **Fig. 49**)

Tx

- *Scores*: 57 to 64 ("High")
- *Nectar plant taxa*: 43 to 59
- *Native nectar plant taxa*: 28 to 43
- *% Native nectar taxa*: 60.9% to 72.9%
- *Milkweed stems*: 0 to 2
- *Pollinator habitat resources*: 3 to 5
- *Noxious plant species*: 4 to 7
- *% Noxious plant species*: 8.7% to 11.7%
- *% Invasive plant cover*: 6-10% to 51-75%

Control

- *Scores*: 25 to 61 ("Basic" to "High")
- *Nectar plant taxa*: 11 to 17
- *Native nectar plant taxa*: 11 to 16
- *% Native nectar taxa*: 86.7% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 5
- *Noxious plant species*: 0 to 2
- *% Noxious plant species*: 0% to 13.3%
- *% Invasive plant cover*: 1-5% to 6-10%

Bel - Tip (August 2023)

HLCS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	64	43	31	72.1%	0	5	4	9.3%	51-75%
Control	61	11	11	100.0%	0	5	0	0.0%	1-5%

BDR

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	64	46	28	60.9%	0	3	4	8.7%	51-75%
Control	51	17	16	94.1%	0	3	0	0.0%	1-5%

AWS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	57	59	43	72.9%	2	4	7	11.7%	6-10%
Control	25	15	13	86.7%	0	2	2	13.3%	6-10%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 49. August 2023 scores and scoring details for Site 8 "Bel - Tip".

July + August 2023

(For July + August 2023 mean scores for **Bel - Tip**, see **Fig. 50**)

Tx

- *Mean by Assessor*: 60 to 66 ("High")
- *Mean for July 2023 (all)*: 66.3 ("High")
- *Mean for August 2023 (all)*: 61.7 ("High")
- *Total mean for 2023*: 64 ("High")

Control

- *Mean by Assessor*: 28.5 to 62.5 ("Basic" to "High")
- *Mean for July 2023 (all)*: 50.3 ("Moderate")
- *Mean for August 2023 (all)*: 45.7 ("Moderate")
- *Total mean for 2023*: 48 ("Moderate")

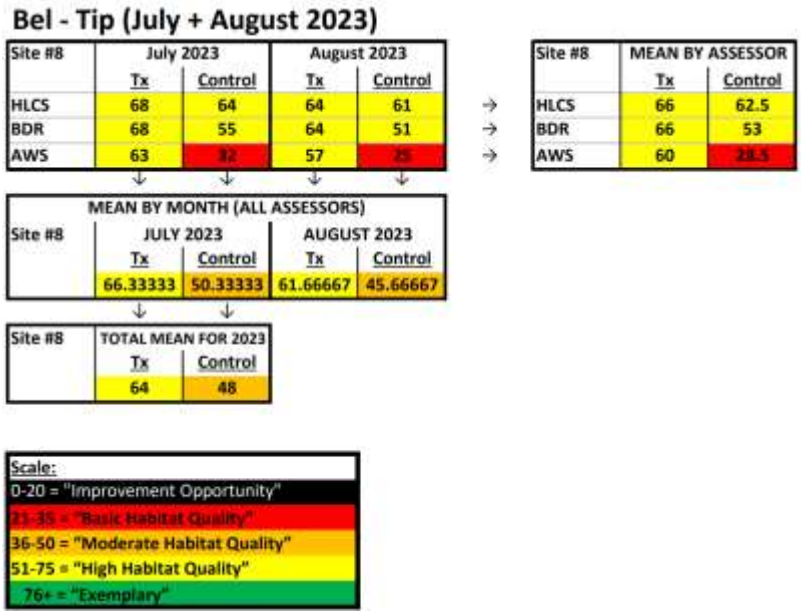

Figure 50. 2023 mean scores for Site 8 "Bel - Tip".

2022 + 2023

(For July + August 2022 + 2023 mean scores for **Bel - Tip**, see **Fig. 51**)

Tx

- *Mean by Assessor*: 59.5 to 69.5 ("High")
- *Mean for July 2022 + 2023 (all)*: 61 ("High")
- *Mean for August 2022 + 2023 (all)*: 68.5 ("High")
- *Total mean for 2022 + 2023*: 64.8 ("High")

Control

- *Mean by Assessor*: 40.8 to 57.8 ("Moderate" to "High")
- *Mean for July 2022 +2023 (all)*: 51.8 ("High")
- *Mean for August 2022 + 2023 (all)*: 50.2 ("Moderate")
- *Total mean for 2022 + 2023*: 51 ("High")

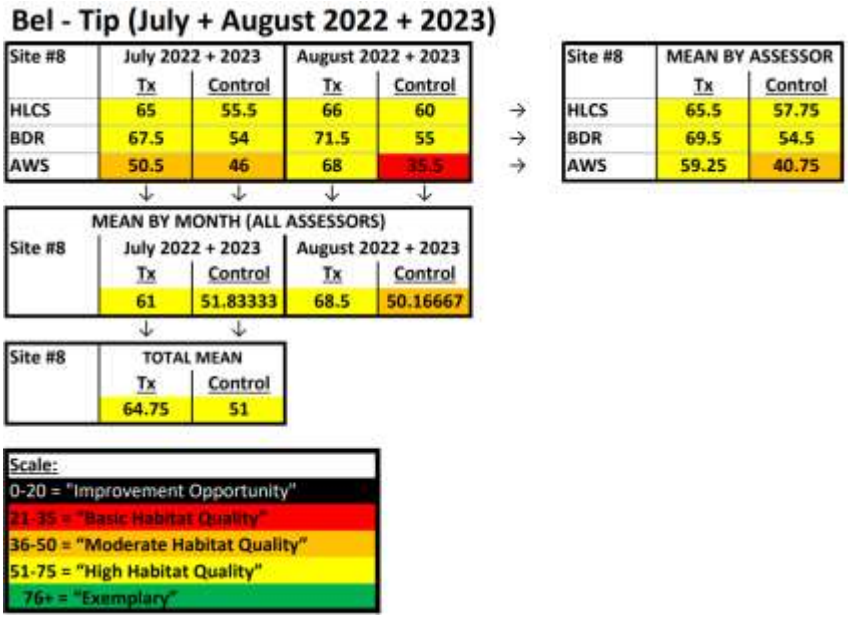

Figure 51. 2022 + 2023 mean scores for Site 8 "Bel - Tip".

Site 9 – "80 - Woodland"

July 2022

(For July 2022 scores and scoring details for **80 - Woodland**, see **Fig. 52**)

Tx

- *Scores*: 57 to 69 ("High")
- *Nectar plant taxa*: 26 to 35
- *Native nectar plant taxa*: 14 to 23
- *% Native nectar taxa*: 53.8% to 65.7%
- *Milkweed stems*: 4 to 7
- *Pollinator habitat resources*: 4 to 6
- *Noxious plant species*: 3 to 4
- *% Noxious plant species*: 8.6% to 15.4%
- *% Invasive plant cover*: 11-25% to 26-50%

Control

- *Scores*: 34 to 51 ("Basic" to "High")
- *Nectar plant taxa*: 9 to 13
- *Native nectar plant taxa*: 7 to 11
- *% Native nectar taxa*: 72.7% to 84.6%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 3
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 1-5%

80 - Woodland (July 2022)

HLCS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	57	26	14	53.8%	4	6	4	15.4%	26-50%
Control	34	9	7	77.8%	0	3	0	0.0%	1-5%

BDR

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	65	33	18	54.5%	4	4	4	12.1%	26-50%
Control	51	11	8	72.7%	0	2	0	0.0%	1-5%

AWS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	69	35	23	65.7%	7	4	3	8.6%	11-25%
Control	43	13	11	84.6%	0	3	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 52. July 2022 scores and scoring details for Site 9 "80 - Woodland".

August 2022

(For August 2022 scores and scoring details for **80 - Woodland**, see **Fig. 53**)

Tx

- *Scores*: 45 to 62 ("Moderate" to "High")
- *Nectar plant taxa*: 22 to 27
- *Native nectar plant taxa*: 14 to 17
- *% Native nectar taxa*: 51.9% to 77.3%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 2 to 3
- *% Noxious plant species*: 9.1% to 11.1%
- *% Invasive plant cover*: 6-10%

Control

- *Scores*: 43 to 55 ("Moderate" to "High")
- *Nectar plant taxa*: 9 to 13
- *Native nectar plant taxa*: 8 to 12
- *% Native nectar taxa*: 84.6% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 4
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 0% to 1-5%

80 - Woodland (August 2022)

HLCS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	62	22	17	77.3%	0	6	2	9.1%	6-10%
Control	44	9	8	88.9%	0	4	0	0.0%	0%

BDR

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	57	27	14	51.9%	0	3	3	11.1%	6-10%
Control	55	13	11	84.6%	0	3	0	0.0%	1-5%

AWS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	45	27	15	55.6%	0	3	3	11.1%	6-10%
Control	43	12	12	100.0%	0	3	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 53. August 2022 scores and scoring details for Site 9 "80 - Woodland".

July + August 2022

(For July + August 2022 mean scores for **80 - Woodland**, see **Fig. 54**)

Tx

- *Mean by Assessor*: 57 to 61 ("High")
- *Mean for July 2022 (all)*: 63.7 ("High")
- *Mean for August 2022 (all)*: 54.7 ("High")
- *Total mean for 2022*: 59.2 ("High")

Control

- *Mean by Assessor*: 39 to 53 ("Moderate" to "High")
- *Mean for July 2022 (all)*: 42.7 ("Moderate")
- *Mean for August 2022 (all)*: 47.3 ("Moderate")
- *Total mean for 2022*: 45 ("Moderate")

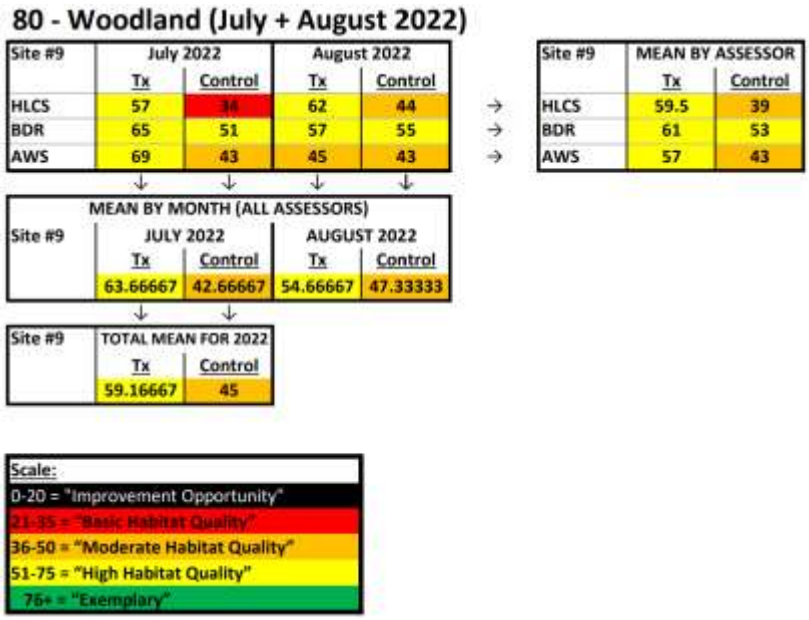

Figure 54. 2022 mean scores for Site 9 "80 - Woodland". Site 9 was assessed in 2022 and 2023.

July 2023

(For July 2023 scores and scoring details for **80 - Woodland**, see **Fig. 55**)

Tx

- *Scores*: 17 to 46 ("Improvement" to "Moderate")
- *Nectar plant taxa*: 11 to 17
- *Native nectar plant taxa*: 5 to 7
- *% Native nectar taxa*: 41.2% to 45.5%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 4
- *Noxious plant species*: 1 to 3
- *% Noxious plant species*: 9.1% to 18.8%
- *% Invasive plant cover*: 26-50% to 76-100%

Control

- *Scores*: 36 to 60 ("Moderate" to "High")
- *Nectar plant taxa*: 18 to 21
- *Native nectar plant taxa*: 17 to 19
- *% Native nectar taxa*: 90.5% to 94.7%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 7
- *Noxious plant species*: 0 to 1
- *% Noxious plant species*: 0% to 5.6%
- *% Invasive plant cover*: 1-5%

80 - Woodland (July 2023)

HLCS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	36	16	7	43.8%	0	4	3	18.8%	26-50%
Control	57	19	18	94.7%	0	7	0	0.0%	1-5%

BDR

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	46	11	5	45.5%	0	4	1	9.1%	51-75%
Control	60	21	19	90.5%	0	3	0	0.0%	1-5%

AWS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	17	17	7	41.2%	0	2	2	11.8%	76-100%
Control	36	18	17	94.4%	0	4	1	5.6%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 55. July 2023 scores and scoring details for Site 9 "80 - Woodland".

August 2023

(For August 2023 scores and scoring details for **80 - Woodland**, see **Fig. 56**)

Tx

- *Scores*: 26 to 53 ("Basic" to "High")
- *Nectar plant taxa*: 15 to 16
- *Native nectar plant taxa*: 8 to 9
- *% Native nectar taxa*: 53.3% to 60%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 1 to 2
- *% Noxious plant species*: 6.7% to 12.5%
- *% Invasive plant cover*: 26-50% to 51-75%

Control

- *Scores*: 37 to 57 ("Moderate" to "High")
- *Nectar plant taxa*: 15 to 21
- *Native nectar plant taxa*: 13 to 18
- *% Native nectar taxa*: 85.7% to 94.7%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 7
- *Noxious plant species*: 0 to 1
- *% Noxious plant species*: 0% to 6.7%
- *% Invasive plant cover*: 1-5%

80 - Woodland (August 2023)

HLCS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	48	15	9	60.0%	0	6	1	6.7%	26-50%
Control	57	19	18	94.7%	0	7	0	0.0%	1-5%

BDR

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	53	16	9	56.3%	0	4	2	12.5%	51-75%
Control	54	21	18	85.7%	0	3	0	0.0%	1-5%

AWS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	35	15	8	53.3%	0	3	1	6.7%	51-75%
Control	37	15	13	86.7%	0	5	1	6.7%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 56. August 2023 scores and scoring details for Site 9 "80 - Woodland".

July + August 2023

(For July + August 2023 mean scores for **80 - Woodland**, see **Fig. 57**)

Tx

- *Mean by Assessor*: 21.5 to 49.5 ("Basic" to "Moderate")
- *Mean for July 2023 (all)*: 33 ("Basic")
- *Mean for August 2023 (all)*: 42.3 ("Moderate")
- *Total mean for 2023*: 37.7 ("Moderate")

Control

- *Mean by Assessor*: 36.5 to 57 ("Moderate" to "High")
- *Mean for July 2023 (all)*: 51 ("High")
- *Mean for August 2023 (all)*: 49.3 ("Moderate")
- *Total mean for 2023*: 50.2 ("Moderate")

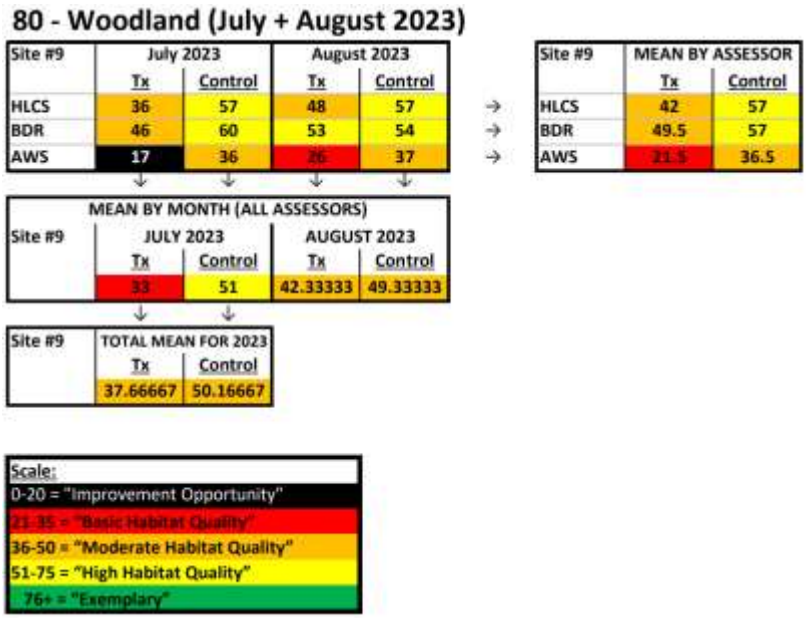

Figure 57. 2023 mean scores for Site 9 "80 - Woodland".

2022 + 2023

(For July + August 2022 + 2023 mean scores for **80 - Woodland**, see **Fig. 58**)

Tx

- *Mean by Assessor*: 39.3 to 55.3 ("Moderate" to "High")
- *Mean for July 2022 + 2023 (all)*: 48.3 ("Moderate")
- *Mean for August 2022 + 2023 (all)*: 48.5 ("Moderate")
- *Total mean for 2022 + 2023*: 48.4 ("Moderate")

Control

- *Mean by Assessor*: 39.8 to 55 ("Moderate" to "High")
- *Mean for July 2022 + 2023 (all)*: 46.8 ("Moderate")
- *Mean for August 2022 + 2023 (all)*: 48.3 ("Moderate")
- *Total mean for 2022 + 2023*: 47.6 ("Moderate")

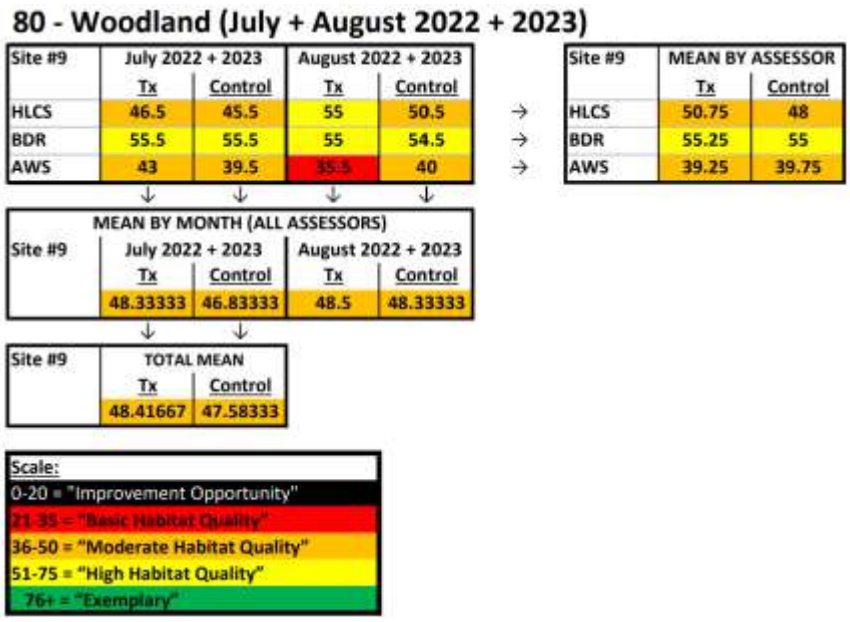

Figure 58. 2022 + 2023 mean scores for Site 9 "80 - Woodland".

Site 10 – "322 - Port Matilda"

July 2022

(For July 2022 scores and scoring details for **322 - Port Matilda**, see **Fig. 59**)

Tx

- *Scores*: 47 to 72 ("Moderate" to "High")
- *Nectar plant taxa*: 11 to 28
- *Native nectar plant taxa*: 6 to 17
- *% Native nectar taxa*: 54.5% to 60.7%
- *Milkweed stems*: 6 to 50
- *Pollinator habitat resources*: 4 to 6
- *Noxious plant species*: 1
- *% Noxious plant species*: 3.6% to 9.1%
- *% Invasive plant cover*: 1-5% to 51-75%

Control

- *Scores*: 48 to 62 ("Moderate" to "High")
- *Nectar plant taxa*: 15 to 25
- *Native nectar plant taxa*: 12 to 24
- *% Native nectar taxa*: 80% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 5
- *Noxious plant species*: 1 to 2
- *% Noxious plant species*: 3.8% to 12.5%
- *% Invasive plant cover*: 1-5% to 6-10%

322 - Port Matilda (July 2022)

HLCS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	47	11	6	54.5%	6	6	1	9.1%	51-75%
Control	48	15	12	80.0%	0	5	2	12.5%	6-10%

BDR

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	72	24	14	58.3%	11-50	5	1	4.2%	6-10%
Control	62	25	24	96.0%	0	3	1	3.8%	1-5%

AWS

JULY 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	60	28	17	60.7%	12	4	1	3.6%	1-5%
Control	54	20	20	100.0%	0	2	1	4.8%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 59. July 2022 scores and scoring details for Site 10 "322 - Port Matilda".

August 2022

(For August 2022 scores and scoring details for **322 - Port Matilda**, see **Fig. 60**)

Tx

- *Scores*: 49 to 67 ("Moderate" to "High")
- *Nectar plant taxa*: 21 to 24
- *Native nectar plant taxa*: 12 to 14
- *% Native nectar taxa*: 57.1% to 63.6%
- *Milkweed stems*: 12 to 14
- *Pollinator habitat resources*: 4 to 7
- *Noxious plant species*: 1
- *% Noxious plant species*: 4.2% to 4.8%
- *% Invasive plant cover*: 1-5% to 26-50%

Control

- *Scores*: 54 to 65 ("High")
- *Nectar plant taxa*: 16 to 24
- *Native nectar plant taxa*: 16 to 23
- *% Native nectar taxa*: 90.9% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 7
- *Noxious plant species*: 0 to 1
- *% Noxious plant species*: 0% to 4.5%
- *% Invasive plant cover*: 1-5%

322 - Port Matilda (August 2022)

HLCS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	66	24	14	58.3%	14	7	1	4.2%	6-10%
Control	63	16	16	100.0%	0	7	0	0.0%	1-5%

BDR

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	67	22	14	63.6%	12	5	1	4.5%	1-5%
Control	65	24	23	95.8%	0	4	1	4.2%	1-5%

AWS

AUGUST 2022	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	49	21	12	57.1%	12	4	1	4.8%	26-50%
Control	54	22	20	90.9%	0	3	1	4.5%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 60. August 2022 scores and scoring details for Site 10 "322 - Port Matilda".

July + August 2022

(For July + August 2022 mean scores for **322 - Port Matilda**, see **Fig. 61**)

Tx

- *Mean by Assessor*: 54.5 to 69.5 ("High")
- *Mean for July 2022 (all)*: 59.7 ("High")
- *Mean for August 2022 (all)*: 60.7 ("High")
- *Total mean for 2022*: 60.2 ("High")

Control

- *Mean by Assessor*: 54 to 63.5 ("High")
- *Mean for July 2022 (all)*: 54.7 ("High")
- *Mean for August 2022 (all)*: 60.7 ("High")
- *Total mean for 2022*: 57.7 ("High")

322 - Port Matilda (July + August 2022)

Site #10	July 2022		August 2022	
	Tx	Control	Tx	Control
HLCS	47	48	66	63
BDR	72	62	67	65
AWS	60	54	49	54

Site #10	MEAN BY ASSESSOR	
	Tx	Control
HLCS	56.5	55.5
BDR	69.5	63.5
AWS	54.5	54

Site #10	JULY 2022		AUGUST 2022	
	Tx	Control	Tx	Control
MEAN BY MONTH (ALL ASSESSORS)	59.66667	54.66667	60.66667	60.66667

Site #10	TOTAL MEAN FOR 2022	
	Tx	Control
	60.16667	57.66667

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 61. 2022 mean scores for Site 10 "322 - Port Matilda". Site 10 was assessed in 2022 and 2023.

July 2023

(For July 2023 scores and scoring details for **322 - Port Matilda**, see **Fig. 62**)

Tx

- *Scores*: 49 to 68 ("Moderate" to "High")
- *Nectar plant taxa*: 25 to 29
- *Native nectar plant taxa*: 11 to 18
- *% Native nectar taxa*: 44% to 61.5%
- *Milkweed stems*: 23 to 45
- *Pollinator habitat resources*: 5 to 7
- *Noxious plant species*: 1 to 2
- *% Noxious plant species*: 3.8% to 8%
- *% Invasive plant cover*: 11-25% to 76-100%

Control

- *Scores*: 50 to 74 ("Moderate" to "High")
- *Nectar plant taxa*: 31 to 34
- *Native nectar plant taxa*: 28 to 33
- *% Native nectar taxa*: 90.3% to 97.1%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 5 to 7
- *Noxious plant species*: 0 to 1
- *% Noxious plant species*: 0% to 2.9%
- *% Invasive plant cover*: 1-5%

322 - Port Matilda (July 2023)

HLCS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	64	26	16	61.5%	23	6	1	3.8%	11-25%
Control	74	31	28	90.3%	0	7	0	0.0%	1-5%

BDR

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	68	25	11	44.0%	26	7	2	8.0%	76-100%
Control	68	34	33	97.1%	0	5	1	2.9%	1-5%

AWS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	49	29	18	62.1%	45	5	2	6.9%	11-25%
Control	50	34	33	97.1%	0	5	1	2.9%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 62. July 2023 scores and scoring details for Site 10 "322 - Port Matilda".

August 2023

(For August 2023 scores and scoring details for **322 - Port Matilda**, see **Fig. 63**)

Tx

- *Scores*: 31 to 68 ("Basic" to "High")
- *Nectar plant taxa*: 20 to 21
- *Native nectar plant taxa*: 9 to 13
- *% Native nectar taxa*: 42.9% to 65%
- *Milkweed stems*: 32 to 43
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 0
- *% Noxious plant species*: 0%
- *% Invasive plant cover*: 11-25% to 51-75%

Control

- *Scores*: 41 to 77 ("Moderate" to "Exemplary")
- *Nectar plant taxa*: 25 to 30
- *Native nectar plant taxa*: 24 to 29
- *% Native nectar taxa*: 96% to 100%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 8
- *Noxious plant species*: 0 to 1
- *% Noxious plant species*: 0% to 3.3%
- *% Invasive plant cover*: 1-5% to 6-10%

322 - Port Matilda (August 2023)

HLCS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	59	20	12	60.0%	37	6	0	0.0%	11-25%
Control	77	25	25	100.0%	0	8	0	0.0%	1-5%

BDR

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	68	21	9	42.9%	32	5	0	0.0%	51-75%
Control	55	30	29	96.7%	0	3	1	3.3%	6-10%

AWS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	51	20	13	65.0%	43	3	0	0.0%	51-75%
Control	81	25	24	96.0%	0	4	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 63. August 2023 scores and scoring details for Site 10 "322 - Port Matilda".

July + August 2023

(For July + August 2023 mean scores for **322 - Port Matilda**, see **Fig. 64**)

Tx

- *Mean by Assessor*: 40 to 68 ("Moderate" to "High")
- *Mean for July 2023 (all)*: 60.3 ("High")
- *Mean for August 2023 (all)*: 52.7 ("High")
- *Total mean for 2023*: 56.5 ("High")

Control

- *Mean by Assessor*: 45.5 to 75.5 ("Moderate" to "High")
- *Mean for July 2023 (all)*: 64 ("High")
- *Mean for August 2023 (all)*: 57.7 ("High")
- *Total mean for 2023*: 60.8 ("High")

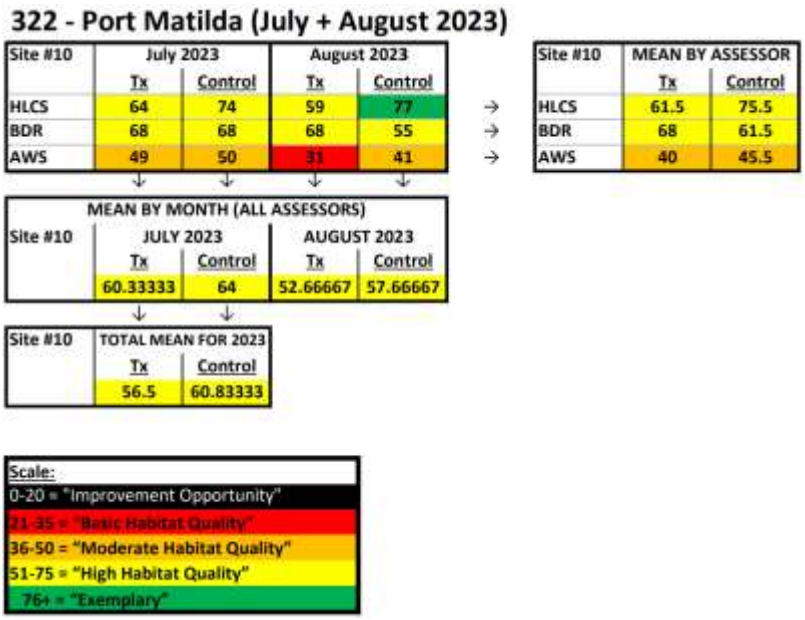

Figure 64. 2023 mean scores for Site 10 "322 - Port Matilda".

2022 + 2023

(For July + August 2022+ 2023 mean scores for **322 - Port Matilda**, see **Fig. 65**)

Tx

- *Mean by Assessor*: 47.3 to 68.8 ("Moderate" to "High")
- *Mean for July 2022 + 2023 (all)*: 60 ("High")
- *Mean for August 2022 + 2023 (all)*: 56.7 ("High")
- *Total mean for 2022 + 2023*: 58.3 ("High")

Control

- *Mean by Assessor*: 49.8 to 65.5 ("Moderate" to "High")
- *Mean for July 2022 +2023 (all)*: 59.3 ("High")
- *Mean for August 2022 +2023 (all)*: 59.2 ("High")
- *Total mean for 2022 + 2023*: 59.3 ("High")

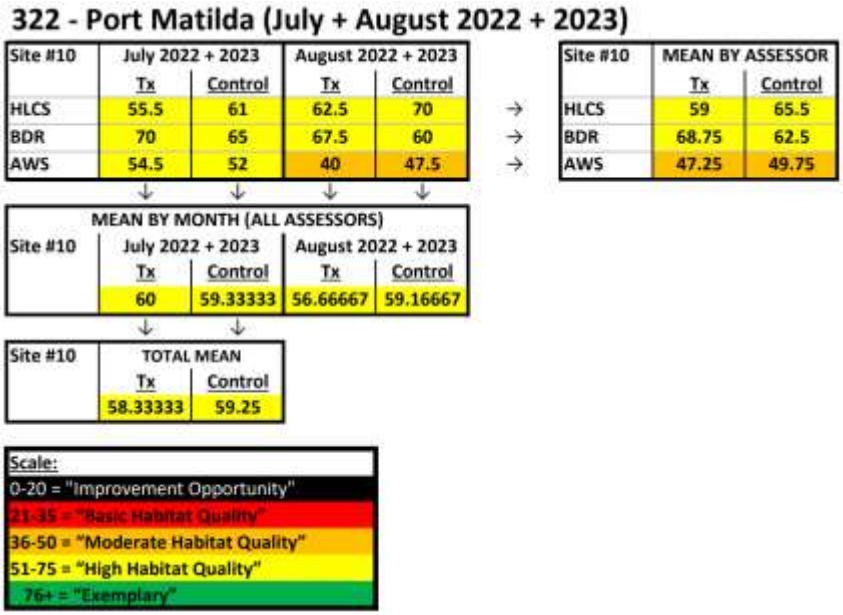

Figure 65. 2022 + 2023 mean scores for Site 10 "322 - Port Matilda".

Site 11 – "Fox Hollow Road - N"

July 2023

(For July 2023 scores and scoring details for **Fox Hollow Road - N**, see **Fig. 66**)

Tx

- *Scores*: 41 to 60 ("Moderate" to "High")
- *Nectar plant taxa*: 38 to 39
- *Native nectar plant taxa*: 24 to 25
- *% Native nectar taxa*: 63.2% to 64.1%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 5
- *Noxious plant species*: 4 to 8
- *% Noxious plant species*: 10.3% to 21.1%
- *% Invasive plant cover*: 11-25% to 26-50%

Control

- *Scores*: 37 to 66 ("Moderate" to "High")
- *Nectar plant taxa*: 23 to 33
- *Native nectar plant taxa*: 15 to 24
- *% Native nectar taxa*: 65.2% to 72.7%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 3 to 8
- *% Noxious plant species*: 10.7% to 30.4%
- *% Invasive plant cover*: 1-5% to 6-10%

Fox Hollow Road - N (July 2023)

HLCS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	59	39	24	61.5%	0	5	8	20.5%	26-50%
Control	66	23	15	65.2%	0	6	7	30.4%	6-10%

BDR

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	60	39	25	64.1%	0	3	4	10.3%	11-25%
Control	60	28	20	71.4%	0	3	3	10.7%	1-5%

AWS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	41	38	24	63.2%	0	3	8	21.1%	26-50%
Control	37	33	24	72.7%	0	3	8	24.2%	6-10%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 66. July 2023 scores and scoring details for Site 11 "Fox Hollow Road - N".

August 2023

(For August 2023 scores and scoring details for **Fox Hollow Road - N**, see **Fig. 67**)

Tx

- *Scores*: 43 to 64 ("Moderate" to "High")
- *Nectar plant taxa*: 31 to 40
- *Native nectar plant taxa*: 18 to 27
- *% Native nectar taxa*: 55.6% to 67.5%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4
- *Noxious plant species*: 4 to 6
- *% Noxious plant species*: 11.1% to 19.4%
- *% Invasive plant cover*: 51-75% to 76-10%

Control

- *Scores*: 34 to 71 ("Basic" to "High")
- *Nectar plant taxa*: 24 to 26
- *Native nectar plant taxa*: 17 to 19
- *% Native nectar taxa*: 70.8% to 79.2%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 7
- *Noxious plant species*: 2 to 7
- *% Noxious plant species*: 7.7% to 29.2%
- *% Invasive plant cover*: 1-5% to 6-10%

Fox Hollow Road - N (August 2023)

HLCS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	47	31	18	58.1%	0	4	6	19.4%	51-75%
Control	71	24	19	79.2%	0	7	5	20.8%	6-10%

BDR

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	64	36	20	55.6%	0	4	4	11.1%	76-100%
Control	54	26	19	73.1%	0	3	2	7.7%	1-5%

AWS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	43	40	27	67.5%	0	4	5	12.5%	51-75%
Control	34	24	17	70.8%	0	4	7	29.2%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 67. August 2023 scores and scoring details for Site 11 "Fox Hollow Road - N".

July + August 2023

(For July + August 2023 mean scores for **Fox Hollow Road - N**, see **Fig. 68**)

Tx

- *Mean by Assessor*: 42 to 62 ("Moderate" to "High")
- *Mean for July 2023 (all)*: 53.3 ("High")
- *Mean for August 2023 (all)*: 51.3 ("High")
- *Total mean for 2023*: 52.3 ("High")

Control

- *Mean by Assessor*: 35.5 to 68.5 ("Basic" to "High")
- *Mean for July 2023 (all)*: 54.3 ("High")
- *Mean for August 2023 (all)*: 53 ("High")
- *Total mean for 2023*: 53.7 ("High")

Fox Hollow Road - N (July + August 2023)

Site #11	July 2023		August 2023	
	Tx	Control	Tx	Control
HLCS	59	66	47	71
BDR	60	60	64	54
AWS	41	37	43	34

Site #11	MEAN BY ASSESSOR	
	Tx	Control
HLCS	53	68.5
BDR	62	57
AWS	42	35.5

Site #11	MEAN BY MONTH (ALL ASSESSORS)			
	JULY 2023		AUGUST 2023	
	Tx	Control	Tx	Control
	53.33333	54.33333	51.33333	53

Site #11	TOTAL MEAN FOR 2023	
	Tx	Control
	52.33333	53.66667

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 68. 2023 mean scores for Site 11 "Fox Hollow Road - N". Site 11 was assessed in 2023 only.

Site 12 – "Fox Hollow Road - S"

July 2023

(For July 2023 scores and scoring details for **Fox Hollow Road - S**, see **Fig. 69**)

Tx

- *Scores*: 31 to 56 ("Basic" to "High")
- *Nectar plant taxa*: 24 to 36
- *Native nectar plant taxa*: 12 to 16
- *% Native nectar taxa*: 44.4% to 53.3%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 7 to 9
- *% Noxious plant species*: 19.4% to 33.3%
- *% Invasive plant cover*: 26-50% to 51-75%

Control

- *Scores*: 44 to 62 ("Moderate" to "High")
- *Nectar plant taxa*: 20 to 31
- *Native nectar plant taxa*: 14 to 20
- *% Native nectar taxa*: 57.1% to 70%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 4 to 6
- *Noxious plant species*: 6 to 10
- *% Noxious plant species*: 21.4% to 32.3%
- *% Invasive plant cover*: 6-10% to 51-75%

Fox Hollow Road - S (July 2023)

HLCS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	52	24	12	50.0%	0	6	8	33.3%	26-50%
Control	61	20	14	70.0%	0	6	6	30.0%	26-50%

BDR

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	56	36	16	44.4%	0	3	7	19.4%	51-75%
Control	62	28	16	57.1%	0	5	6	21.4%	51-75%

AWS

JULY 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	33	30	16	53.3%	0	4	9	30.0%	26-50%
Control	44	31	20	64.5%	0	4	10	32.3%	6-10%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 69. July 2023 scores and scoring details for Site 12 "Fox Hollow Road - S".

August 2023

(For August 2023 scores and scoring details for **Fox Hollow Road - S**, see **Fig. 70**)

Tx

- *Scores*: 36 to 50 ("Moderate")
- *Nectar plant taxa*: 26 to 36
- *Native nectar plant taxa*: 8 to 19
- *% Native nectar taxa*: 30.8% to 54.3%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 2 to 5
- *Noxious plant species*: 6 to 13
- *% Noxious plant species*: 23.1% to 35.1%
- *% Invasive plant cover*: 51-75%

Control

- *Scores*: 41 to 69 ("Moderate" to "High")
- *Nectar plant taxa*: 26 to 38
- *Native nectar plant taxa*: 19 to 26
- *% Native nectar taxa*: 68.4% to 75%
- *Milkweed stems*: 0
- *Pollinator habitat resources*: 3 to 6
- *Noxious plant species*: 4 to 10
- *% Noxious plant species*: 15.4% to 26.3%
- *% Invasive plant cover*: 6-10% to 11-25%

Fox Hollow Road - S (August 2023)

HLCS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	50	35	19	54.3%	0	5	11	31.4%	51-75%
Control	69	28	21	75.0%	0	6	7	25.0%	11-25%

BDR

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	44	26	8	30.8%	0	2	6	23.1%	51-75%
Control	52	26	19	73.1%	0	3	4	15.4%	11-25%

AWS

AUGUST 2023	Tier 3 v2.2 Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Tx	36	36	17	47.2%	0	4	13	35.1%	51-75%
Control	41	38	26	68.4%	0	4	10	26.3%	6-10%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 70. August 2023 scores and scoring details for Site 12 "Fox Hollow Road - S".

July + August 2023

(For July + August 2023 mean scores for **Fox Hollow Road - S**, see **Fig. 71**)

Tx

- *Mean by Assessor*: 33.5 to 51 ("Basic" to "High")
- *Mean for July 2023 (all)*: 46.3 ("Moderate")
- *Mean for August 2023 (all)*: 43.3 ("Moderate")
- *Total mean for 2023*: 44.8 ("Moderate")

Control

- *Mean by Assessor*: 42.5 to 65 ("Moderate" to "High")
- *Mean for July 2023 (all)*: 55.7 ("High")
- *Mean for August 2023 (all)*: 54 ("High")
- *Total mean for 2023*: 54.8 ("High")

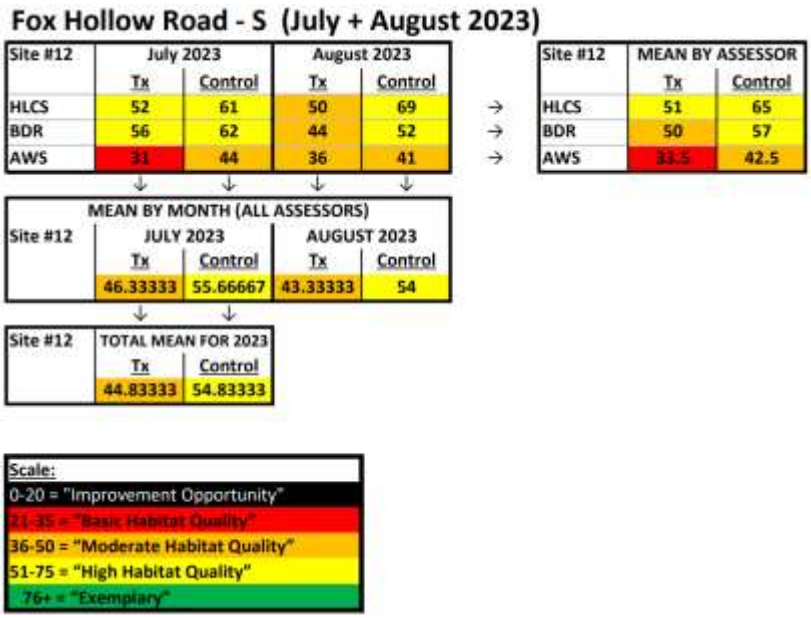

Figure 71. 2023 mean scores for Site 12 "Fox Hollow Road - S". Site 12 was assessed in 2023 only.

(For additional insight into the characteristics of each plot according to each scorecard user, see **SUPPLEMENTAL MATERIALS: Detailed Site Data per Assessor**.)

Site Rankings

Sites were ranked according to 'objective' and 'subjective' input. Objective rankings were made according to their calculated scores for the ROWHWG Tier 3 assessment. Subjective rankings were made according to the observations and 'gut feelings' of the three assessors and the PI.

Objective Site Rankings and Habitat Quality Ratings by Assessment Scores

The following section shows site rankings according to the mean scores of all scorecard users. For each scorecard user's objective scores and rankings, see **SUPPLEMENTAL MATERIALS: Summary of Scores and Rankings per Assessor**.

July 2022

For July 2022 **(Fig. 72)**, **Black Snake Road - S** was the highest ranked Tx plot, and **Clinton - Union** was the lowest ranked Tx plot. For the Control plots, **Black Snake Road - S** and **Reservoir** were the highest ranked plots, and **Eagleton** and **80 - Woodland** were the lowest ranked plots.

July 2022 Site Rankings

JULY 2022 - All Users - Tx - Site Rankings	
Site Name	Score
Black Snake Road - S	67.6
80 - Woodland	63.6
322 - Port Matilda	59.6
Black Snake Road - N	57
Bel - Tip	55.6
Reservoir	51.6
120 - 820	46.3
Eagleton	39
170.4	27
Clinton - Union	25

JULY 2022 - All Users - Control - Site Rankings	
Site Name	Score
Black Snake Road - S and Reservoir (tie)	58
322 - Port Matilda	54.6
Bel - Tip	53.3
Black Snake Road - N	53
170.4	51
Clinton - Union	49.3
120 - 820	43.8
Eagleton and 80 - Woodland (tie)	42.6

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 72. July 2022 Tx and C site rankings.

August 2022

For August 2022 **(Fig. 73)**, **Bel - Tip** was the highest ranked Tx plot, and **Clinton - Union** was the lowest ranked Tx plot. For the Control plots, **Reservoir** was the highest ranked, and **80 - Woodland** was the lowest ranked.

August 2022 Site Rankings

AUGUST 2022 - All Users - Tx - Site Rankings	
Site Name	Score
Bel - Tip	75.3
Black Snake Road - N	68.3
Black Snake Road - S	64.3
322 - Port Matilda	60.6
80 - Woodland and Eagleton (tie)	54.6
120 - 820	51
Reservoir	50.3
170.4	33.6
Clinton - Union	31.3

AUGUST 2022 - All Users - Control - Site Rankings	
Site Name	Score
Reservoir	64
Black Snake Road - N and Black Snake Road - S (tie)	62.6
Clinton - Union	62.3
322 - Port Matilda	60.6
Bel - Tip	54.6
170.4	54
120 - 820	53
Eagleton	49
80 - Woodland	47.3

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 73. August 2022 Tx and C site rankings.

July + August 2022

For July and August 2022 combined **(Fig. 74)**, **Black Snake Road - S** was the highest ranked Tx plot, and **Clinton - Union** was the lowest ranked Tx plot. For the Control plots, **Reservoir** was the highest ranked plot, and **80 - Woodland** was the lowest ranked plot.

July + August 2022 Site Rankings

JUL + AUG 2022 - All Users - Tx - Site Rankings		JUL + AUG 2022 - All Users - Control - Site Rankings	
Site Name	Score	Site Name	Score
Black Snake Road - S	66	Reservoir	61
Bel - Tip	65.5	Black Snake Road - S	60.3
Black Snake Road - N	62.6	Black Snake Road - N	57.8
322 - Port Matilda	60.1	322 - Port Matilda	57.6
80 - Woodland	59.1	Clinton - Union	55.8
Reservoir	51	Bel - Tip	54
120 - 820	48.6	170.4	52.5
Eagleton	46.8	120 - 820	48.4
170.4	30.3	Eagleton	45.8
Clinton - Union	28.1	80 - Woodland	45

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 74. July + August 2022 Tx and C site rankings.

July 2023

For July 2023 **(Fig. 75)**, **Bel - Tip** was the highest ranked Tx plot, and **80 - Woodland** was the lowest ranked Tx plot. For the Control plots, **322 - Port Matilda** was the highest ranked, and **Eagleton** was the lowest ranked.

July 2023 Site Rankings

JULY 2023 - All Users - Tx - Site Rankings		JULY 2023 - All Users - Control - Site Rankings	
Site Name	Score	Site Name	Score
Bel - Tip	66.3	322 - Port Matilda	64
Black Snake Road - N	63.6	Fox Hollow - S	55.6
322 - Port Matilda	60.3	Fox Hollow - N	54.3
Eagleton	59.6	Black Snake Road - N	54
Black Snake Road - S	58	Reservoir	53.8
Fox Hollow - N	53.3	Black Snake Road - S	52
Reservoir	51	80 - Woodland	51
Fox Hollow - S	46.3	Bel - Tip	50.3
120 - 820	37.6	120 - 820	49.6
80 - Woodland	33	Eagleton	38

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 75. July 2023 Tx and C site rankings.

August 2023

For August 2023 **(Fig. 76)**, **Bel - Tip** was the highest ranked Tx plot, and **120 - 820** was the lowest ranked Tx plot. For the Control plots, **Black Snake Road - N** was the highest ranked plot, and **Bel - Tip** was the lowest ranked plot.

August 2023 Site Rankings

AUGUST 2023 - All Users - Tx - Site Rankings		AUGUST 2023 - All Users - Control - Site Rankings	
Site Name	Score	Site Name	Score
Bel - Tip	61.6	Black Snake Road - N*	58.3*
Black Snake Road - S*	60.3*	322 - Port Matilda	57.6
Reservoir*	60*	Fox Hollow - S	54
Black Snake Road - N*	59*	Reservoir	53.6
Eagleton	55.6	Black Snake Road - S*	53.3*
322 - Port Matilda	52.6	Fox Hollow - N	53
Fox Hollow - N	51.3	120 - 820	50.6
Fox Hollow - S	43.3	80 - Woodland	49.3
80 - Woodland	42.3	Eagleton	48
120 - 820	36	Bel - Tip	45.6

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

* denotes scorecard completed by CGM (filling in for AWS)

Figure 76. August 2023 Tx and C site rankings.

July + August 2023

For July and August 2023 combined **(Fig. 77)**, **Bel - Tip** was the highest ranked Tx plot, and **120 - 820** was the lowest ranked Tx plot. For the Control plots, **322 - Port Matilda** was the highest ranked, and **Eagleton** was the lowest ranked.

July + August 2022 Site Rankings

JUL + AUG 2023 - All Users - Tx - Site Rankings		JUL + AUG 2023 - All Users - Control - Site Rankings	
Site Name	Score	Site Name	Score
Bel - Tip	64	322 - Port Matilda	60.8
Black Snake Road - N*	61.3*	Black Snake Road - N*	56.1*
Black Snake Road - S*	59.1*	Fox Hollow - S	54.8
Eagleton	57.6	Reservoir	53.7
322 - Port Matilda	56.5	Fox Hollow - N	53.6
Reservoir*	55.5*	Black Snake Road - S*	52.6*
Fox Hollow - N	52.3	120 - 820 and	
Fox Hollow - S	44.8	80 - Woodland (tie)	50.1
80 - Woodland	37.6	Bel - Tip	48
120 - 820	36.8	Eagleton	43

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

* denotes scorecard completed by CGM (filling in for AWS)

Figure 77. July + August 2023 Tx and C site rankings.

Overall (2022 + 2023)

For 2022 and 2023 combined **(Fig. 78)**, **Bel - Tip** was the highest ranked Tx plot, and **Clinton - Union** was the lowest ranked Tx plot. **322 - Port Matilda** was the highest ranked Control plot, and **Eagleton** was the lowest ranked Control plot.

Overall Site Rankings

2022 + 2023 - All Users - Tx - Site Rankings		2022 + 2023 - All Users - Control - Site Rankings	
Site Name	Score	Site Name	Score
Bel - Tip	64.8	322 - Port Matilda	59.3
Black Snake Road - S	62.6	Reservoir	57.4
Black Snake Road - N	62	Black Snake Road - N	57
322 - Port Matilda	58.3	Black Snake Road - S	56.5
Reservoir	53.3	Clinton - Union	55.8
Eagleton and		Fox Hollow Road - S	54.8
Fox Hollow Road - N (tie)	52.3	Fox Hollow Road - N	53.7
80 - Woodland	48.4	170.4	52.5
Fox Hollow - S	44.8	Bel - Tip	51
120 - 820	42.8	120 - 820	49.3
170.4	30.3	80 - Woodland	47.6
Clinton - Union	28.2	Eagleton	44.4

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Figure 78. Overall (2022 + 2023) Tx and C site rankings.

Subjective Site Rankings by Task 1 Personnel

The three individual assessors (HLCS, BDR, and AWS) and the PI (CGM) also ranked the 2023 Tx plots subjectively, based on their background knowledge and their experience collecting bees and other invertebrates from pollinator habitats of varying quality.

To arrive at collective subjective rankings for each site, the ordinal numbers according to each person were added together, and the sites were ranked by the lowest to highest sum. For example:

Bel-Tip site (2023 Tx plot):

HLCS	= 4th	= 4
BDR	= 5th	+ 5
AWS	= 1st	+ 1
CGM	= 5th	+ 5
		= 15

According to the opinions of Task 1 personnel **(Fig. 79)**, **Black Snake Road - N** was the 2023 Tx site with the highest quality pollinator habitat for BDR, CGM, and the sum of the rankings for all four. For HLCS, **Black Snake Road - S** was the highest quality site, and **Bel - Tip** for AWS. **80 - Woodland** was the lowest quality 2023 Tx site for all four Task 1 personnel and for the sum of the rankings.

2023 Daylighting sites (Tx only)							
SUBJECTIVE RANKINGS - HLCS		SUBJECTIVE RANKINGS - BDR		SUBJECTIVE RANKINGS - AWS		SUBJECTIVE RANKINGS - CGM	
1st	Black Snake Rd S	1st	Black Snake Rd N	1st	Bel-Tip	1st	Black Snake Rd N
2nd	322-Pt Matilda	2nd	Reservoir	2nd	Black Snake Rd N	2nd	Black Snake Rd S
3rd	Reservoir	3rd	Black Snake Rd S	3rd	322-Pt. Matilda	3rd	Eagleton
4th	Black Snake Rd N/ Bel-Tip *(tie)*	4th	Fox Hollow N	4th	Black Snake Rd S	4th	120-820
		5th	Eagleton/ Bel-Tip *(tie)*	5th	Eagleton	5th	Bel-Tip
6th	Eagleton			6th	Fox Hollow N	6th	Reservoir
7th	Fox Hollow N	7th	322-Pt. Matilda	7th	Fox Hollow S	7th	322-Pt. Matilda
8th	Fox Hollow S	8th	120-820	8th	Reservoir	8th	Fox Hollow S
9th	120-820	9th	Fox Hollow S	9th	120-820	9th	Fox Hollow N
10th	80-Woodland	10th	80-Woodland	10th	80-Woodland	10th	80-Woodland

Tx Site Name	Sum of Subjective Rankings	Cumulative Rankings
Black Snake Rd N	8	1st
Black Snake Rd S	10	2nd
Bel-Tip	15	3rd
Eagleton	19	4th (tied)
Reservoir	19	4th (tied)
322-Pt. Matilda	19	4th (tied)
Fox Hollow N	26	7th
120-820	30	8th
Fox Hollow S	32	9th
80-Woodland	40	10th

Figure 79. Subjective site rankings from the three assessors and the project PI for the 2023 Tx plots.

Vegetation Species Richness

Species richness documented by the PO method indicates that daylight sites contain significantly more species of native flowering plants (forbs and flowering shrubs/vines) than non-daylight sites (**Tables 2-13**). However, daylight sites contain significantly more species of non-native, noxious plants than non-daylight sites. In fact, only one site (**170.4**) contained a non-native species in the non-daylight portion. Daylight sites, with the exception of **80 - Woodland** and **Black Snake Road - South**, contained non-native plants. In particular, site **120 - 820** contained a high coverage of non-native plants with 43% of the site covered with Japanese stiltgrass, crownvetch, and garlic mustard. Other non-native plants of concern in the daylight sites were multi-flora rose, Japanese barberry, and Autumn olive.

Table 2. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "Clinton - Union" site in 2022. Species richness of native and non-native flowering plants are presented.

Clinton - Union		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Blueberry (*Vaccinium*)	0	3
Crownvetch*	3	0
Goldenrod	3	0
Grass	53	0
Greenbriar	0	3
Leaf litter	30	37
Log	0	0
Moss	3	0
Mountain laurel	23	0
Ox eye daisy	3	0
Queen Anne's lace	3	0
Rhododendron	0	20
Teaberry	0	13
Plant species richness:	7	4
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	4	4
Non-native plant species richness:	1	0

**Non-native species*

Table 3. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "120 - 820" site, 2022-2023. Species richness of native and non-native flowering plants are presented.

120 - 820		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Bare ground	3	0
Christmas fern	0	3
Common milkweed	3	0
Crownvetch*	10	0
Garlic mustard*	10	0
Grass	13	0
Hayscented fern	0	10
Japanese stiltgrass*	23	0
Jewelweed	40	0
Leaf litter	0	37
Log	0	7
Mayapple	0	3
Rock	0	17
Wood fern	0	23
Plant species richness:	6	4
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	2	2
Non-native plant species richness:	3	0

**Non-native species*

Table 4. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "Eagleton" site, 2022-2023. Species richness of native and non-native flowering plants are presented.

Eagleton		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Chestnut oak	0	3
Common milkweed	3	0
Crownvetch*	6	0
Goldenrod	6	0
Hayscented fern	0	40
Jewelweed	3	0
Leaf litter	53	33
Log	7	10
Ox eye daisy	3	0
Queen Anne's lace	3	0
Red maple	0	3
Red oak	0	3
Rock	0	3
Sassafras	0	3
Solomon seal	0	3
Sweet fern	3	0
Virginia creeper	7	0
Wood aster	3	0
Wood chips	3	0
Plant species richness:	9	6
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	7	1
Non-native plant species richness:	1	0

**Non-native species*

Table 5. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "170.4" site in 2022. Species richness of native and non-native flowering plants are presented.

170.4		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Burnweed	3	0
Canada mayflower	0	3
Garlic mustard*	7	0
Goldenrod	3	0
Grass	83	0
Japanese barberry*	0	3
Jewelweed	3	3
Leaf litter	0	30
Log	0	7
Mayapple	0	3
Multiflora rose*	0	20
Pokeweed	0	3
Rubus sp. (e.g raspberries)	0	13
Viburnum	0	3
Virginia creeper	0	10
Plant species richness:	5	9
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	3	7
Non-native plant species richness:	1	2

**Non-native species*

Table 6. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "Black Snake Road - North" site, 2022-2023. Species richness of native and non-native flowering plants are presented.

Black Snake Road - North		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Bare ground	17	10
Christmas fern	0	7
Common cinquefoil	0	7
Common self heal	3	0
Cutleaf toothwort	0	7
Dandelion*	7	0
Goldenrod	7	10
Greenbriar	3	3
Hayscented fern	0	13
Japanese stiltgrass*	7	0
Jewelweed	3	0
Leaf litter	10	27
Log	3	0
Mountain mint	7	0
Ox-eyed daisy	3	0
Ragweed	10	0
Red clover	3	0
Rock	3	3
Sensitive fern	0	6
Solomon seal	3	0
White wood aster	13	7
Plant species richness:	12	8
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	10	6
Non-native plant species richness:	2	0

**Non-native species*

Table 7. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "Black Snake Road - South" site, 2022-2023. Species richness of native and non-native flowering plants are presented.

Black Snake Road - South		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Common bedstraw	3	0
Common self-heal	7	0
Goldenrod	20	0
Grass	20	0
Greenbriar	3	3
Leaf litter	13	60
Log	7	20
Moss	0	3
Queen Anne's lace	10	0
Sassafras	0	7
Striped maple	0	3
White rattlesnake root	3	0
White sweet clover	3	0
White wood aster	3	0
Witch hazel	0	3
Yellow clover	7	0
Plant species richness:	10	5
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	9	2
Non-native plant species richness:	0	0

**Non-native species*

Table 8. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "Reservoir" site, 2022-2023. Species richness of native and non-native flowering plants are presented.

Reservoir		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
American Beech	0	7
Grass	10	0
Greenbriar	0	0
Leaf litter	23	57
Lobe-leafed hepatica	3	0
Log	0	0
Moss	0	17
Mountain laurel	7	3
Multiflora rose*	3	0
Rhododendron	0	3
Rock	3	7
Sassafras	0	0
Solomon seal	3	3
Spotted wintergreen	0	3
Striped maple	0	0
Witch hazel	0	0
White ash	7	0
Wild geranium	3	0
Wood chips	23	0
Wood fern	3	0
Woodland sunflower	10	0
Plant species richness:	9	5
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	6	3
Non-native plant species richness:	1	0

**Non-native species*

Table 9. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "Bel - Tip" site, 2022-2023. Species richness of native and non-native flowering plants are presented.

Bel - Tip		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Autumn olive*	3	0
Black eyed Susan	5	0
Blueberry (*Vaccinium*)	10	17
Chestnut oak	0	7
Daisy fleabane	3	0
Deptford pink	3	0
False Solomon seal	3	0
Grass	13	0
Greenbriar	0	3
Leaf litter	13	40
Log	0	7
Moss	0	20
Multiflora rose*	7	0
Ox eye daisy	7	0
Queen Anne's lace	3	0
St John's wort	3	0
Sweet white clover	3	0
White pine	0	3
White wood aster	3	0
Witch hazel	3	3
Wood chip	17	0
Plant species richness:	14	5
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	11	3
Non-native plant species richness:	2	0

**Non-native species*

Table 10. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "80 - Woodland" site, 2022-2023. Species richness of native and non-native flowering plants are presented.

80 - Woodland		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Canada mayflower	0	13
Canada thistle	3	0
Colts foot	3	0
Goldenrod	13	0
Grass	3	0
Jewelweed	20	0
Leaf litter	13	57
Log	7	27
Sensitive fern	7	0
Star flower	0	3
Sweetfern	7	0
White wood aster	7	0
Whorled loosestrife	3	0
Wood chip	13	0
Plant species richness:	9	2
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	6	2
Non-native plant species richness:	0	0

**Non-native species*

Table 11. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "322 - Port Matilda" site, 2022-2023. Species richness of native and non-native flowering plants are presented.

322 - Port Matilda		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Bare ground	3	0
Blueberry (*Vaccinium*)	0	13
Chestnut oak	0	10
Common milkweed	7	0
Garlic mustard*	3	0
Grass	33	0
Leaf litter	33	57
Log	3	7
Ragweed	3	0
Red oak	10	0
Rock	0	7
Teaberry	0	7
White wood aster	0	3
Witch hazel	0	3
Wood chip	3	0
Plant species richness:	5	5
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	2	4
Non-native plant species richness:	1	0

**Non-native species*

Table 12. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "Fox Hollow Road - North" site in 2023. Species richness of native and non-native flowering plants are presented.

Fox Hollow Road - North		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Autumn olive*	0	3
Blackberry	0	3
Blackhaw	0	3
Burnweed	3	10
Crown vetch*	6	0
Garlic mustard*	6	0
Grass	23	0
Pignut hickory	0	6
Leaf litter	30	50
Log	3	0
Multiflora rose*	6	0
Oriental bittersweet*	0	6
Privet*	3	0
Queen Anne's lace	10	0
Sassafras	3	0
Virginia creeper	0	10
White wood aster	3	3
Plant species richness:	9	8
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	4	6
Non-native plant species richness:	4	2

**Non-native species*

Table 13. Percent vegetation cover by species and cover type at daylight and non-daylight portions of the "Fox Hollow Road - South" site in 2023. Species richness of native and non-native flowering plants are presented.

Fox Hollow Road - South		
Plant species/Cover type	**Daylight (Tx)**	**Non-daylight (Control)**
Black cherry	3	0
Blakhaw	0	3
Bush honeysuckle*	0	3
Garlic mustard*	13	0
Grass	20	0
Leaf litter	16	43
Log	13	6
Oriental bittersweet*	6	3
Poison ivy	0	3
Privet	10	3
Ragweed	13	0
Red maple	0	3
Rock	0	6
Rubus	0	6
Sassafras	3	0
Viburnum	0	3
Virginia creeper	0	6
Wood fern	0	6
Plant species richness:	7	10
Native and naturalized plant species richness (forbs and flowering shrubs/vines):	4	7
Non-native plant species richness:	2	2

**Non-native species*

Noxious Plant Species Present at the Sites

A total of 36 noxious plant species were recorded at all Task 1 sites. 29 noxious plant species were recorded at all Tx plots, and 23 species were recorded at all Control plots (See **SUPPLEMENTAL MATERIALS: Noxious Plant Species Present at the Sites**).

Tx Plots

29 noxious plant species were recorded at all Tx plots. Of the 12 total Tx plots assessed from 2022 to 2023, **Fox Hollow Road - S** was the Tx plot with the most noxious plant species recorded (n=17) and **Clinton - Union** was the Tx plot with the fewest (n=3). The mean number of noxious plant species per Tx plot was 8.58 (n=12), and the mean number of noxious plant species per assessment period for the Tx plots was 5.225 (n=40).

The mean number of noxious plant species that were recorded for each Tx plot (i.e. the mean of the 2 to 4 assessment periods for each plot) was also calculated. The **Fox Hollow Road - S** Tx plot had the highest mean number of noxious plant species per assessment period (13.5, n=2), and the **322 - Port Matilda** Tx plot had the lowest mean per assessment period (1.5, n=4). Rankings of the total number of noxious plant species and of the mean number of noxious plant species per assessment period for the Tx plots are shown in **Fig. 80**.

TREATMENT PLOTS	Total Number of Noxious Plant Species Recorded
Fox Hollow Road - S	17
Black Snake Road - N	14
Fox Hollow Road - N	11
Bel - Tip / Eagleton (tie)	10
120 - 820	9
Reservoir / 170.4 (tie)	7
Black Snake Road - S	6
80 - Woodland	5
322 - Port Matilda	4
Clinton - Union	3

TREATMENT PLOTS	Mean Number of Noxious Plant Species per Assessment Period	Number of Assessment Periods
Fox Hollow Road - S*	13.5	2*
Fox Hollow Road - N*	9.5	2*
Black Snake Road - N	7.75	4
Bel - Tip	6.5	4
170.4*	6	2*
120 - 820	5.75	4
Eagleton	5.5	4
Reservoir	4	4
80 - Woodland	3	4
Black Snake Road - S	2.75	4
Clinton - Union*	2	2*
322 - Port Matilda	1.5	4

* unequal number of assessment periods

Figure 80. Rankings of the total number of noxious plant species and of the mean number of noxious plant species per assessment period for the Tx plots.

Control Plots

23 noxious plant species were recorded at all Control plots. Of the 12 total Control plots assessed from 2022 to 2023, three plots had no noxious plant species recorded: **Clinton - Union**, **Black Snake Road - S**, and **Reservoir** . The **Fox Hollow Road - S** Control plot had the most (n=16). The mean number of noxious plant species per Control plot was 4.83 (n=12), and the mean number of noxious plant species per assessment period for the Control plots was 2.225 (n=40).

The **Fox Hollow Road - S** Control plot had the highest mean number of noxious plant species per assessment period (13, n=2), and the **Black Snake Road - S**, **Clinton - Union, and Reservoir** Control plots had the lowest means per assessment period (0, n=4 except **Clinton - Union** n=2). Rankings of the total number of noxious plant species and of the mean number of noxious plant species per assessment period for the Control plots are shown in **Fig. 81**.

CONTROL PLOTS	Total Number of Noxious Plant Species Recorded
Fox Hollow Road - S	16
Fox Hollow Road - N	14
170.4	7
Black Snake Road - N	6
120 - 820 322 - Port Matilda (tie)	4
Bel - Tip / 80 - Woodland (tie)	3
Eagleton	1
Black Snake Road - S / Clinton - Union / Reservoir (tie)	0

CONTROL PLOTS	Mean Number of Noxious Plant Species per Assessment Period	Number of Assessment Periods
Fox Hollow Road - S*	13	2*
Fox Hollow Road - N*	10.5	2*
170.4*	5	2*
Black Snake Road - N	3.25	4
120 - 820 322 - Port Matilda (tie)	1.5	4
Bel - Tip / 80 - Woodland (tie)	0.75	4
Eagleton	0.25	4
Black Snake Road - S / Clinton - Union* / Reservoir (tie)	0	4 2* 4

* unequal number of assessment periods

Figure 81. Rankings of the total number of noxious plant species and of the mean number of noxious plant species per assessment period for the Control plots.

DISCUSSION

Pollinator Habitat Assessments

Pollinator assessment tools were developed to be objective indicators of pollinator habitat quality. However, certain biases based on training, background, and personal perceptions may unintentionally (and unavoidably) be evident in scoring. For example, novice users of assessments may consider non-native flowering plants as equivalent to native flowering plants in the quality of food resources provided to pollinators. Also, one of the scoring metrics requires the user to estimate in the field the percent cover of invasive species. This is problematic, as perceptions of what is "invasive" can differ among users, and how one estimates cover is highly subjective. For example, native plants such as hayscented fern can dominate a landscape and restrict the spread of nectar plants, but is hayscented fern "invasive"? Our research team has wrestled with that very question.

In the time since our research team's 2021 PennDOT Report, the Tier 3 ROWHWG pollinator habitat scorecard has undergone scoring changes—specifically, the scores for "Abundance of Milkweed" have been reduced. The maximum amount of points available for this metric has been halved; therefore, with v2.2 of the scorecard, the presence or absence of milkweed does not have as much influence on the habitat scores as with the previous version of the scorecard. This is a welcome improvement.

According to the results of the pollinator habitat assessments, some Tx plots scored higher than their corresponding Control plots, some Tx plots scored lower than their corresponding Control plots, and some pairs of Tx and Control plots had roughly equal scores. For example, at the **Clinton - Union** site in July 2022, the Tx plot had fewer nectar plants (native and non-native), fewer native nectar plants, and fewer pollinator habitat resources than the Control plot. Conversely, at the **Eagleton** site in July 2023, the Tx plot had more nectar plants, more native nectar plants, and slightly more pollinator habitat resources than the Control plot. In instances where the Tx and the Control plots had roughly equal scores, such as at the **Black Snake Road - S** site in August 2022, the Tx plot had milkweed and more nectar plants, but also had a higher percentage of invasive plant cover than the Control plot.

Overall, for sites that our research team assessed in 2022 and 2023, the Tx plots tended to have more nectar plant species but also more invasive plant cover. This is also reflected in our Vegetation Species Richness surveys. With the exception of the **Fox Hollow Road - N** and **Fox Hollow Road - S** sites, more noxious plant species were recorded at the Tx plots than at their corresponding Control plots.

Vegetation Species Richness

To accompany the subjective vegetation assessment scores associated with the pollinator report card (above), objective transect-sampling for plants was concurrently conducted at all site. This approach is robust in documenting the percent cover of plants but is not robust at detecting rare plants at a particular site. When we compared the objective vegetation species richness statistically, daylight sites did have significantly more coverage of native, flowering forbs and shrubs. However, similar to our noxious plant results, we also found significantly more coverage of non-native plants in daylight sites. This result indicates that daylighting increases solar radiation and 'releases' native forbs and other flowering plants from the seedbank—however, the daylighting process and related site disturbance also releases and/or introduces non-native plants to the daylight areas. For daylight sites to have the greatest positive impact on pollinators, daylighting should be followed by selective herbicide application to reduce non-native and invasive plants---especially plants such as Japaneses stiltgrass and Japanese knotweed. We also note that daylighting seems to work best on secondary roads (versus interstates) perhaps due to the lower rate of

invasive species introduction at these sites. Secondary roads have less traffic and, therefore, less opportunity for invasive seeds and fragments to be introduced.

Noxious Plant Species Present at the Sites

With the exception of the two **Fox Hollow Road** sites, more noxious plant species were recorded at the Tx plots than at their corresponding Control plots (again, a 'noxious' plant is any invasive plant designated by an Agricultural/Governoring authority that is injurious to crops or ecosystems see: https://www.aphis.usda.gov/sites/default/files/weedlist.pdf). This is logical as daylighting removes tall, woody vegetation in order to encourage the growth of flowering shrubs and forbs, but can also allow non-native plants to invade (especially sun-loving and disturbance-mediated species like Japanese knotweed and Japanese stiltgrass). The ROWHWG Tier 3 scorecard does not include a metric on the number of noxious plant species, so we do not necessarily expect the lowest scoring plots to have the highest number of noxious plant species or the highest scoring plots to have the fewest. Regardless, we regard these data as crucial for future vegetation management decisions for roadsides.

RECOMMENDATIONS

- Daylighting is a tool used by the Pennsylvania Department of Transportation (PennDOT) to increase sightlines along roadways and potentially improve road safety by increasing road exposure to solar radiation and decrease icing on road surfaces. Our results indicate that this technique may have secondary benefits for pollinators by exposing roadsides to increased solar radiation and 'releasing' native flowering plants from the seed bank.
- Our data indicate daylighting implemented along secondary roads in rural areas provides benefits to native pollinators. These sites, generally, have lower coverage of invasive/non-native plant species and higher flowering plant species overall than sites along interstate highways. In addition, pollinators attracted to roadsides on secondary roads will be less likely to be killed by traffic. Butterflies are most likely to be killed by cars and these pollinators are especially prone to traffic collisions along roadways with high rates and speeds of traffic (Hopwood et al 2015).
- Transect-based vegetation inventories indicate that daylighting increases the coverage of native, flowering forbs and shrubs/vines along secondary roadsides. However, invasive and non-native vegetation species also increases in daylight areas. We recommend that managers follow daylighting with selective herbicide application to control invasive plants and further 'release' native flowering plants that benefit pollinators. Our research indicates that daylighting may increase coverage of critical plants for monarchs like milkweeds and goldenrods. However, our sampling was limited to daylight sites that were treated within that past 1-2 years. We expect native flowering plants to increase their coverage over time as long as invasive, non-native plant species are controlled.
- We did not detect significant differences in pollinator assessment scores between daylight and non-daylight sites. Pollinator scorecards include assessment of additional habitat components needed by pollinators (nesting, over-wintering habitat). Although daylighting releases native flowering plants, it may not concurrently increase these additional habitat components. Additionally, the concurrent increased coverage of non-native plants negatively affects scores. Proper post-daylighting treatment, we believe, will be reflected in increased pollinator scores. Finally, surveys of native pollinators are recommended to provide more detailed information about the species and types (butterflies, bees, flies, etc.) of pollinators that may respond to daylight implementation along roadways.

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SUPPLEMENTAL MATERIALS

Pollinator Habitat Assessment Scorecard

Rights-Of-Way As Habitat Working Group (ROWHWG)

Pollinator Habitat Scorecard (Tier 3 – v2.2)

RIGHTS-OF-WAY AS HABITAT POLLINATOR SCORECARD - *TIER 3 v2.2*

Site Name _____ **ROW Organization** _____

Assessor _____ **Assessor's Affiliation** _____

Site Area _____ acres **Date** _____ **Start Time** _____

Monitoring Type
- ○ Baseline
- ○ Post-activity

Survey Type
- ○ Random/Systematic
- ○ Representative†

INSTRUCTIONS

Tier 3 assessments provide a qualitative rating of habitat quality and information on plant composition. Sum all points in the Total Points box to calculate a score. Note additional pollinator and management information on the back. Use the attached Plant Species Worksheets. †***If using this scorecard for CCAA monitoring purposes, plot locations must be randomly selected. See Section 14.2 of the CCAA for more details.***

Plot Number _____ **Plot Location** _____

Plot Description (ROW type, off-ROW or facility, leased vs. owned, etc.)

Photos (describe)

Adjacent Land Use (select up to two categories for land use adjacent to site nearest the plot location)

- ☐ Cropland
- ☐ Developed
- ☐ Woodland
- ☐ Wetland
- ☐ Grassland (Diverse)
- ☐ Grassland (Non-Diverse)
- ☐ Other:

Potentially Flowering Nectar Plant Cover

- ○ 0 % ----------> { 0 }
- ○ 1 – 5 % ----------> { 1 }
- ○ 6 – 10 % ----------> { 6 }
- ○ 11 – 25 % ----------> { 12 }
- ○ 26 – 50 % ----------> { 18 }
- ○ 51 – 75 % ----------> { 24 }
- ○ 76 – 100 % ----------> { 30 }

POINTS ☐

Additional Habitat Resources

- Native bunch grasses ----------> ☐
- Brush piles ----------> ☐
- Undisturbed thatch----------> ☐
- Dead wood/snags----------> ☐
- Rock piles----------> ☐
- More than 1 sq. ft bare ground ------> ☐
- Plants with hollow pithy stems-------> ☐
- Larval host plants (*e.g., milkweed*)-- > ☐

POINTS (3 POINTS EACH) ☐

Notes

Number of Nectar Plant Species*

- ○ 0 species ----------> { 0 }
- ○ 1 – 5 species----------> { 3 }
- ○ 6 – 10 species ----------> { 6 }
- ○ 11 – 20 species ----------> { 8 }
- ○ 21 – 35 species ----------> { 11 }
- ○ > 35 species ----------> { 17 }

POINTS ☐

Number of Native Nectar Plant Species*

- ○ 0 species ----------> { 0 }
- ○ 1 – 5 species ----------> { 1 }
- ○ 6 – 10 species ----------> { 2 }
- ○ 11 – 15 species ----------> { 3 }
- ○ 16 - 20 species ----------> { 5 }
- ○ > 20 species ----------> { 7 }

POINTS ☐

* *see Plant Species Worksheets on page 3*

---------- CONTINUED ON BACK SIDE ----------

RIGHTS-OF-WAY AS HABITAT POLLINATOR SCORECARD - *TIER 3 v2.2*

Abundance of Milkweed*

- ○ 0 stems ---------- > {0}
- ○ 1 stem ---------- > {3}
- ○ 2 – 5 stems ---------- > {5}
- ○ 6 – 10 stems ---------- > {6}
- ○ 11 – 50 stems ---------- > {9}
- ○ > 50 stems ---------- > {13}

POINTS ☐

Invasive Species & Noxious Weed Cover*

- ○ 0 % ----------> {6}
- ○ 1 – 5 % ----------> {5}
- ○ 6 – 10 % ----------> {4}
- ○ 11 – 25 % ----------> {3}
- ○ 26 – 50 % ----------> {2}
- ○ 51 – 75 % ----------> {1}
- ○ 76 – 100 % ----------> {0}

POINTS ☐

HABITAT QUALITY RATINGS (see the User's Guide for more detail)

0 – 20: Improvement Opportunity **21 – 35:** Basic Habitat Quality

36 – 50: Moderate Habitat Quality **51 – 75**: High Habitat Quality **76+:** Exemplary

TOTAL POINTS ☐

Pollinators Observed

- ☐ Honey bees
- ☐ Other bees
- ☐ Monarch butterflies
- ☐ Other butterflies
- ☐ Beetles on flowers
- ☐ Wasps on flowers
- ☐ Moths
- ☐ Flies on flowers
- ☐ Other (describe):

Threats

- ☐ Lack of management direction, targets, or objectives
- ☐ Negative perception of habitat
- ☐ Woody encroachment
- ☐ Invasive species competition
- ☐ Habitat conversion
  (e.g., actions that remove nectar plants during the growing season; habitat loss by construction, broadscale vegetation controls, or other land disturbance)
- ☐ Frequent grazing, mowing or herbicide use during the growing season
- ☐ Adjacent land use encroachment (e.g., unauthorized land uses)
- ☐ Adjacent land use impacts
  (e.g., chemical drift, cropland or developed land adjacent to site without a hedgerow present)
- ☐ Other (describe):

Opportunities

- ☐ Enhancement native seeding/planting
- ☐ Adding nesting structures (e.g., brush piles, nesting structures)
- ☐ Preserving areas of dead wood or undisturbed thatch
- ☐ Use of site for public outreach or education
- ☐ Engaging volunteer partnerships in site conservation
- ☐ Other (describe):

Please use the Threats & Opportunities observed to complete the Management Module (see Users' Guide for more info).

Observations/Recommendations

RIGHTS-OF-WAY AS HABITAT POLLINATOR SCORECARD - *TIER 3 v2.2*

PLANT SPECIES WORKSHEETS

List Nectar Species (include milkweed; also provide count by milkweed species below)	**Native?**	**Blooming?**
1	☐	☐
2	☐	☐
3	☐	☐
4	☐	☐
5	☐	☐
6	☐	☐
7	☐	☐
8	☐	☐
9	☐	☐
10	☐	☐
11	☐	☐
12	☐	☐
13	☐	☐
14	☐	☐
15	☐	☐
16	☐	☐
17	☐	☐
18	☐	☐
19	☐	☐
20	☐	☐
Count the total number of species, native species, and blooming species:		
	(species)	(native) (blooming)

(Additional space on Page 4)

List Milkweed Species	**Tally by:**	**Stems**	**Plants** (optional)
1			
2			
3			
4			
Count the total number of milkweed stems and (optionally) plants:			

Describe any unknown species for later identification:

RIGHTS-OF-WAY AS HABITAT POLLINATOR SCORECARD - *TIER 3 v2.2*

PLANT SPECIES WORKSHEETS

List Nectar Species (continued)	Native?	Blooming?
21	☐	☐
22	☐	☐
23	☐	☐
24	☐	☐
25	☐	☐
26	☐	☐
27	☐	☐
28	☐	☐
29	☐	☐
30	☐	☐
31	☐	☐
32	☐	☐
33	☐	☐
34	☐	☐
35	☐	☐
36	☐	☐
37	☐	☐
38	☐	☐
39	☐	☐
40	☐	☐

Describe how natives were defined: _____

List Invasive & Noxious Weeds Species	% Cover by Species
1	
2	
3	
4	
5	
6	
7	
Estimate total cover of invasive species and noxious weeds:	

Describe how invasive/noxious species were defined: _____

Detailed Site Data per Assessor

ASSESSOR: HLCS (2022)

Tx Sites	JULY 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	62	47 (↓ Tx)	28	14	50.0%	7	5	2	7.1%	11-25%
Black Snake Rd - N	55	54 (↓ Tx)	31	11	35.5%	0	7	4	12.5%	26-50%
Black Snake Rd - S	61	48 (↓ Tx)	31	15	48.4%	3	5	3	9.4%	11-25%
Clinton / Union	35	51 (↑ Tx)	12	4	33.3%	0	3	1	8.3%	6-10%
Eagleton	33	49 (↑ Tx)	19	9	47.4%	0	3	1	5.3%	11-25%
Reservoir	43	53 (↑ Tx)	17	7	41.2%	0	4	1	5.9%	11-25%
120 - 820	43	39 (↓ Tx)	12	4	33.3%	8	3	3	23.1%	51-75%
170.4	31	35 (↑ Tx)	12	2	16.7%	0	3	2	16.7%	76-100%
322 - Port Matilda	47	48 (↑ Tx)	11	6	54.5%	6	6	1	9.1%	51-75%
80 - Woodland	57	1 (↓ Tx)	26	14	53.8%	4	6	4	15.4%	26-50%

Control Sites	JULY 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	47	62 (↑ than C)	10	8	80.0%	0	5	0	0.0%	0%
Black Snake Rd - N	54	55 (↑ than C)	23	14	60.9%	0	6	0	0.0%	6-10%
Black Snake Rd - S	48	61 (↑ than C)	13	10	76.9%	0	7	0	0.0%	1-5%
Clinton / Union	51	35 (↓ than C)	14	11	78.6%	0	6	0	0.0%	6-10%
Eagleton	49	33 (↓ than C)	7	4	57.1%	0	4	0	0.0%	0%
Reservoir	53	43 (↓ than C)	19	14	73.7%	0	6	0	0.0%	0%
120 - 820	39	43 (↑ than C)	11	10	90.9%	0	4	0	0.0%	1-5%
170.4	35	31 (↓ than C)	20	9	45.0%	0	5	2	10.0%	6-10%
322 - Port Matilda	48	47 (↓ than C)	15	12	80.0%	0	5	2	12.5%	6-10%
80 - Woodland	57	57 (↑ than C)	9	7	77.8%	0	3	0	0.0%	1-5%

Tx Sites	AUGUST 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	68	59 (↓ Tx)	55	40	72.7%	3	4	5	9.1%	11-25%
Black Snake Rd - N	66	71 (↑ Tx)	45	33	73.3%	3	6	5	10.9%	51-75%
Black Snake Rd - S	71	63 (↓ Tx)	41	34	82.9%	0	6	1	2.4%	1-5%
Clinton / Union	35	72 (↑ Tx)	14	4	28.6%	0	2	1	6.7%	6-10%
Eagleton	64	58 (↓ Tx)	29	26	89.7%	0	8	3	10.3%	6-10%
Reservoir	64	65 (↑ Tx)	33	29	87.9%	1	7	1	3.0%	6-10%
120 - 820	41	61 (↑ Tx)	18	12	66.7%	6	4	4	21.1%	76-100%
170.4	40	54 (↑ Tx)	22	11	50.0%	0	4	5	22.7%	26-50%
322 - Port Matilda	66	63 (↓ Tx)	24	14	58.3%	14	7	1	4.2%	6-10%
80 - Woodland	62	44 (↓ Tx)	22	17	77.3%	0	6	2	9.1%	6-10%

Control Sites	AUGUST 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	59	68 (↑ than C)	12	12	100.0%	0	6	0	0.0%	0%
Black Snake Rd - N	71	66 (↓ than C)	29	28	96.6%	0	6	1	3.4%	1-5%
Black Snake Rd - S	63	71 (↑ than C)	17	16	94.1%	0	7	0	0.0%	1-5%
Clinton / Union	72	35 (↓ than C)	25	24	96.0%	0	6	0	0.0%	0%
Eagleton	58	64 (↑ than C)	18	17	94.4%	0	7	0	0.0%	n/a
Reservoir	65	64 (↓ than C)	23	21	91.3%	0	6	0	0.0%	1-5%
120 - 820	61	41 (↓ than C)	13	12	92.3%	0	7	1	7.7%	1-5%
170.4	54	40 (↓ than C)	18	15	83.3%	0	5	3	16.7%	6-10%
322 - Port Matilda	63	66 (↑ than C)	16	16	100.0%	0	7	0	0.0%	1-5%
80 - Woodland	44	62 (↑ than C)	9	8	88.9%	0	4	0	0.0%	0%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

ASSESSOR: HLCS (2023)

Tx Sites	JULY 2023										
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	68	64 (↓er than Tx)	40	29	72.5%	4	6	5	12.5%	51-75%
Black Snake Rd - N	67	70 (↑er than Tx)	43	26	60.5%	1	6	5	11.4%	6-10%
Black Snake Rd - S	67	66 (↓er than Tx)	34	26	76.5%	6	7	1	2.9%	6-10%
Eagleton	66	64 (↓er than Tx)	40	31	77.5%	0	5	4	9.8%	11-25%
Fox Hollow - N	59	66 (↑er than Tx)	39	24	61.5%	0	5	8	20.5%	26-50%
Fox Hollow - S	52	61 (↑er than Tx)	24	12	50.0%	0	6	8	33.3%	26-50%
Reservoir	57	57 (= to Tx)	23	15	65.2%	1	6	3	13.0%	6-10%
120 - 820	43	67 (↑er than Tx)	14	9	64.3%	0	5	4	26.7%	76-100%
322 - Port Matilda	64	74 (↑er than Tx)	26	16	61.5%	23	6	1	3.8%	11-25%
80 - Woodland	36	57 (↑er than Tx)	16	7	43.8%	0	4	3	18.8%	26-50%

Control Sites	JULY 2023									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	64	68 (↑er than C)	14	14	100.0%	0	6	0	0.0%	1-5%
Black Snake Rd - N	70	67 (↓er than C)	29	25	86.2%	0	6	2	6.9%	6-10%
Black Snake Rd - S	66	67 (↑er than C)	17	17	100.0%	0	6	0	0.0%	1-5%
Eagleton	64	66 (↑er than C)	12	12	100.0%	0	6	0	0.0%	1-5%
Fox Hollow - N	66	59 (↓er than C)	23	15	65.2%	0	6	7	30.4%	6-10%
Fox Hollow - S	61	52 (↓er than C)	20	14	70.0%	0	6	6	30.0%	26-50%
Reservoir	57	57 (= to C)	20	19	95.0%	0	5	0	0.0%	1-5%
120 - 820	67	43 (↓er than C)	15	14	93.3%	0	7	1	6.7%	1-5%
322 - Port Matilda	74	64 (↓er than C)	31	28	90.3%	0	7	0	0.0%	1-5%
80 - Woodland	57	36 (↓er than C)	19	18	94.7%	0	7	0	0.0%	1-5%

Tx Sites	AUGUST 2023									
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	64	61 (↓er than Tx)	43	31	72.1%	0	5	4	9.3%	51-75%
Black Snake Rd - N	55	74 (↑er than Tx)	44	33	75.0%	0	4	4	9.1%	51-75%
Black Snake Rd - S	65	74 (↑er than Tx)	38	30	78.9%	2	5	2	5.3%	11-25%
Eagleton	63	72 (↑er than Tx)	35	25	71.4%	0	6	4	11.1%	11-25%
Fox Hollow - N	47	71 (↑er than Tx)	31	18	58.1%	0	4	6	19.4%	51-75%
Fox Hollow - S	50	69 (↑er than Tx)	35	19	54.3%	0	5	11	31.4%	51-75%
Reservoir	58	70 (↑er than Tx)	25	18	72.0%	1	6	2	8.0%	11-25%
120 - 820	35	66 (↑er than Tx)	18	12	66.7%	0	2	3	15.8%	76-100%
322 - Port Matilda	59	77 (↑er than Tx)	20	12	60.0%	37	6	0	0.0%	11-25%
80 - Woodland	48	57 (↑er than Tx)	15	9	60.0%	0	6	1	6.7%	26-50%

Control Sites	AUGUST 2023									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	61	64 (↑er than C)	11	11	100.0%	0	5	0	0.0%	1-5%
Black Snake Rd - N	74	55 (↓er than C)	25	23	92.0%	0	7	1	4.0%	1-5%
Black Snake Rd - S	74	65 (↓er than C)	23	23	100.0%	0	7	0	0.0%	1-5%
Eagleton	72	63 (↓er than C)	17	17	100.0%	0	8	0	0.0%	1-5%
Fox Hollow - N	71	47 (↓er than C)	24	19	79.2%	0	7	5	20.8%	6-10%
Fox Hollow - S	69	50 (↓er than C)	28	21	75.0%	0	6	7	25.0%	11-25%
Reservoir	70	58 (↓er than C)	13	13	100.0%	0	8	0	0.0%	1-5%
120 - 820	66	35 (↓er than C)	11	11	100.0%	0	7	0	0.0%	6-10%
322 - Port Matilda	77	59 (↓er than C)	25	25	100.0%	0	8	0	0.0%	1-5%
80 - Woodland	57	48 (↓er than C)	19	18	94.7%	0	7	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

ASSESSOR: BDR (2022)

Tx Sites	JULY 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	67	53 (↓er than Tx)	34	20	58.8%	7	4	3	8.8%	11-25%
Black Snake Rd - N	58	65 (↑er than Tx)	40	19	47.5%	0	3	5	12.2%	11-25%
Black Snake Rd - S	68	60 (↓er than Tx)	42	25	59.5%	4	4	3	7.1%	11-25%
Clinton / Union	37	60 (↑er than Tx)	13	6	46.2%	0	1	1	7.7%	1-5%
Eagleton	44	44 (=to Tx)	26	17	65.4%	0	4	3	11.5%	6-10%
Reservoir	55	63 (↑er than Tx)	27	20	74.1%	0	4	4	14.3%	11-25%
120 - 820	48	55 (↑er than Tx)	25	11	44.0%	8	3	5	19.2%	51-75%
170.4	31	63 (↑er than Tx)	20	6	30.0%	0	2	5	25.0%	11-25%
322 - Port Matilda	72	62 (↓er than Tx)	24	14	58.3%	11-50	5	1	4.2%	6-10%
80 - Woodland	65	51 (↓er than Tx)	33	18	54.5%	4	4	4	12.1%	26-50%

Control Sites	JULY 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	53	67 (↑er than C)	13	13	100.0%	0	2	0	0.0%	0%
Black Snake Rd - N	65	58 (↓er than C)	37	25	67.6%	0	3	3	8.1%	26-50%
Black Snake Rd - S	60	68 (↑er than C)	18	17	94.4%	0	4	0	0.0%	1-5%
Clinton / Union	60	37 (↓er than C)	24	17	70.8%	0	3	0	0.0%	1-5%
Eagleton	44	44 (=to C)	12	11	91.7%	0	3	0	0.0%	76-100%
Reservoir	63	55 (↓er than C)	25	21	84.0%	0	3	0	0.0%	0%
120 - 820	55	48 (↓er than C)	19	17	89.5%	0	3	1	5.3%	11-25%
170.4	63	31 (↓er than C)	39	31	79.5%	0	3	4	10.3%	11-25%
322 - Port Matilda	62	72 (↑er than C)	25	24	96.0%	0	3	1	3.8%	1-5%
80 - Woodland	51	65 (↑er than C)	11	8	72.7%	0	2	0	0.0%	1-5%

Tx Sites	AUGUST 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	79	59 (↓er than Tx)	38	25	65.8%	3	5	2	5.3%	1-5%
Black Snake Rd - N	71	60 (↓er than Tx)	42	21	50.0%	1	4	4	9.3%	26-50%
Black Snake Rd - S	61	61 (=to Tx)	33	20	60.6%	2	2	1	3.0%	6-10%
Clinton / Union	47	58 (↑er than Tx)	19	7	36.8%	0	1	2	10.5%	6-10%
Eagleton	55	52 (↓er than Tx)	32	22	68.8%	0	3	3	9.4%	6-10%
Reservoir	32	65 (↑er than Tx)	28	22	78.6%	0	3	1	3.6%	1-5%
120 - 820	62	56 (↓er than Tx)	22	11	50.0%	2-5	4	5	21.7%	51-75%
170.4	48	67 (↑er than Tx)	17	5	29.4%	0	2	4	23.5%	11-25%
322 - Port Matilda	67	65 (↓er than Tx)	22	14	63.6%	12	5	1	4.5%	1-5%
80 - Woodland	57	55 (↓er than Tx)	27	14	51.9%	0	3	3	11.1%	6-10%

Control Sites	AUGUST 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	59	79 (↑er than C)	12	12	100.0%	0	4	0	0.0%	0%
Black Snake Rd - N	60	71 (↑er than C)	32	26	81.3%	0	3	2	6.3%	11-25%
Black Snake Rd - S	61	61 (=to C)	19	17	89.5%	0	4	0	0.0%	0%
Clinton / Union	58	47 (↓er than C)	19	14	73.7%	0	4	0	0.0%	1-5%
Eagleton	52	55 (↑er than C)	19	17	89.5%	0	3	0	0.0%	76-100%
Reservoir	65	32 (↓er than C)	28	22	78.6%	0	4	0	0.0%	1-5%
120 - 820	56	62 (↑er than C)	17	15	88.2%	0	4	1	5.9%	11-25%
170.4	67	48 (↓er than C)	37	28	75.7%	0	3	3	8.1%	6-10%
322 - Port Matilda	65	67 (↑er than C)	24	23	95.8%	0	4	1	4.2%	1-5%
80 - Woodland	55	57 (↑er than C)	13	11	84.6%	0	3	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

ASSESSOR: BDR (2023)

Tx Sites	JULY 2023									
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	68	55 (↓er than Tx)	44	30	68.2%	6	4	3	6.8%	26-50%
Black Snake Rd - N	64	59 (↓er than Tx)	49	27	55.1%	2-5	3	6	12.0%	26-50%
Black Snake Rd - S	58	54 (↓er than Tx)	49	29	59.2%	1	4	1	2.0%	51-75%
Eagleton	63	29	48	29	60.4%	0	4	5	10.2%	11-25%
Fox Hollow - N	60	60 (= to Tx)	39	25	64.1%	0	3	4	10.3%	11-25%
Fox Hollow - S	56	62 (↑er than Tx)	36	16	44.4%	0	3	7	19.4%	51-75%
Reservoir	58	66 (↑er than Tx)	29	20	69.0%	0	5	2	6.9%	11-25%
120 - 820	43	59 (↑er than Tx)	15	8	53.3%	0	3	4	25.0%	76-100%
322 - Port Matilda	68	68 (= to Tx)	25	11	44.0%	26	7	2	8.0%	76-100%
80 - Woodland	46	60 (↑er than Tx)	11	5	45.5%	0	4	1	9.1%	51-75%

Control Sites	JULY 2023									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	55	68 (↑er than C)	17	16	94.1%	0	4	0	0.0%	0%
Black Snake Rd - N	59	64 (↑er than C)	38	27	71.1%	0	3	3	7.9%	26-50%
Black Snake Rd - S	54	58 (↑er than C)	20	20	100.0%	0	4	0	0.0%	1-5%
Eagleton	29	63 (↑er than C)	16	15	93.8%	0	5	1	5.9%	76-100%
Fox Hollow - N	60	60 (= to C)	28	20	71.4%	0	3	3	10.7%	1-5%
Fox Hollow - S	62	56 (↓er than C)	28	16	57.1%	0	5	6	21.4%	51-75%
Reservoir	66	58 (↓er than C)	28	24	85.7%	0	4	0	0.0%	0%
120 - 820	59	43 (↓er than C)	15	13	86.7%	3	5	1	6.7%	6-10%
322 - Port Matilda	68	68 (= to C)	34	33	97.1%	0	5	1	2.9%	1-5%
80 - Woodland	60	46 (↓er than C)	21	19	90.5%	0	3	0	0.0%	1-5%

Tx Sites	AUGUST 2023									
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	64	51 (↓er than Tx)	46	28	60.9%	0	3	4	8.7%	51-75%
Black Snake Rd - N	67	62 (↓er than Tx)	49	27	55.1%	0	4	7	14.0%	51-75%
Black Snake Rd - S	69	59 (↓er than Tx)	40	28	70.0%	3	5	4	10.0%	51-75%
Eagleton	61	49 (↓er than Tx)	47	28	59.6%	0	2	5	10.4%	51-75%
Fox Hollow - N	64	54 (↓er than Tx)	36	20	55.6%	0	4	4	11.1%	76-100%
Fox Hollow - S	44	52 (↑er than Tx)	26	8	30.8%	0	2	6	23.1%	51-75%
Reservoir	71	57 (↓er than Tx)	33	21	63.6%	1	6	2	6.1%	26-50%
120 - 820	50	54 (↑er than Tx)	23	13	56.5%	0	2	3	12.5%	76-100%
322 - Port Matilda	68	55 (↓er than Tx)	21	9	42.9%	32	5	0	0.0%	51-75%
80 - Woodland	53	54 (↑er than Tx)	16	9	56.3%	0	4	2	12.5%	51-75%

Control Sites	AUGUST 2023									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	51	64 (↑er than C)	17	16	94.1%	0	3	0	0.0%	1-5%
Black Snake Rd - N	62	67 (↑er than C)	24	19	79.2%	0	5	2	8.0%	51-75%
Black Snake Rd - S	59	69 (↑er than C)	24	23	95.8%	0	4	0	0.0%	1-5%
Eagleton	49	61 (↑er than C)	18	17	94.4%	0	4	0	0.0%	76-100%
Fox Hollow - N	54	64 (↑er than C)	26	19	73.1%	0	3	2	7.7%	1-5%
Fox Hollow - S	52	44 (↓er than C)	26	19	73.1%	0	3	4	15.4%	11-25%
Reservoir	57	71 (↑er than C)	23	20	87.0%	0	4	0	0.0%	1-5%
120 - 820	54	50 (↓er than C)	17	16	94.1%	0	5	0	0.0%	26-50%
322 - Port Matilda	55	68 (↑er than C)	30	29	96.7%	0	3	1	3.3%	6-10%
80 - Woodland	54	53 (↓er than C)	21	18	85.7%	0	3	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

ASSESSOR: AWS (2022)

Tx Sites	JULY 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	38	60 (↑er than Tx)	35	22	62.9%	6	3	2	5.7%	1-5%
Black Snake Rd - N	58	40 (↓er than Tx)	45	26	57.8%	0	4	5	10.9%	6-10%
Black Snake Rd - S	74	66 (↓er than Tx)	43	28	65.1%	2-5	5	4	9.3%	n/a
Clinton / Union		37 (↑er than Tx)	11	4	36.4%	0	1	1	9.1%	1-5%
Eagleton	45	35 (↓er than Tx)	22	16	72.7%	0	2	2	9.1%	1-5%
Reservoir	57	58 (↑er than Tx)	21	15	71.4%	0	3	3	13.6%	6-10%
120 - 820	48	37.5 (↓er than Tx)	19	13	68.4%	6-10	2	5	25.0%	51-75%
170.4	26	55 (↑er than Tx)	12	2	16.7%	0	2	5	41.7%	1-5%
322 - Port Matilda	60	54 (↓er than Tx)	28	17	60.7%	12	4	1	3.6%	1-5%
80 - Woodland	69	43 (↓er than Tx)	35	23	65.7%	7	4	3	8.6%	11-25%

Control Sites	JULY 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	60	38 (↓er than C)	19	18	94.7%	0	4	1	5.3%	1-5%
Black Snake Rd - N	40	58 (↑er than C)	14	13	92.9%	0	3	1	7.1%	26-50%
Black Snake Rd - S	66	74 (↑er than C)	25	24	96.0%	0	5	0	0.0%	11-25%
Clinton / Union	37		18	14	77.8%	0	1	0	0.0%	1-5%
Eagleton	35	45 (↑er than C)	11	11	100.0%	0	2	0	0.0%	76-100%
Reservoir	58	57 (↓er than C)	17	15	88.2%	0	4	0	0.0%	1-5%
120 - 820	37.5	48 (↑er than C)	18	18	100.0%	0	2	0	0.0%	51-100%
170.4	55	26 (↓er than C)	26	17	65.4%	0	2	4	15.4%	11-25%
322 - Port Matilda	54	60 (↑er than C)	20	20	100.0%	0	2	1	4.8%	1-5%
80 - Woodland	43	69 (↑er than C)	13	11	84.6%	0	3	0	0.0%	1-5%

Tx Sites	AUGUST 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	79	46 (↓er than Tx)	46	32	69.6%	2	5	6	12.8%	1-5%
Black Snake Rd - N	68	57 (↓er than Tx)	47	28	59.6%	4	4	6	12.5%	11-25%
Black Snake Rd - S	61	66 (↑er than Tx)	42	27	64.3%	2	2	2	4.8%	26-50%
Clinton / Union	23	57 (↑er than Tx)	13	6	46.2%	0	2	0	0.0%	1-5%
Eagleton	45	37 (↓er than Tx)	35	30	85.7%	0	3	3	8.6%	n/a
Reservoir	55	62 (↑er than Tx)	27	18	66.7%	0	4	3	11.1%	11-25%
120 - 820	50	42 (↓er than Tx)	22	11	50.0%	4	3	6	26.1%	6-10%
170.4	13	41 (↑er than Tx)	15	2	13.3%	0	1	4	26.7%	76-100%
322 - Port Matilda	49	54 (↑er than Tx)	21	12	57.1%	12	4	1	4.8%	26-50%
80 - Woodland	45	43 (↓er than Tx)	27	15	55.6%	0	3	3	11.1%	6-10%

Control Sites	AUGUST 2022									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	46	79 (↑er than C)	14	13	92.9%	0	4	0	0.0%	1-5%
Black Snake Rd - N	57	68 (↑er than C)	22	21	95.5%	0	2	0	0.0%	11-25%
Black Snake Rd - S	64	61 (↓er than C)	17	17	100.0%	0	5	0	0.0%	0%
Clinton / Union	57	23 (↓er than C)	18	16	88.9%	0	3	0	0.0%	1-5%
Eagleton	37	45 (↑er than C)	21	20	95.2%	0	3	0	0.0%	76-100%
Reservoir	62	55 (↓er than C)	27	23	85.2%	0	5	0	0.0%	1-5%
120 - 820	42	50 (↑er than C)	15	12	80.0%	0	4	3	20.0%	51-75%
170.4	41	13 (↓er than C)	25	21	84.0%	0	2	2	8.0%	51-75%
322 - Port Matilda	54	49 (↓er than C)	22	20	90.9%	0	3	1	4.5%	1-5%
80 - Woodland	43	45 (↑er than C)	12	12	100.0%	0	3	0	0.0%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

ASSESSOR: AWS or CGM* (2023)

Tx Sites	JULY 2023										
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	63	32 (↓er than Tx)	38	22	57.9%	5	6	4	10.5%	6-10%
Black Snake Rd - N	60	33 (↓er than Tx)	46	30	65.2%	1	4	6	12.8%	11-25%
Black Snake Rd - S	49	36 (↓er than Tx)	39	29	74.4%	5	4	1	2.6%	26-50%
Eagleton	50	27 (↓er than Tx)	36	24	66.7%	0	4	5	13.5%	26-50%
Fox Hollow - N	41	37 (↓er than Tx)	38	24	63.2%	0	3	8	21.1%	26-50%
Fox Hollow - S	31	44 (↑er than Tx)	30	16	53.3%	0	4	9	30.0%	26-50%
Reservoir	38	38.5 (↑er than Tx)	26	21	80.8%	0	4	0	0.0%	26-50%
120 - 820	27	33 (↓er than Tx)	19	11	57.9%	0	3	4	20.0%	51-75%
322 - Port Matilda	49	50 (↑er than Tx)	29	18	62.1%	45	5	2	6.9%	11-25%
80 - Woodland	17	36 (↑er than Tx)	17	7	41.2%	0	2	2	11.8%	76-100%

Control Sites	JULY 2023									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	32	63 (↑er than C)	12	12	100.0%	0	5	0	0.0%	1-5%
Black Snake Rd - N	33	60 (↑er than C)	24	20	83.3%	0	4	1	4.2%	6-10%
Black Snake Rd - S	36	49 (↑er than C)	22	21	95.5%	0	4	0	0.0%	1-5%
Eagleton	27	50 (↑er than C)	15	15	100.0%	0	3	0	0.0%	76-100%
Fox Hollow - N	37	41 (↑er than C)	33	24	72.7%	0	3	8	24.2%	6-10%
Fox Hollow - S	44	31 (↓er than C)	31	20	64.5%	0	4	10	32.3%	6-10%
Reservoir	38.5	38 (↓er than C)	22	21	95.5%	0	4	0	0.0%	1-5%
120 - 820	28	33 (↑er than C)	9	9	100.0%	0	4	0	0.0%	26-50%
322 - Port Matilda	50	49 (↓er than C)	34	33	97.1%	0	5	1	2.9%	1-5%
80 - Woodland	36	17 (↓er than C)	18	17	94.4%	0	4	1	5.6%	1-5%

Tx Sites	AUGUST 2023									
Site Name (A-Z)	Tier 3 v2.2 Score	Control Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	57	25 (↓er than Tx)	59	43	72.9%	2	4	7	11.7%	6-10%
Black Snake Rd - N*	55*	39* (↓er than Tx)	34	11	32.4%	0	7	5	14.3%	26-50%
Black Snake Rd - S*	47*	27* (↓er than Tx)	27	18	66.7%	"2-5"	6	2	7.4%	26-50%
Eagleton	43	32 (↓er than Tx)	39	27	69.2%	0	3	6	15.0%	6-10%
Fox Hollow - N	43	34 (↓er than Tx)	40	27	67.5%	0	4	5	12.5%	51-75%
Fox Hollow - S	36	41* (↑er than Tx)	36	17	47.2%	0	4	13	35.1%	51-75%
Reservoir*	51*	34 (↓er than Tx)	24	13	54.2%	1	6	2	8.0%	6-10%
120 - 820	28	32 (↓er than Tx)	22	13	59.1%	0	1	4	17.4%	76-100%
322 - Port Matilda	31	41 (↑er than Tx)	20	13	65.0%	43	3	0	0.0%	51-75%
80 - Woodland	26	37 (↑er than Tx)	15	8	53.3%	0	3	1	6.7%	51-75%

Control Sites	AUGUST 2023									
Site Name (A-Z)	Tier 3 v2.2 Score	Tx Plot Score	# Nectar Taxa	# Native Taxa	% Native Taxa	# Milkweed Stems	# Pollinator Habitat Resources	# Noxious spp.	% Noxious spp.	% Invasive Cover
Bel - Tip	25	57 (↑er than C)	15	13	86.7%	0	3	2	13.3%	6-10%
Black Snake Rd - N*	39*	55* (↑er than C)	19	13	68.4%	0	4	2	10.0%	6-10%
Black Snake Rd - S*	27*	47* (↑er than C)	13	13	100.0%	0	3	0	0.0%	0%
Eagleton	32	43 (↑er than C)	20	20	100.0%	0	3	0	0.0%	76-100%
Fox Hollow - N	34	43 (↑er than C)	24	17	70.8%	0	4	7	29.2%	1-5%
Fox Hollow - S	41*	36 (↓er than C)	38	26	68.4%	0	4	10	26.3%	6-10%
Reservoir	34	51* (↑er than C)	12	12	100.0%	0	4	0	0.0%	1-5%
120 - 820	33	32 (↓er than C)	14	14	100.0%	0	6	0	0.0%	26-50%
322 - Port Matilda	41	31 (↓er than C)	25	24	96.0%	0	4	0	0.0%	1-5%
80 - Woodland	37	25 (↓er than C)	15	13	86.7%	0	5	1	6.7%	1-5%

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Summary of Scores and Rankings per Assessor

2022 Objective Site Rankings (all users)

2022 — HLCS

JULY

JULY 2022 - HLCS - Tx - Site Rankings

Site Name	Score
Bel - Tip	62
Black Snake Road - S	61
80 - Woodland	57
Black Snake Road - N	55
322 - Port Matilda	47
120 - 820 and Reservoir (tie)	43
Clinton / Union and Eagleton (tie)	28
170.4	26

JULY 2022 - HLCS - Control - Site Rankings

Site Name	Score
Black Snake Road - N	54
Reservoir	53
Clinton / Union	51
Eagleton	49
Black Snake Road - S and 322 - Port Matilda (tie)	48
Bel - Tip	47
120 - 820	39
170.4	35
80 - Woodland	34

AUGUST

AUGUST 2022 - HLCS - Tx - Site Rankings

Site Name	Score
Black Snake Road - S	71
Bel - Tip	68
Black Snake Road - N and 322 - Port Matilda (tie)	66
Reservoir and Eagleton (tie)	64
80 - Woodland	62
120 - 820	41
170.4	40
Clinton / Union	26

AUGUST 2022 - HLCS - Control - Site Rankings

Site Name	Score
Clinton / Union	72
Black Snake Road - N	71
Reservoir	65
Black Snake Road - S and 322 - Port Matilda (tie)	63
120 - 820	61
Bel - Tip	59
Eagleton	58
170.4	54
80 - Woodland	44

JULY + AUGUST

JUL + AUG 2022 - HLCS - Tx - Site Rankings

Site Name	Score
Black Snake Road - S	66
Bel - Tip	65
Black Snake Road - N	60.5
80 - Woodland	59.5
322 - Port Matilda	56.5
Reservoir	53.5
Eagleton	46
120 - 820	42
170.4	32
Clinton / Union	26.5

JUL + AUG 2022 - HLCS - Control - Site Rankings

Site Name	Score
Black Snake Road - N	62.5
Clinton / Union	61.5
Reservoir	59
Black Snake Road - S and 322 - Port Matilda (tie)	55.5
Eagleton	53.5
Bel - Tip	53
120 - 820	50
170.4	44.5
80 - Woodland	39

2022 — BDR

JULY

JULY 2022 - BDR - Tx - Site Rankings

Site Name	Score
322 - Port Matilda	72
Black Snake Road - S	68
Bel - Tip	67
80 - Woodland	65
Black Snake Road - N	58
Reservoir	55
120 - 820	48
Eagleton	44
170.4	31
Clinton / Union	30

JULY 2022 - BDR - Control - Site Rankings

Site Name	Score
Black Snake Road - N	65
170.4 and Reservoir (tie)	63
322 - Port Matilda	62
Clinton / Union and Black Snake Road - S (tie)	60
120 - 820	55
Bel - Tip	53
80 - Woodland	51
Eagleton	44

AUGUST

AUGUST 2022 - BDR - Tx - Site Rankings

Site Name	Score
Bel - Tip	79
Black Snake Road - N	71
322 - Port Matilda	67
120 - 820	62
Black Snake Road - S	61
80 - Woodland	57
Eagleton	55
170.4	48
Clinton / Union	47
Reservoir	32

AUGUST 2022 - BDR - Control - Site Rankings

Site Name	Score
170.4	67
Reservoir and 322 - Port Matilda (tie)	65
Black Snake Road - S	61
Black Snake Road - N	60
Bel - Tip	59
Clinton / Union	58
120 - 820	56
80 - Woodland	55
Eagleton	52

JULY + AUGUST

JUL + AUG 2022 - BDR - Tx - Site Rankings

Site Name	Score
Bel - Tip	73
322 - Port Matilda	69.5
Black Snake Road - N and Black Snake Road - S (tie)	64.5
80 - Woodland	61
120 - 820	55
Eagleton	49.5
Reservoir	43.5
170.4	39.5
Clinton / Union	35.5

JUL + AUG 2022 - BDR - Control - Site Rankings

Site Name	Score
170.4	65
Reservoir	64
322 - Port Matilda	63.5
Black Snake Road - N	62.5
Black Snake Road - S	60.5
Clinton / Union	59
Bel - Tip	56
120 - 820	55.5
80 - Woodland	53
Eagleton	48

2022 — AWS

JULY

JULY 2022 - AWS - Tx - Site Rankings

Site Name	Score
Black Snake Road - S	74
80 - Woodland	69
322 - Port Matilda	60
Black Snake Road - N	58
Reservoir	57
120 - 820	48
Eagleton	45
Bel - Tip	38
170.4	26
Clinton / Union	23

JULY 2022 - AWS - Control - Site Rankings

Site Name	Score
Black Snake Road - S	66
Bel - Tip	60
Reservoir	58
170.4	55
322 - Port Matilda	54
80 - Woodland	43
Black Snake Road - N	40
120 - 820	37.5
Clinton / Union	37
Eagleton	35

AUGUST

AUGUST 2022 - AWS - Tx - Site Rankings

Site Name	Score
Bel - Tip	79
Black Snake Road - N	68
Black Snake Road - S	61
Reservoir	55
120 - 820	50
322 - Port Matilda	49
Eagleton and 80 - Woodland (tie)	45
Clinton / Union	32
170.4	13

AUGUST 2022 - AWS - Control - Site Rankings

Site Name	Score
Black Snake Road - S	64
Reservoir	62
Clinton / Union and Black Snake Road - N (tie)	57
322 - Port Matilda	54
Bel - Tip	46
80 - Woodland	43
120 - 820	42
170.4	41
Eagleton	37

JULY + AUGUST

JUL + AUG 2022 - AWS - Tx - Site Rankings

Site Name	Score
Black Snake Road - S	67.5
Black Snake Road - N	63
Bel - Tip	58.5
80 - Woodland	57
Reservoir	56
322 - Port Matilda	54.5
120 - 820	49
Eagleton	45
Clinton / Union	[illegible]
170.4	19.5

JUL + AUG 2022 - AWS - Control - Site Rankings

Site Name	Score
Black Snake Road - S	65
Reservoir	60
322 - Port Matilda	54
Bel - Tip	53
Black Snake Road - N	48.5
170.4	48
Clinton / Union	47
80 - Woodland	43
120 - 820	39.7
Eagleton	36

2022 — All Scorers

JULY

JULY 2022 - All - Tx - Site Rankings

Site Name	Score
Black Snake Road - S	67.6
80 - Woodland	63.6
322 - Port Matilda	59.6
Black Snake Road - N	57
Bel - Tip	55.6
Reservoir	51.6
120 - 820	46.3
Eagleton	39
170.4	27
Clinton / Union	25

JULY 2022 - All - Control - Site Rankings

Site Name	Score
Black Snake Road - S and Reservoir (tie)	58
322 - Port Matilda	54.6
Bel - Tip	53.3
Black Snake Road - N	53
170.4	51
Clinton / Union	49.3
120 - 820	43.8
Eagleton and 80 - Woodland (tie)	42.6

AUGUST

AUGUST 2022 - All - Tx - Site Rankings

Site Name	Score
Bel - Tip	75.3
Black Snake Road - N	68.3
Black Snake Road - S	64.3
322 - Port Matilda	60.6
80 - Woodland and Eagleton (tie)	54.6
120 - 820	51
Reservoir	50.3
170.4	[illegible]
Clinton / Union	[illegible]

AUGUST 2022 - All - Control - Site Rankings

Site Name	Score
Reservoir	64
Black Snake Road - N and Black Snake Road - S (tie)	62.6
Clinton / Union	62.3
322 - Port Matilda	60.6
Bel - Tip	54.6
170.4	54
120 - 820	53
Eagleton	49
80 - Woodland	47.3

JULY + AUGUST

JUL + AUG 2022 - All - Tx - Site Rankings

Site Name	Score
Black Snake Road - S	66
Bel - Tip	65.5
Black Snake Road - N	62.6
322 - Port Matilda	60.1
80 - Woodland	59.1
Reservoir	51
120 - 820	48.6
Eagleton	46.8
170.4	[illegible]
Clinton / Union	[illegible]

JUL + AUG 2022 - All - Control - Site Rankings

Site Name	Score
Reservoir	61
Black Snake Road - S	60.3
Black Snake Road - N	57.8
322 - Port Matilda	57.6
Clinton / Union	55.8
Bel - Tip	54
170.4	52.5
120 - 820	48.4
Eagleton	45.8
80 - Woodland	45

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

Summary of Scores and Rankings per Assessor:

2023 Objective Site Rankings (all users)

HLCS

JULY

2023	JULY 2023 - HLCS - Tx - Site Rankings		JULY 2023 - HLCS - Control - Site Rankings	
	Site Name	Score	Site Name	Score
HLCS	Bel - Tip	68	322 - Port Matilda	74
	Black Snake Road - N and Black Snake Road - S (tie)	67	Black Snake Road - N	70
	Eagleton	66	120 - 820	67
	322 - Port Matilda	64	Black Snake Road - S and Fox Hollow - N (tie)	66
	Fox Hollow - N	59	Bel - Tip and Eagleton (tie)	64
	Reservoir	57	Fox Hollow - S	61
	Fox Hollow - S	52	Reservoir and 80 - Woodland (tie)	57
	120 - 820	43		
	80 - Woodland	36		

AUGUST

2023	AUGUST 2023 - HLCS - Tx - Site Rankings		AUGUST 2023 - HLCS - Control - Site Rankings	
	Site Name	Score	Site Name	Score
HLCS	Black Snake Road - S	65	322 - Port Matilda	77
	Bel - Tip	64	Black Snake Road - N and Black Snake Road - S (tie)	74
	Eagleton	63	Eagleton	72
	322 - Port Matilda	59	Fox Hollow - N	71
	Reservoir	58	Reservoir	70
	Black Snake Road - N	55	Fox Hollow - S	69
	Fox Hollow - S	50	120 - 820	66
	80 - Woodland	48	Bel - Tip	61
	Fox Hollow - N	47	80 - Woodland	57
	120 - 820	33		

JULY + AUGUST

2023	JUL + AUG 2023 - HLCS - Tx - Site Rankings		JUL + AUG 2023 - HLCS - Control - Site Rankings	
	Site Name	Score	Site Name	Score
HLCS	Bel - Tip and Black Snake Road - S (tie)	66	322 - Port Matilda	75.5
	Eagleton	64.5	Black Snake Road - N	72
	322 - Port Matilda	61.5	Black Snake Road - S	70
	Black Snake Road - N	61	Fox Hollow - N	68.5
	Reservoir	57.5	Eagleton	68
	Fox Hollow - N	53	120 - 820	66.5
	Fox Hollow - S	51	Fox Hollow - S	65
	80 - Woodland	42	Reservoir	63.5
	120 - 820	39	Bel - Tip	62.5
			80 - Woodland	57

BDR

JULY

2023	JULY 2023 - BDR - Tx - Site Rankings		JULY 2023 - BDR - Control - Site Rankings	
	Site Name	Score	Site Name	Score
BDR	Bel - Tip and 322 - Port Matilda (tie)	68	322 - Port Matilda	68
	Black Snake Road - N	64	Reservoir	66
	Eagleton	63	Fox Hollow - S	62
	Fox Hollow - N	60	Fox Hollow - N and 80 - Woodland (tie)	60
	Black Snake Road - S and Reservoir (tie)	58	Black Snake Road - N and 120-820 (tie)	59
	Fox Hollow - S	56	Bel - Tip	55
	80 - Woodland	46	Black Snake Road - S	54
	120 - 820	43	Eagleton	39

AUGUST

2023	AUGUST 2023 - BDR - Tx - Site Rankings		AUGUST 2023 - BDR - Control - Site Rankings	
	Site Name	Score	Site Name	Score
BDR	Reservoir	71	Black Snake Road - N	62
	Black Snake Road - S	69	Black Snake Road - S	59
	322 - Port Matilda	68	Reservoir	57
	Black Snake Road - N	67	322 - Port Matilda	55
	Bel - Tip and Fox Hollow - N (tie)	64	Fox Hollow - N and 120 - 820 and 80 - Woodland (tie)	54
	Eagleton	61	Fox Hollow - S	52
	80 - Woodland	53	Bel - Tip	51
	120 - 820	50	Eagleton	49
	Fox Hollow - S	44		

JULY + AUGUST

2023	JUL + AUG 2023 - BDR - Tx - Site Rankings		JUL + AUG 2023 - BDR - Control - Site Rankings	
	Site Name	Score	Site Name	Score
BDR	322 - Port Matilda	68	Reservoir and 322 - Port Matilda (tie)	61.5
	Bel - Tip	66	Black Snake Road - N	60.5
	Black Snake Road - N	65.5	Fox Hollow - N and Fox Hollow - S and 80 - Woodland (tie)	57
	Reservoir	64.5	Black Snake Road - S and 120 - 820 (tie)	56.5
	Black Snake Road - S	63.5	Bel - Tip	53
	Eagleton and Fox Hollow - N (tie)	62	Eagleton	39
	Fox Hollow - S	50		
	80 - Woodland	49.5		
	120 - 820	46.5		

AWS

JULY

2023	JULY 2023 - AWS - Tx - Site Rankings		JULY 2023 - AWS - Control - Site Rankings	
	Site Name	Score	Site Name	Score
AWS	Bel - Tip	63	322 - Port Matilda	50
	Black Snake Road - N	60	Fox Hollow - S	44
	Eagleton	50	Reservoir	38.5
	Black Snake Road - S and 322 - Port Matilda (tie)	49	Fox Hollow - N	37
	Fox Hollow - N	41	Black Snake Road - S and 80 - Woodland (tie)	36
	Reservoir	38	Black Snake Road - N	33
	Fox Hollow - S	33	Bel - Tip	32
	120 - 820	27	120 - 820	24
	80 - Woodland	17	Eagleton	21

AUGUST

2023	AUGUST 2023 - AWS/CGM* - Tx - Site Rankings		AUGUST 2023 - AWS/CGM* - Control - Site Rankings	
	Site Name	Score	Site Name	Score
AWS	Bel - Tip	57	Fox Hollow - S and 322 - Port Matilda (tie)	41
	Black Snake Road - N*	55*	Black Snake Road - N*	39*
	Reservoir*	51*	80 - Woodland	37
	Black Snake Road - S*	47*	Eagleton and Fox Hollow - N (tie)	34
	Fox Hollow - S	36	120 - 820	32
	322 - Port Matilda	31	Black Snake Road - S*	27*
	80 - Woodland	26	Bel - Tip	24
	120 - 820	23	Eagleton	22

JULY + AUGUST

2023	JUL + AUG 2023 - AWS/CGM* - Tx - Site Rankings		JUL + AUG 2023 - AWS/CGM* - Control - Site Rankings	
	Site Name	Score	Site Name	Score
AWS	Bel - Tip	60	322 - Port Matilda	49.5
	Black Snake Road - N*	57.5*	Fox Hollow - S	42.5
	Black Snake Road - S*	48*	80 - Woodland	36.5
	Eagleton	46.5	Reservoir	36.2
	Reservoir*	44.5*	Black Snake Road - N*	36*
	Fox Hollow - N	42	Fox Hollow - N	35.5
	322 - Port Matilda	40	Black Snake Road - S*	31.5*
	Fox Hollow - S	38.5	Bel - Tip	28.5
	120 - 820	25	120 - 820	27.5
	80 - Woodland	21.5	Eagleton	22

All Scorers

JULY

2023	JULY 2023 - All - Tx - Site Rankings		JULY 2023 - All - Control - Site Rankings	
	Site Name	Score	Site Name	Score
All Scorers	Bel - Tip	66.3	322 - Port Matilda	64
	Black Snake Road - N	63.6	Fox Hollow - S	55.6
	322 - Port Matilda	60.3	Fox Hollow - N	54.3
	Eagleton	59.6	Black Snake Road - N	54
	Black Snake Road - S	58	Reservoir	53.8
	Fox Hollow - N	53.3	Black Snake Road - S	52
	Reservoir	51	80 - Woodland	51
	Fox Hollow - S	46.3	Bel - Tip	50.3
	120 - 820	37.6	120 - 820	49.6
	80 - Woodland	36	Eagleton	38

AUGUST

2023	AUGUST 2023 - All - Tx - Site Rankings		AUGUST 2023 - All - Control - Site Rankings	
	Site Name	Score	Site Name	Score
All Scorers	Bel - Tip	61.6	Black Snake Road - N*	58.3*
	Black Snake Road - S*	60.3*	322 - Port Matilda	57.6
	Reservoir*	60*	Fox Hollow - S	54
	Black Snake Road - N*	59*	Reservoir	53.6
	Eagleton	55.6	Black Snake Road - S*	53.3*
	322 - Port Matilda	52.6	Fox Hollow - N	53
	Fox Hollow - N	51.3	120 - 820	50.6
	Fox Hollow - S	43.3	80 - Woodland	49.3
	80 - Woodland	42.3	Eagleton	48
	120 - 820	36	Bel - Tip	45.6

JULY + AUGUST

2023	JUL + AUG 2023 - All - Tx - Site Rankings		JUL + AUG 2023 - All - Control - Site Rankings	
	Site Name	Score	Site Name	Score
All Scorers	Bel - Tip	64	322 - Port Matilda	60.8
	Black Snake Road - N*	61.3*	Black Snake Road - N*	56.1*
	Black Snake Road - S*	59.1*	Fox Hollow - S	54.8
	Eagleton	57.6	Reservoir	53.7
	322 - Port Matilda	56.5	Fox Hollow - N	53.6
	Reservoir*	55.5*	Black Snake Road - S*	52.6*
	Fox Hollow - N	52.3	120 - 820 and 80 - Woodland (tie)	50.1
	Fox Hollow - S	44.8	80 - Woodland	37.6	Bel - Tip	48
	120 - 820	36.8	Eagleton	43

Scale:
0-20 = "Improvement Opportunity"
21-35 = "Basic Habitat Quality"
36-50 = "Moderate Habitat Quality"
51-75 = "High Habitat Quality"
76+ = "Exemplary"

* denotes scorecard completed by CGM (filling in for AWS)

Supplemental Studies: Noxious Plant Species Recorded at Treatment and Control Plots

TREATMENT PLOTS			Clinton / Union (I-80)		170.4 (I-80)		Fox Hollow - N (Fox Hollow Rd)		Fox Hollow - S (Fox Hollow Rd)		Bel - Tip (Bell-Tip Rd)			
Noxious Rank/ (DCNR, PA Dept of Ag)	Common Name	Latin Name	JULY 2022	AUGUST 2022	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023	JULY 2023	AUGUST 2023	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023
watch	Amur maple	*Acer ginnala/japonicum*												
2	Norway maple	*Acer platanoides*							X X	X X X				
3	ground elder/bishop's goutweed	*Aegopodium podagraria*												
1 , B	tree of heaven	*Ailanthus altissima*					X							
1 , B	garlic mustard	*Alliaria petiolata*			X X X	X X	X X X	X X X	X X X	X X X				
1	porcelainberry	*Ampelopsis brevipedunculata*												
3 , B	mugwort	*Artemesia vulgaris*			X X	X X X			X X X	X X				
1 , B	Japanese barberry	*Berberis thunbergii*												
1 , B	Oriental bittersweet	*Celastrus orbiculatus*					X X X	X X X	X X X	X X X				
2	spotted knapweed	*Centaurea stoebe*										X		X X X
2 , B	creeping/Canada thistle	*Cirsium arverse*		X		X X								
2 , B	bull thistle	*Cirsium vulgare*												
2	Autumn olive	*Elaeagnus umbellata*								X	X X X	X X X	X X X	X X X
2 , B	burning bush	*Euonymus alatus*								X				
1 , B	Japanese knotweed	*Fallopia japonica*												
1 , B	giant knotweed	*Fallopia sachalinensis*												
3	English ivy	*Hedera helix*												
2	shrubby bushclover/shrub lespedeza	*Lespedeza bicolor*										X	X X X	X X X
2 , B	waxyleaf/Japanese privet	*Ligustrum japonicum/lucidum*										X		
2 , B	border privet	*Ligustrum obtusifolium*					X	X	X X X	X				
	[illegible] privet	*Ligustrum sp.*					X	X	X					
2 , B	common/wild/European privet	*Ligustrum vulgare*					X	X	X X	X		X	X	X
1	Japanese honeysuckle	*Lonicera japonica*								X				
1 , B	Amur honeysuckle	*Lonicera maackii*				?	X	X X	X	X				
1 , B	Morrow's honeysuckle	*Lonicera morrowii*				X ?	X	X	X X X	X X X		X	X X	X
	[illegible] honeysuckle sp.	*Lonicera sp.*											X	
1 , B	Tatarian honeysuckle	*Lonicera tatarica*			X	X	X	X	X		X		X X	X
1 , B	Japanese stiltgrass	*Microstegium vimineum*								X			X	X
2	empress/princess tree, royal paulownia	*Paulownia tomentosa*												
3	Oriental ladysthumb/bristled knotweed	*Persicaria longiseta*												
1 , B	mile-a-minute	*Persicaria perfoliata*			X X X	X X X								
2	reed canarygrass	*Phalaris arundinacea*		X										
1 , B	alder/glossy buckthorn	*Rhamnus alnifolia*												
1 , B	common buckthorn	*Rhamnus cathartica*							X	X				
	[illegible] buckthorn	*Rhamnus sp.*												
1 , B	multiflora rose	*Rosa multiflora*					X	X X	X	X X X	X X X	X X X	X	X X X
2	wineberry	*Rubus phoenicolasius*												
2	crown vetch	*Securigera varia*	X X X	X	X X		X	X X X	X X X	X X X				
2	Linden arrowwood	*Viburnum dilatatum*												

Each "X" in a column represents one of the three pollinator habitat scorecard users. For each column, the left postion represents HLCS, the center position represents BDR, and the right position represents either AWS (not bold or underlined) or CGM (bold & underlined).

TREATMENT PLOTS			Black Snake Rd - N (SR 1014)				Black Snake Rd - S (SR 1014)				Eagleton (Rt 820)			
Noxious Rank/Class (DCNR, PA Dept of Ag)	Common Name	Latin Name	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023
watch	Amur maple	*Acer ginnala/japonicum*												
2	Norway maple	*Acer platanoides*												
3	ground elder/bishop's goutweed	*Aegopodium podagraria*												
1, B	tree of heaven	*Ailanthus altissima*		X										
1, B	garlic mustard	*Alliaria petiolata*				X					X X		X X X	X X X
1	porcelainberry	*Ampelopsis brevipedunculata*		X										X
3, B	mugwort	*Artemesia vulgaris*	X											
1, B	Japanese barberry	*Berberis thunbergii*				X								X
1, B	Oriental bittersweet	*Celastrus orbiculatus*												
2	spotted knapweed	*Centaurea stoebe*												
2, B	creeping/Canada thistle	*Cirsium arvense*	X	X X X	X X X	X X				X X				
2, B	bull thistle	*Cirsium vulgare*	X		X X X	X X X	X X X		X X	X				
2	Autumn olive	*Elaeagnus umbellata*	X X	X X	X X X	X X X	X X X	X	X X X					
2, B	burning bush	*Euonymus alatus*												
1, B	Japanese knotweed	*Fallopia japonica*										X X		
1, B	giant knotweed	*Fallopia sachalinensis*												
3	English ivy	*Hedera helix*												
2	shrubby bushclover/shrub lespedeza	*Lespedeza bicolor*												
2, B	waxyleaf/Japanese privet	*Ligustrum japonicum/lucidum*												
2, B	border privet	*Ligustrum obtusifolium*												
	[illegible]	[illegible]												
2, B	common/wild/European privet	*Ligustrum vulgare*												
1	Japanese honeysuckle	*Lonicera japonica*		X										
1, B	Amur honeysuckle	*Lonicera maackii*						X						
1, B	Morrow's honeysuckle	*Lonicera morrowii*			X							X	X X	X
	[illegible]	[illegible]												
1, B	Tatarian honeysuckle	*Lonicera tatarica*									X	X	X	X
1, B	Japanese stiltgrass	*Microstegium vimineum*	X X X	X X X	X X X	X X	X						X X X	X X X
2	empress/princess tree, royal paulownia	*Paulownia tomentosa*												
3	Oriental ladysthumb/bristled knotweed	*Persicaria longiseta*	X											
1, B	mile-a-minute	*Persicaria perfoliata*												
2	reed canarygrass	*Phalaris arundinacea*												
1, B	alder/glossy buckthorn	*Rhamnus alnifolia*												
1, B	common buckthorn	*Rhamnus cathartica*										X		
	[illegible]	[illegible]												
1, B	multiflora rose	*Rosa multiflora*	X X	X X	X	X							X X	X X
2	wineberry	*Rubus phoenicolasius*												
2	crown vetch	*Securigera varia*	X X X	X X	X X X	X X X	X X			X X	X X X	X X X	X X X	X X X
2	Linden arrowwood	*Viburnum dilatatum*												

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TREATMENT PLOTS			Reservoir (Rt 865)				120 - 820 (Rt 820)				322 - Port Matilda (Rt 322)			
Noxious Rank/Class (DCNR, PA Dept of Ag)	Common Name	Latin Name	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023
watch	Amur maple	*Acer ginnala/japonicum*												
2	Norway maple	*Acer platanoides*											X	
3	ground elder/bishop's goutweed	*Aegopodium podagraria*												
1, B	tree of heaven	*Ailanthus altissima*											X	
1, B	garlic mustard	*Alliaria petiolata*					X X X	X X X	X X X	X X X	X X X	X X X	X X	
1	porcelainberry	*Ampelopsis brevipedunculata*												
3, C	mugwort	*Artemesia vulgaris*												
1, B	Japanese barberry	*Berberis thunbergii*												
1, B	Oriental bittersweet	*Celastrus orbiculatus*												
2	spotted knapweed	*Centaurea stoebe*												
2, B	creeping/Canada thistle	*Cirsium arvense*				X							X	
2, C	bull thistle	*Cirsium vulgare*						X	X	X				
2	Autumn olive	*Elaeagnus umbellata*												
2, B	burning bush	*Euonymus alatus*												
1, B	Japanese knotweed	*Fallopia japonica*					X		X X					
1, B	giant knotweed	*Fallopia sachalinensis*												
1	English ivy	*Hedera helix*												
2	shrubby bushclover/shrub lespedeza	*Lespedeza bicolor*												
2, C	waxyleaf/Japanese privet	*Ligustrum japonicum/lucidum*												
2, B	border privet	*Ligustrum obtusifolium*												
	under privet	*Ligustrum sp.*												
2, B	common/wild/European privet	*Ligustrum vulgare*												
1	Japanese honeysuckle	*Lonicera japonica*												
1, B	Amur honeysuckle	*Lonicera maackii*		X	X X	X		X						
1, C	Morrow's honeysuckle	*Lonicera morrowii*						X X	X					
	under tatarica sp.	*Lonicera sp.*		X										
1, B	Tatarian honeysuckle	*Lonicera tatarica*	X X X		X		X							
1, B	Japanese stiltgrass	*Microstegium vimineum*	X X			X	X X X	X X X	X X X	X X X				
2	empress/princess tree, royal paulownia	*Paulownia tomentosa*												
3	Oriental ladysthumb/bristled knotweed	*Persicaria longiseta*						X	X X					
1, C	mile-a-minute	*Persicaria perfoliata*												
2	reed canarygrass	*Phalaris arundinacea*												
1, B	alder/glossy buckthorn	*Rhamnus alnifolia*												
1, B	common buckthorn	*Rhamnus cathartica*												
	under buckthorn	*Rhamnus sp.*												
1, C	multiflora rose	*Rosa multiflora*	X	X X	X			X						
2	wineberry	*Rubus phoenicolasius*												
2	crown vetch	*Securigera varia*	X X	X	X X	X X X	X X X	X X X	X X X	X X X				
2	Linden arrowwood	*Viburnum dilatatum*												

Each “X” in a column represents one of the three pollinator habitat scorecard users. For each column, the left postion represents HLCS, the center position represents BDR, and the right position represents either AWS (not bold or underlined) or CGM (bold & underlined).

TREATMENT PLOTS			80 - Woodland (I-80)			
Noxious Rank/Class (DCNR, PA Dept of Ag)	Common Name	Latin Name	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023
watch	Amur maple	*Acer ginnala/japonicum*			X	
2	Norway maple	*Acer platanoides*				
3	ground elder/bishop's goutweed	*Aegopodium podagraria*				
1, B	tree of heaven	*Ailanthus altissima*				
1, B	garlic mustard	*Alliaria petiolata*	X X			
1	porcelainberry	*Ampelopsis brevipedunculata*				
3, B	mugwort	*Artemesia vulgaris*				
1, B	Japanese barberry	*Berberis thunbergii*				
1, B	Oriental bittersweet	*Celastrus orbiculatus*				
2	spotted knapweed	*Centaurea stoebe*				
2, B	creeping/Canada thistle	*Cirsium arvense*	X X X	X X X		
2, B	bull thistle	*Cirsium vulgare*	X X X	X X	X X	X X
2	Autumn olive	*Elaeagnus umbellata*				
2, B	burning bush	*Euonymus alatus*				
1, B	Japanese knotweed	*Fallopia japonica*				
1, B	giant knotweed	*Fallopia sachalinensis*				
3	English ivy	*Hedera helix*				
2	shrubby bushclover/shrub lespedeza	*Lespedeza bicolor*				
2, B	waxyleaf/Japanese privet	*Ligustrum japonicum/lucidum*				
2, B	border privet	*Ligustrum obtusifolium*				
	undet privet	*Ligustrum sp.*				
2, B	common/wild/European privet	*Ligustrum vulgare*				
1	Japanese honeysuckle	*Lonicera japonica*				
1, B	Amur honeysuckle	*Lonicera maackii*				
1, B	Morrow's honeysuckle	*Lonicera morrowii*				
	undet Lonicera sp.	*Lonicera sp.*				
1, B	Tatarian honeysuckle	*Lonicera tatarica*				
1, B	Japanese stiltgrass	*Microstegium vimineum*				
2	empress/princess tree, royal paulownia	*Paulownia tomentosa*				
3	Oriental ladysthumb/bristled knotweed	*Persicaria longiseta*				
1, B	mile-a-minute	*Persicaria perfoliata*				
2	reed canarygrass	*Phalaris arundinacea*				
1, B	alder/glossy buckthorn	*Rhamnus alnifolia*				
1, B	common buckthorn	*Rhamnus cathartica*				
	undet buckthorn	*Rhamnus sp.*				
1, B	multiflora rose	*Rosa multiflora*				
2	wineberry	*Rubus phoenicolasius*				
2	crown vetch	*Securigera varia*	X X X	X X X	X X X	X X X
2	Linden arrowwood	*Viburnum dilatatum*				

Each "X" in a column represents one of the three pollinator habitat scorecard users. For each column, the left postion represents HLCS, the center position represents BDR, and the right position represents either AWS (not bold or underlined) or CGM (bold & underlined).

CONTROL PLOTS			Clinton / Union (I-80)		170.4 (I-80)		Fox Hollow - N (Fox Hollow Rd)		Fox Hollow - S (Fox Hollow Rd)		Bel - Tip (Bell-Tip Rd)			
Noxious Rank/Class (DCNR, PA Dept of Ag)	Common Name	Latin Name	JULY 2022	AUGUST 2022	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023	JULY 2023	AUGUST 2023	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023
watch	Amur maple	*Acer ginnala/japonicum*												
2	Norway maple	*Acer platanoides*							X X	X X				
3	ground elder/bishop's goutweed	*Aegopodium podagraria*												
1, 3	tree of heaven	*Ailanthus altissima*					X							
1, 4	garlic mustard	*Alliaria petiolata*			X X X		X X		X X X	X X				
1	porcelainberry	*Ampelopsis brevipedunculata*												
3, 3	mugwort	*Artemesia vulgaris*												
1, 3	Japanese barberry	*Berberis thunbergii*			X X X				X X X					
1, 3	Oriental bittersweet	*Celastrus orbiculatus*					X X X	X X	X X X	X X X				
2	spotted knapweed	*Centaurea stoebe*												
2, 3	creeping/Canada thistle	*Cirsium arvense*												
2, 3	bull thistle	*Cirsium vulgare*												
2	Autumn olive	*Elaeagnus umbellata*			X X X		X	X						
2, 3	burning bush	*Euonymus alatus*					X	X X X	X X	X X				X
1, 3	Japanese knotweed	*Fallopia japonica*												
1, 3	giant knotweed	*Fallopia sachalinensis*												
3	English ivy	*Hedera helix*									X			
2	shrubby bushclover/shrub lespedeza	*Lespedeza bicolor*								X				
2, 3	waxyleaf/Japanese privet	*Ligustrum japonicum/lucidum*							X	X X				
2, 3	border privet	*Ligustrum obtusifolium*												
	under privet	*Ligustrum sp.*			X		X		X					
2, 3	common/wild/European privet	*Ligustrum vulgare*					X	X X	X	X X				
1	Japanese honeysuckle	*Lonicera japonica*												
1, 3	Amur honeysuckle	*Lonicera maackii*				X	X	X X		X				
1, 3	Morrow's honeysuckle	*Lonicera morrowii*						X	X	X				
	under honeysuc. sp.	*Lonicera sp.*												
1, 3	Tatarian honeysuckle	*Lonicera tatarica*			X X		X		X	X				
1, 3	Japanese stiltgrass	*Microstegium vimineum*												
2	empress/princess tree, royal paulownia	*Paulownia tomentosa*												
3	Oriental ladysthumb/bristled knotweed	*Persicaria longiseta*												
1, 3	mile-a-minute	*Persicaria perfoliata*												
2	reed canarygrass	*Phalaris arundinacea*												
1, 3	alder/glossy buckthorn	*Rhamnus alnifolia*					X							
1, 3	common buckthorn	*Rhamnus cathartica*								X				
	under buckthorn	*Rhamnus sp.*								X				
1, 3	multiflora rose	*Rosa multiflora*			X X	X X X	X	X		X X				X
2	wineberry	*Rubus phoenicolasius*						X						
2	crown vetch	*Securigera varia*												
2	Linden arrowwood	*Viburnum dilatatum*					X	X X	X	X X				

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CONTROL PLOTS			Black Snake Rd - N (SR 1014)				Black Snake Rd - S (SR 1014)				Eagleton (Rt 820)			
Noxious Rank/ (DCNR, PA Dept of Ag)	Common Name	Latin Name	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023
watch	Amur maple	*Acer ginnala/japonicum*												
2	Norway maple	*Acer platanoides*												
3	ground elder/bishop's goutweed	*Aegopodium podagraria*				X								
1, 3	tree of heaven	*Ailanthus altissima*												
1, 3	garlic mustard	*Alliaria petiolata*	X											
1	porcelainberry	*Ampelopsis brevipedunculata*												
3, 5	mugwort	*Artemesia vulgaris*												
1, 3	Japanese barberry	*Berberis thunbergii*												
1, 3	Oriental bittersweet	*Celastrus orbiculatus*												
2	spotted knapweed	*Centaurea stoebe*												
2, 3	creeping/Canada thistle	*Cirsium arvense*												
2, 3	bull thistle	*Cirsium vulgare*												
2	Autumn olive	*Elaeagnus umbellata*	X	X	X X									
2, 3	burning bush	*Euonymus alatus*												
1, 3	Japanese knotweed	*Fallopia japonica*												
1, 3	giant knotweed	*Fallopia sachalinensis*												
3	English ivy	*Hedera helix*												
2	shrubby bushclover/shrub lespedeza	*Lespedeza bicolor*												
2, 3	waxyleaf/Japanese privet	*Ligustrum japonicum/lucidum*												
2, 3	border privet	*Ligustrum obtusifolium*												
	[illegible]	[illegible]												
2, 3	common/wild/European privet	*Ligustrum vulgare*												
1	Japanese honeysuckle	*Lonicera japonica*												
1, 3	Amur honeysuckle	*Lonicera maackii*												
1, 3	Morrow's honeysuckle	*Lonicera morrowii*												
	[illegible]	[illegible]												
1, 3	Tatarian honeysuckle	*Lonicera tatarica*	X		X	X								
1, 3	Japanese stiltgrass	*Microstegium vimineum*				X X							X	
2	empress/princess tree, royal paulownia	*Paulownia tomentosa*												
3	Oriental ladysthumb/bristled knotweed	*Persicaria longiseta*												
1, 3	mile-a-minute	*Persicaria perfoliata*												
2	reed canarygrass	*Phalaris arundinacea*												
1, 3	alder/glossy buckthorn	*Rhamnus alnifolia*												
1, 3	common buckthorn	*Rhamnus cathartica*												
	[illegible]	[illegible]												
1, 3	multiflora rose	*Rosa multiflora*	X	X X	X X X	X								
2	wineberry	*Rubus phoenicolasius*												
2	crown vetch	*Securigera varia*												
2	Linden arrowwood	*Viburnum dilatatum*												

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CONTROL PLOTS			Reservoir (Rt 865)				120 - 820 (Rt 820)				322 - Port Matilda (Rt 322)			
Noxious Rank/Class (DCNR, PA Dept of Ag)	Common Name	Latin Name	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023
watch	Amur maple	*Acer ginnala/japonicum*												
2	Norway maple	*Acer platanoides*											X	
3	ground elder/bishop's goutweed	*Aegopodium podograria*												
1, B	tree of heaven	*Ailanthus altissima*						X						
1, B	garlic mustard	*Alliaria petiolata*					X	X X	X X					
1	porcelainberry	*Ampelopsis brevipedunculata*												
3, B	mugwort	*Artemesia vulgaris*												
1, B	Japanese barberry	*Berberis thunbergii*												
1, B	Oriental bittersweet	*Celastrus orbiculatus*												
2	spotted knapweed	*Centaurea stoebe*												
2, B	creeping/Canada thistle	*Cirsium arvense*												
2, B	bull thistle	*Cirsium vulgare*												
2	Autumn olive	*Elaeagnus umbellata*												
2, B	burning bush	*Euonymus alatus*												
1, B	Japanese knotweed	*Fallopia japonica*												
1, B	giant knotweed	*Fallopia sachalinensis*						X						
3	English ivy	*Hedera helix*												
2	shrubby bushclover/shrub lespedeza	*Lespedeza bicolor*												
2, B	waxleaf/Japanese privet	*Ligustrum japonicum/lucidum*												
2, B	border privet	*Ligustrum obtusifolium*												
	under privet	*Ligustrum sp.*												
2, B	common/wild/European privet	*Ligustrum vulgare*												
1	Japanese honeysuckle	*Lonicera japonica*												
1, B	Amur honeysuckle	*Lonicera maackii*												
1, B	Morrow's honeysuckle	*Lonicera morrowii*												
	under honeysuckle	*Lonicera sp.*												
1, B	Tatarian honeysuckle	*Lonicera tatarica*												
1, B	Japanese stiltgrass	*Microstegium vimineum*									X	X X		
2	empress/princess tree, royal paulownia	*Paulownia tomentosa*											X	
3	Oriental ladysthumb/bristled knotweed	*Persicaria longiseta*												
1, B	mile-a-minute	*Persicaria perfoliata*												
2	reed canarygrass	*Phalaris arundinacea*												
1, B	alder/glossy buckthorn	*Rhamnus alnifolia*												
1, B	common buckthorn	*Rhamnus cathartica*												
	under buckthorn	*Rhamnus sp.*												
1, B	multiflora rose	*Rosa multiflora*									X	X X		X
2	wineberry	*Rubus phoenicolasius*						X						
2	crown vetch	*Securigera varia*												
2	Linden arrowwood	*Viburnum dilatatum*												

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CONTROL PLOTS			80 - Woodland (I-80)			
Noxious Rank/Class (DCNR, PA Dept of Ag)	Common Name	Latin Name	JULY 2022	AUGUST 2022	JULY 2023	AUGUST 2023
watch	Amur maple	*Acer ginnala/japonicum*				
2	Norway maple	*Acer platanoides*				
3	ground elder/bishop's goutweed	*Aegopodium podagraria*				
1, B	tree of heaven	*Ailanthus altissima*			X	
1, B	garlic mustard	*Alliaria petiolata*				
1	porcelainberry	*Ampelopsis brevipedunculata*				
3, B	mugwort	*Artemesia vulgaris*				
1, B	Japanese barberry	*Berberis thunbergii*				
1, B	Oriental bittersweet	*Celastrus orbiculatus*				
2	spotted knapweed	*Centaurea stoebe*				
2, B	creeping/Canada thistle	*Cirsium arvense*				
2, B	bull thistle	*Cirsium vulgare*				
2	Autumn olive	*Elaeagnus umbellata*				
2, B	burning bush	*Euonymus alatus*				
1, B	Japanese knotweed	*Fallopia japonica*				
1, B	giant knotweed	*Fallopia sachalinensis*				
3	English ivy	*Hedera helix*				
2	shrubby bushclover/shrub lespedeza	*Lespedeza bicolor*				
2, B	waxyleaf/Japanese privet	*Ligustrum japonicum/lucidum*				
2, B	border privet	*Ligustrum obtusifolium*				
	[illegible]	[illegible]	X	X		
2, B	common/wild/European privet	*Ligustrum vulgare*				
1	Japanese honeysuckle	*Lonicera japonica*				
1, B	Amur honeysuckle	*Lonicera maackii*				
1, B	Morrow's honeysuckle	*Lonicera morrowii*				
	[illegible]	[illegible]				
1, B	Tatarian honeysuckle	*Lonicera tatarica*				
1, B	Japanese stiltgrass	*Microstegium vimineum*				
2	empress/princess tree, royal paulownia	*Paulownia tomentosa*				
3	Oriental ladysthumb/bristled knotweed	*Persicaria longiseta*				
1, B	mile-a-minute	*Persicaria perfoliata*				
2	reed canarygrass	*Phalaris arundinacea*				
1, B	alder/glossy buckthorn	*Rhamnus alnifolia*				X
1, B	common buckthorn	*Rhamnus cathartica*				
	[illegible]	[illegible]				
1, B	multiflora rose	*Rosa multiflora*				
2	wineberry	*Rubus phoenicolasius*				
2	crown vetch	*Securigera varia*				
2	Linden arrowwood	*Viburnum dilatatum*				

Each “X” in a column represents one of the three pollinator habitat scorecard users. For each column, the left postion represents HLCS, the center position represents BDR, and the right position represents either AWS (not bold or underlined) or CGM (bold & underlined).

Site Photos

Site 1: "Clinton - Union". Top: Tx Bottom: Control

Site 2: “120 - 820”. Top: Tx Bottom: Control

Site 3: “Eagleton”. Top: Tx Bottom: Control

Site 4: “170.4”. Top: Tx Bottom: Control

Site 5: "Black Snake Road - North". Top: Tx Bottom: Control

Site 6: "Black Snake Road - South". Top: Tx Bottom: Control

Site 7: "Reservoir". Top: Tx Bottom: Control

Site 8: “Bel - Tip”. Top: Tx Bottom: Control

Site 9: “80 - Woodland”. Top: Tx Bottom: Control

Site 10: “322 - Port Matilda”. Top: Tx Bottom: Control

Site 11: "Fox Hollow Road - North". Top: Tx Bottom: Control

Site 12: "Fox Hollow Road - South". Top: Tx Bottom: Control