POLLINATOR HABITAT ASSESSMENT

Directions: This habitat assessment should be performed on one contiguous five (5) acre block. Designate the pollinator enhancement area on the conservation plan map. If the client wishes to enhance a greater amount of habitat use multiple assessments (one per 5 acres). If the client controls less than five acres utilize the area immediately surrounding the acreage to be enhanced to perform the assessment. A client must control a minimum of two (2) contiguous acres to be eligible for pollinator enhancements under this assessment.

1. Prior to or concurrent with a field visit, determine in consultation with the client, a contiguous five acre block to be evaluated and designate it on the conservation plan map. All enhancements must be implemented within this area. Site selection for installing new pollinator enhancements should begin with a thorough assessment of exposure including aspect, shade and soil conditions; but also must take into account landuse and available resources.
2. After/during an in-field assessment, complete the following questions to the best of your ability and write in the baseline scores for each question for all sections. (Sections I through VIII)
3. Determine the baseline point total of all sections. A summary table is provided at the end of the document.
4. At the end of each section, determine and select practices that will increase the baseline score for that section. (**These are the pollinator enhancement practices (PEP) that could be planned to improve habitat.**) Mark a ✓ by the practices to be installed. Other practices could also be utilized with State Biologist concurrence. If the practice will be installed multiple times within the same evaluation area, multiply the PEP times the number of installations (e.g. installation of two hedgerows = 2 hedgerows x 3pts = 6 points)
5. Planners should focus on improving the lowest section score first (by addition of PEP). If the baseline score is already at the maximum baseline value, PEP for maintenance purposes should only apply.
6. A minimum total baseline score of 25 must be obtained to participate in pollinator habitat enhancement.
7. In order to report the conservation practice (645) Upland Wildlife Habitat Management for pollinator habitat, the pollinator enhancement points (PEP) must yield an improvement from the baseline score to the enhancement score as shown in the evaluation summary

CLIENT INFORMATION

Owner/Operator:	**Field Office:**	
County:	**Watershed:**	
Assisted By:	**Date:**	
Location Description:		
Total Acreage to be evaluated for Pollinator Habitat _____ acres	**Client controls: _____acres***	**Assessment #_____of_____**

**Client must control a minimum of 2 acres and minimum total enhancement(s) must be greater than or equal to one-half acre excluding nesting structures.*

Notes/Sketch:

POLLINATOR HABITAT ASSESSMENT

I. GENERAL LANDUSE CHARACTERISTICS

Of the following landuses, how many are available within the five acres evaluated? cropland, woodland, grassland, urban, farm headquarters (barn and feed lots, etc)

Habitat component	Values	Baseline Score
4 or more	3	
3	2	
2	1	
1	0	

Does the land owner control more than 5 contiguous acres?

Habitat component	Values	Baseline Score
Yes	1	
No	0	

Is cropland (including orchards) one of the landuses within the area being evaluated? (Does not include hayland and must be utilized to produce an agricultural commodity once in the last 2 years).

Habitat component	Values	Baseline Score
Yes	1	
No	0	

Do the five acres evaluated contain more than 4 acres of woodland (80% or greater)

Habitat component	Values	Baseline Score
Yes	0	
No	1	

What is the dominant slope of the area being evaluated? Refer only to soil types present within the acreage evaluated.

Habitat component	Values	Baseline Score
A	4	
B	3	
C	2	
Other	1	

TOTAL EXISTING SCORE FOR THIS SECTION IS _____ OUT OF 10 POSSIBLE

Select Pollinator Enhancement Points (PEP) to increase the baseline score for this section (see reverse also):

Conservation Practice	Eligible Pollinator Enhancement Narrative Codes	PEP	✓
N/A	N/A	N/A	N/A

POLLINATOR HABITAT ASSESSMENT

II. CROPLAND INFORMATION

Of the acreage evaluated cropland comprises the following amount:		
Habitat component	**Values**	**Baseline Score**
greater than 30% (1.5 acres or more)	5	
20-30% (1.0-1.4 acres)	4	
10-19% (0.5-1.3 acres)	3	
less than 10% (less than 0.5 acres)	2	
no cropland *	0	

** If no cropland exists within the evaluated area, skip the Cropland Information section and proceed to section III. Score this section as zero total baseline points.*

Which of the following does the cropland within the 5 acres evaluated produce?		
Habitat component	**Values**	**Baseline Score**
Fruit orchard or insect pollinated crop	5	
Truck crops (e.g. melon, pumpkin, tomato, etc)	4	
Flower or other specialty crops (e.g. *Geranium* sp., *Chrysanthemum* sp., etc.)	3	
Row crops such as soybeans, corn, wheat, etc.	1	
None identified	0	

Identify the tillage type that best represents the current operation.		
Habitat component	**Values**	**Baseline Score**
No-Till	2	
Strip Till	1	
Conventional Tillage	0	
Other	0	

Are any of the following crops produced within the area being evaluated: **pumpkins, squash, cantaloupes or watermelons** (minimum size of 0.25 acre)		
Habitat component	**Values**	**Baseline Score**
Yes	1	
No	0	

Is some form of mulch utilized for weed control? (plastic, paper, wood chips, etc)		
Habitat component	**Values**	**Baseline Score**
Yes	0	
No	1	

POLLINATOR HABITAT ASSESSMENT

Is some form of cover crop being utilized within the area evaluated or within the farming operations immediately adjacent to the area being evaluated?		
Habitat component	**Values**	**Baseline Score**
Yes	1	
No	0	

Crops within the evaluated area are:		
Habitat component	**Values**	**Baseline Score**
grown in different locations throughout the tract and are rotated more than 800 feet apart	0	
rotated throughout the tract but are never more than 800 feet from one another	2	
grown in the same fields every year but crops are rotated	1	
N/A	0	

If a cover crop is currently utilized is it one of the following: **crimson clover, vetch, mustards, alfalfa, red clover** or **buckwheat**		
Habitat component	**Values**	**Baseline Score**
Yes	2	
No (other cover crop)	1	
N/A	0	

Are crop fields within the area evaluated associated with herbaceous field borders?		
Habitat component	**Values**	**Baseline Score**
Field borders average at least 20 feet wide on 2 or more sides of the field	3	
Field borders on at least two sides and average less than 20 feet wide	2	
Field borders exist but are different than above	1	
No field borders	0	

Visually estimate the center of the crop fields within the area you are evaluating. What is the average distance from the approximate center of cropping area or orchard to the field edge?		
Habitat Component	**Values**	**Baseline Score**
< 400 feet	3	
400-800 feet	2	
800-1,200 feet	1	
>1,200 feet	0	

TOTAL EXISTING SCORE FOR THIS SECTION IS _____ OUT OF 25 POSSIBLE

See reverse to select Pollinator Enhancement Points (PEP) to increase the baseline score for this section:

POLLINATOR HABITAT ASSESSMENT

Conservation Practice	Eligible Pollinator Enhancement Narrative Codes	PEP	✓
(311) Alley Cropping	A	+4	
(327) Conservation Cover	D1	+4	
	D5	+3	
(328) Conservation Crop Rotation	E	+3	
(329) Residue and Tillage Management, No-Till/Strip Till/Direct Seed	F1	+2	
	F2	+1	
(331) Contour Orchard and Other Perennial Crops	G	+4	
(332) Contour Buffer Strips	H	+4	
(340) Cover Crop	I	+2	
(386) Field Border	L1	+4	
(393) Filter Strip	O	+3	
(412) Grassed Waterways	P	+3	
(585) Stripcropping	V	+4	
(647) Early Successional Habitat Management and Development	Y2	+1	
	Y3	+1	

POLLINATOR HABITAT ASSESSMENT

III. GRASSES, FORBS & EARLY SUCCESSIONAL HABITAT INFORMATION

Of the area evaluated what best describes the ratio of grasses to forbs in the area being evaluated: (minimum grassland size of 1/4 acre must exist within the evaluated acreage)

Habitat Component	Values	Baseline Score
<10% forbs, no grassland or less than 1/4 acre of grassland	0	
10% - 30% forbs	1	
30% - 50% forbs	3	
50% - 85% forbs	4	
>85% forbs	5	

Note if at least 1/4 acre of grassland does not exist within the area evaluated; score this question as zero baseline points.

Visually estimate how much of the acreage evaluated is considered early successional and not used for production of food or fiber?

Habitat Component	Values	Baseline Score
<10% or **no early successional habitat available**	0	
10% - 30%	1	
30% - 50%	2	
50% - 85%	3	
>85%	4	

**Early successional vegetation is considered collectively as grasses, forbs, shrubs and saplings less than 15 feet in height. Not used for production of food or fiber means areas that are idle, fallow (2 out of 3 years), field borders, fencerows, pivot corners, ditch banks, wetland and riparian areas or nearby natural areas. For example, hayland or pasture would not qualify.*

Of the area described above as early successional, what best describes the diversity of the area?

Habitat Component	Values	Baseline Score
Dominated exclusively by native plants (flowering woody and herbaceous plants with 10 to 30% grasses)	4	
A mixture of native forbs and naturalized (non-invasive) plants (orchardgrass, clovers, etc.) and some woody species	3	
More than 70% of the evaluated area is dominated by woody species and grasses forbs	2	
Monocultures of single species or very limited diversity of species	1	
More than 25% of evaluated area consists of invasive or noxious woody or herbaceous species (Johnsongrass, reed canarygrass, Japanese stiltgrass, tree-of-heaven, etc)	0	

Are there areas comprising at least 1/4 acres of clump-forming or bunch grasses (broomsedge, little bluestem, big bluestem, sedges, rushes, etc.) that are within the area evaluated?

Habitat Component	Values	Baseline Score
Yes	1	
No	0	

POLLINATOR HABITAT ASSESSMENT

How much of the vegetation within the acreage being evaluated currently receives some management which includes grazing, mowing, harvesting or other regular disturbance treatment?		
Habitat Component	**Values**	**Baseline Score**
>50%	3	
25-50%	4	
25% or less	2	
<10%	1	
None	0	

TOTAL EXISTING SCORE FOR THIS SECTION _____ OUT OF POSSIBLE 20

Select Pollinator Enhancement Points (PEP) to increase the baseline score for this section:

Conservation Practice	Eligible Pollinator Enhancement Narrative Codes	PEP	✓
(314) Brush Management	B	+1	
(315) Herbaceous Weed Control	C	+1	
(327) Conservation Cover	D2	+4	
(342) Critical Area Planting	J	+1	
(386) Field Border	L2	+2	
(511) Forage Harvest Management	S	+2	
(512) Forage and Biomass Planting	T	+1	
(647) Early Successional Habitat Management and Development	Y1	+1	
	Y2	+1	
	Y3	+1	

POLLINATOR HABITAT ASSESSMENT

IV. LIVESTOCK

What best describes the type of livestock access to the areas being evaluated for pollinator habitat?		
Habitat Component	**Values**	**Baseline Score**
unrestricted or continuously grazed	0	
flash grazing (<30 days per year)	3	
access through rotational grazing	2	
allowed to graze stubble (aftermath grazing)	2	
no access or no livestock present	1	

Is there currently a grazing management plan in place for the area evaluated?		
Habitat Component	**Values**	**Baseline Score**
Yes	1	
No	0	
N/A	0	

If yes, does the management plan allow fallow areas for greater than 365 days between grazing or access?		
Habitat Component	**Values**	**Baseline Score**
Yes	1	
No	0	
N/A	0	

TOTAL EXISTING SCORE FOR THIS SECTION _____ OUT OF POSSIBLE 5

Select Pollinator Enhancement Points (PEP) to increase the baseline score for this section:

Conservation Practice	Eligible Pollinator Enhancement Narrative Codes	PEP	✓
(472) Access Control	R	+1	
(512) Forage and Biomass Planting	T	+1	
(528) Prescribed Grazing	U1	+2	

POLLINATOR HABITAT ASSESSMENT

V. POLLINATOR BUFFERS & CORRIDORS

Does the area evaluated contain linear corridors such as abandoned fencerows, hedgerows, windbreaks, utility rights of way, or riparian areas?

Habitat Component	Values	Baseline Score
Yes	1	
No	0	

Are natural sources of permanent water available within the area evaluated (e.g. wetlands, ponds, perennial streams, etc)? Minimum pond size is 75X 75 feet or ~1/8 acre

Habitat Component	Values	Baseline Score
Yes	1	
No	0	

Do forested riparian areas greater than 35 feet wide measured from top of bank exist within the area being evaluated?

Habitat Component	Values	Baseline Score
Yes	1	
No	0	

If riparian areas exist, what best describes the condition of the riparian area?

Habitat Component	Values	Baseline Score
Dominated by woody species with controlled access 35 feet or greater in width.	4	
Combination of grasses and woody species less than 35 feet wide with livestock access controlled	3	
Consists of mostly non-native pasture or hay species such as fescue or orchardgrass with controlled or uncontrolled livestock access	2	
Consists of some bare ground and minimum vegetation (invasive and/or native) with uncontrolled access by livestock	1	
No riparian areas (N/A)	0	

**Width of riparian areas should be measured from top of bank.*

Are opportunities available for linking multiple linear areas together to form nectar corridors* within a field, drainage area, or watershed? (e.g. hedgerows, field borders, riparian areas, adjoining properties, etc)

Habitat Component	Values	Baseline Score
Yes	2	
No	0	

**Linked corridors or nectar corridors are defined as on a large scale as pathways of food sources for migratory species such as monarch butterflies and various hummingbirds; scattered along great distances which sustain them over, and*

POLLINATOR HABITAT ASSESSMENT

during migration. On a smaller (farm planning) scale, these areas are fashioned along ditches, hedgerows, riparian areas, etc. to facilitate movement throughout an area and/or provide pollinator resources in the form of nectar and pollen. Cumulatively, small scale corridors may be beneficial to provide resources in a watershed scale and so on.

Are there areas surrounding or adjacent to ditches, roadsides, fencerows, hedgerows, etc. that will be used for development of pollinator habitat?		
Habitat Component	**Values**	**Baseline Score**
Yes	1	
No	0	

TOTAL EXISTING SCORE FOR THIS SECTION _____ OUT OF POSSIBLE 10 POINTS

Select Pollinator Enhancement Points (PEP) to increase the baseline score for this section:

Conservation Practice	Eligible Pollinator Enhancement Narrative Codes	PEP	✓
(327) Conservation Cover	D4	+3	
(380) Windbreak/Shelterbelt Establishment	K	+4	
(386) Field Border	L2	+3	
(390) Riparian Herbaceous Cover	M	+4	
(391) Riparian Forest Buffer	N	+4	
(393) Filter Strip	O	+3	
(412) Grassed Waterways	P	+3	
(422) Hedgerow Planting	Q	+4	

POLLINATOR HABITAT ASSESSMENT

VI. NESTING SITES

Are soils within the evaluated area predominantly sandy loams?		
Habitat component	**Values**	**Baseline Score**
Yes	1	
No	0	

Identify any and all of the following that are found within the acreage being evaluated (list all that apply):		
Habitat Component	**Values**	**Baseline Score**
standing or fallen snags at least 18 inches in diameter	1	
artificial bee nesting blocks or artificial bundles	2	
elderberry shrubs >3 x 3 ft in size (or at least 10 plants within the area evaluated)	1	
blackberry or raspberry shrubs (*Rubus* spp.) >3 x 3 ft in size (or at least 10 plants within the area evaluated)	1	
patches of bare ground consisting of sandy loams (min. of 3 x 3 ft)	1	

Are areas of warm season grasses, bunch grasses, or fallow and idle areas of cool season grasses available for periods of 180 days or more?		
Habitat Component	**Values**	**Baseline Score**
Yes	1	
No	0	

What is the dominant (>50%) soil drainage class within the area evaluated**?** (Refer to Soil Survey)		
Habitat Component	**Values**	**Baseline Score**
Poorly Drained	1	
Somewhat Poorly Drained	1	
Well Drained to Moderately Well Drained	2	

TOTAL EXISTING SCORE FOR THIS SECTION _____ OUT OF POSSIBLE 10

Select Pollinator Enhancement Points (PEP) to increase the baseline score for this section (see reverse also):

Conservation Practice	Eligible Pollinator Enhancement Narrative Codes	PEP	✓
(528) Prescribed Grazing	U1	**+2**	

POLLINATOR HABITAT ASSESSMENT

Conservation Practice	Eligible Pollinator Enhancement Narrative Codes	PEP	✓
(612)Tree/Shrub Establishment	D6	**+1**	
(647) Early Successional Habitat Management and Development	Y4	**+1**	
(7XX) Artificial Nesting Structures for Wildlife	Z	**+2**	

POLLINATOR HABITAT ASSESSMENT

VII. PESTICIDE USE

Are pesticides used within the area for plants or animal control?		
Habitat Component	**Values**	**Baseline Score**
at least annually within the area evaluated	0	
less than annually or infrequently within the area evaluated (e.g. rights of way)	1	
at least annually immediately adjacent to the area evaluated (neighbor or other part of property)	2	
less than annually or infrequently immediately adjacent to the area evaluated	3	
Within 1/4 mile (may or may not be on lands not owned by the client)	4	
Pesticides are not utilized or N/A	5	

Identify the method most commonly utilized for chemical application to control pests within the area evaluated.		
Habitat Component	**Values**	**Baseline Score**
Not utilized, organic, or N/A	3	
Boom Sprayed	1	
Aerial Application	0	
backpack sprayed or hand sprayed	2	
wick applied	2	

Are utility rights of ways sprayed or maintained by herbicide or other chemical applications within the evaluated area?		
Habitat Component	**Values**	**Baseline Score**
Yes	0	
No	1	
No utility rights of way	1	

If pesticides are utilized are they applied as:		
Habitat Component	**Values**	**Baseline Score**
Powder	0	
Liquid	1	
Not utilized	1	

TOTAL EXISTING SCORE FOR THIS SECTION _____ OUT OF POSSIBLE 10

Select Pollinator Enhancement Points (PEP) to increase the baseline score for this section:

Conservation Practice	Eligible Pollinator Enhancement Narrative Codes	PEP	✓
(327) Conservation Cover	D3 (linear only)	+2	
(386) Field Border	L2	+2	
(422) Hedgerow Planting	Q	+3	
(595) Integrated Pest Management	W	+3	

POLLINATOR HABITAT ASSESSMENT

VIII. EXISTING PRACTICES

Are any of the following practices being actively applied to existing resources within the area of evaluation?
Mark all that apply

Habitat Component	Values	Baseline Score
Livestock exclusion to riparian areas, wetlands or streams	1	
Actively applying some form of Integrated Pest Management w/ plan and documentation	1	
No-Till Farming	1	
Practicing seasonal residue management of a minimum of 30% residue or greater with no fall plowing (evaluated area must contain cropland)	1	
Strip disking for terrestrial wildlife species on a rotational basis	1	
Strip mowing for terrestrial wildlife species on a rotational basis	1	
Management of a warm season grass species (big bluestem, little bluestem, switchgrass, Indiangrass etc) of 1/4 contiguous acre or more	1	
Bee rental for crop pollination	1	
Rotational grazing with a minimum of 3 paddocks	1	
Mechanical invasive species control (minimum 1/2 acre of multiflora rose, autumn olive, etc) in conjunction with targeted herbicide applications.	1	
TOTAL		

TOTAL EXISTING SCORE FOR THIS SECTION _____ OUT OF POSSIBLE 10

Potential conservation practices or other relevant information that may be used to increase the Existing Practices score are:

Conservation Practice	Eligible Pollinator Enhancement Narrative Codes	PEP	✓
N/A	**N/A**	**N/A**	**N/A**

POLLINATOR HABITAT ASSESSMENT

EVALUATION SUMMARY

Section	Pollinator Habitat Assessment Component	Baseline Score	PEP	Total Possible Points
I	General Landuse Characteristics		**N/A**	10
II	Cropland			25
III.	Grasses, Forbs and Early Successional Habitat			20
IV	Livestock			5
V	Pollinator Buffers & Corridors			10
VI	Nesting Sites			10
VII	Pesticide Use			10
VIII	Existing Practices		**N/A**	10
	TOTAL			**100**

NOTES:

- Client must control a **minimum of two (2) contiguous acres** of any landuse to participate in pollinator initiative
- Total minimum point threshold for pollinator habitat improvement is **25 points**
- Total minimum size of all **enhancements is one-half acre** (artificial nesting structures do not count toward enhancement size)
- In order for a FO to report the conservation practice (645) Upland Wildlife Habitat Management for pollinator habitat utilize the following method:
    - If the baseline score is **25 – 40;** increase total score by 10 points through addition of PEP
    - If the baseline score is **41 – 56**; increase total score by 8 points through addition of PEP
    - If the baseline score is **57 – 72**; increase total score by 6 points through addition of PEP
    - If the baseline score is **73 – 88**; increase total score by 4 points through addition of PEP
    - Baseline score greater than 88 points requires a minimum 1 point increase through the addition of PEP (i.e. maintenance)

Example:

Baseline Score = **58** points. Therefore the planner must increase the score by 6 points. So, multiply

6 points of PEP required through selection of practices

Note: (645) Upland Wildlife Habitat Management may only be reported for acreage in which the client controls.

POLLINATOR HABITAT ASSESSMENT

Conservation Practice	Narrative Code	Pollinator Enhancement Narratives	PEP	Applied Setting
(311) Alley Cropping	**A**	Utilize existing or install new alley cropping system to provide continuous pollen and nectar forage within a single area. Utilize tree species that have complementary flowering periods to crops. By paying careful attention to bloom periods and using multiple species. Diverse native forbs and shrubs may be planted in rows for cut flowers, berry production, or the nursery market as well as benefitting pollinators.	**+3**	Cropland
(314) Brush Management	**B**	Establish control of woody invasive species such as autumn olive, paulownia, tree of heaven and multiflora rose which is invading or threatens to invade established pollinator habitat. *This PEP may be used as standalone PEP or as maintenance PEP.*	**+1**	Non-Cropland
(315) Herbaceous Weed Control	**C**	This maintenance or establishment practice involving the control of herbaceous invasive species which is invading or threatens to invade established pollinator habitat; or to remove and control noxious species prior to establishment. *This PEP may be used as an establishment or maintenance PEP.*	**+1**	All
(327) Conservation Cover	**D1**	Plant a permanent enhancement within 500 feet of crop fields consisting of native, herbaceous perennials containing a minimum of ten (10) herbaceous species which includes three species in each bloom period of very early or early , mid and late and also one species or warm season grass or sedge- minimum size one-half acre	**+3**	Cropland
	D2	Plant a permanent enhancement consisting of native, herbaceous perennials containing a minimum of ten (10) herbaceous species which includes three species in each bloom period of very early or early , mid and late and also one species or warm season grass or sedge- minimum size one-half acre	**+3**	Non-Cropland
	D3	Establish linear herbaceous cover of native, herbaceous perennial pollinator friendly species along hedgerows, at the base of one or both sides of a hedgerow, windbreaks, shrubby field borders or other corridors to enhance pollinator habitat. Planting must contain a minimum of ten (10) herbaceous species which includes three species in each bloom period of very early or early , mid and late and also one species or warm season grass or sedge - minimum size 1/4 acre. *Utilize (390) Riparian Herbaceous Cover for similar enhancements to riparian areas.*	**+2**	All
	D4	Establish a woody pollinator (linear or block style) planting that provides pollinator resources throughout the season a minimum of nine species (3 in each of the very early, early and mid season). Plantings must be at least one-half acre in size. HINT: *This PEP cannot be combined with Hedgerow Planting (422).*	**+2**	Non-Cropland
	D5	Establish a woody block pollinator planting within 500 feet of cropland that provides pollinator resources throughout the season, or to provide resources outside of the crop bloom period. A minimum of 9 species (3 in each of the very early, early and mid season) must be established. Plantings are a minimum of one-half acre in size.	**+2**	Cropland
(328) Conservation Crop Rotation	**E**	Install or facilitate a rotation of pollinator friendly crops and fields of blooming pollinator-friendly species during critical bloom times. Crops should not be rotated more than 800 feet and utilize rotations that create overlapping bloom periods. Overlapping bloom periods must occur in a minimum of two fields. Hint: *Where possible this practice should be utilized in conjunction with (340) Cover Crop, etc. to achieve multiple PEP scores.*	**+3**	Cropland

POLLINATOR HABITAT ASSESSMENT

Conservation Practice	Narrative Code	Pollinator Enhancement Narratives	PEP	Applied Setting
(329) Residue and Tillage Management, No-Till/Strip Till/Direct Seed	**F1**	Implement a residue management system on truck or vegetable crops to emphasize availability of bare ground by leaving standing crop residue to protect bees that are nesting in the ground at the base of the plants they pollinate (i.e. squash, watermelons, pumpkins).	**+2**	Cropland
	F2	Include a minimum of one row of un-harvested or 5 feet of undisturbed refugia along edges of fields to provide nesting sites for ground nesting bees.	**+1**	
(331) Contour Orchard and Other Perennial Crops	**G**	Establish pollinator-friendly vegetative ground cover in alleys between rows of trees/vines, in row furrows on terraces and diversions to provide habitat for beneficial species and pollinators. A minimum of two pollinator-friendly species (legumes and/or flowering forbs that make up at least 30% of the total planting mix) regardless of bloom period must be included. Refer to the WVPH for information regarding suitable plant species. Select species that augment the existing crop bloom period. *This may be used as standalone PEP or in combination with other PEP (i.e. 612 Tree/Shrub Establishment).*	**+3**	Cropland
(332) Contour Buffer Strips	**H**	Include diverse pollinator friendly legumes or other forbs that provide pollen and nectar for native pollinators. Include a minimum of three species of forbs that bloom during consecutive bloom periods (one in each blooming period) of very early or early, mid and late within the buffer strips. Inclusion of pollinator species should not compromise the intended function.	**+3**	Cropland
(340) Cover Crop	**I**	Implement a pollinator friendly cover crop identified in the WVPH. (minimum of one –half acre) *Cover crop must have a bloom period outside the principle crop bloom . This may be used as standalone PEP or in combination with other PEP (i.e. 328 Conservation Crop Rotation).*	**+2**	Cropland
(342) Critical Area Planting	**J**	Establish critically eroding areas with pollinator friendly species within the evaluated area. A minimum of three perennial pollinator friendly species (legumes and/or flowering forbs that make up at least 30% of the total seed composition) regardless of bloom period must be included. Select species from the WVPH suitable for erosion control and that are pollinator -friendly. Inclusion of pollinator species should not compromise the intended function.- Minimum size 1/4 acre	**+1**	All
(380) Windbreak/ Shelterbelt Establishment	**K**	Install and orient pollinator friendly species as indicated in the WVPH to shelter pollinator enhancement areas against pesticide drift and/or provide habitat, improve aesthetics or create barriers to use. Utilize bloom periods of very early, early and mid-season. A woody shelterbelt/windbreak pollinator mix must contain at least three species in each of the three blooming periods (very early, early and mid).	**+3**	All
(386) Field Border	**L1**	Install and orient permanent pollinator field borders adjacent to crop fields to eliminate or reduce pesticide use/drift and/or increase pollinator habitat. Field border is a minimum of 20 feet wide and contains at least ten species (three species in each of the bloom periods very early or early, mid and late season) including one warm season grass or sedge species.	**+3**	Cropland
	L2	A permanent pollinator herbaceous field border is established that surrounds grassland (e.g. hayland or other grass areas) consisting of flowering forbs. The field border is a minimum of 20 feet wide and contains at least ten species (three species in each of the bloom periods very early or early, mid and late season) including one warm season grass or sedge species.	**+2**	Non-Cropland

POLLINATOR HABITAT ASSESSMENT

Conservation Practice	Narrative Code	Pollinator Enhancement Narratives	PEP	Applied Setting
(390) Riparian Herbaceous Cover	**M**	Install an herbaceous riparian buffer adjacent to streams or waterbodies a minimum of 35 feet wide or 1.5 times the width of the stream whichever is greater and a minimum of 15 feet for water bodies. Cover must consist of a minimum of 10 species which include at least one native grass or sedge. Of the 10 species utilized, a minimum of three species must be established in each of the bloom periods of very early or early, mid and late season. *This PEP may be utilized in conjunction with 391 or as standalone practice.*	**+3**	All
(391) Riparian Forest Buffer	**N**	Install and orient a riparian buffer consisting of woody pollinator friendly species to reduce pesticide drift and/or increase pollinator habitat. A minimum of nine woody species should be utilized (three in each of the blooming periods very early, early and mid). Width and other specifications must meet current RFB criteria. *This PEP may be used as a standalone practice or in conjunction with 390, 472, etc.*	**+3**	All
(393) Filter Strip	**O**	Include legumes or other forbs that provide pollen and nectar for native pollinators but does not compromise the original intended function. The minimum additional flow length shall be 10 feet. A total of ten species shall be established for pollinators; including a minimum of one native grass species and three species of forbs in each of the bloom periods. *This PEP may be used as a standalone practice or in conjunction with 391 or other similar PEP.*	**+2**	All
(412) Grassed Waterways	**P**	Install pollinator friendly perennial species in addition to those species utilized for erosion control or improve water quality. Flow length must be increased a minimum of 10 feet. A minimum of one plant species in each bloom period is required. Include management to maintain those species.	**+2**	All
(422) Hedgerow Planting	**Q**	Install and orient (where feasible) a pollinator-friendly hedgerow to shelter, connect or provide pollinator areas. The minimum width is 25 feet and minimum length . Utilize a minimum of six species of trees and/or shrubs consisting of at least two woody species in each of the bloom periods very early, early and mid season. HINT: *Utilize multiple hedgerows or other linear practices to connect nectar corridors in a given area.*	**+3**	All
(472) Access Control	**R**	Provide access control of pollinator establishment areas (including riparian corridors) with fence or other means to exclude herbivory of planted or protected stands. *Utilize in conjunction with other PEP.*	**+1**	All
(511) Forage Harvest Management	**S**	**Deferred harvesting** of forage producing areas in order to leave areas for pollinators and create nesting sites for bumble bees. Mow no more than one-third of an entire grassland stand in any given year (sections, strips etc.) This can be done by harvesting only one-third of a single field; or no more than one-third of the entire acreage of a stand in a year. Harvesting should occur in 2-4 year cycles with field(s) or portions of a field(s) to remain undisturbed for a period of time (fallow). A longer rotation yields greater diversity in composition and structure. A minimum of one-half acre must be deferred per area evaluated. *This PEP may be used as a standalone or as maintenance.*	**+2**	Non-Cropland
(512) Forage and Biomass Planting	**T**	Include a minimum of 30% perennial pollinator friendly species to planned forage plantings (legumes and/or flowering forbs that make up at least 30% of the total seed composition). Where possible coordinate bloom periods to adjacent cropland. Refer to the WVPH for species suitable for inclusion into forage mixes. Minimum of one acre.	**+1**	Grassland

POLLINATOR HABITAT ASSESSMENT

Conservation Practice	Narrative Code	Pollinator Enhancement Narratives	PEP	Applied Setting
(528) Prescribed Grazing	**U1**	**Deferred grazing** may be used to leave areas for pollinators and create nesting sites for bumble bees and some forage for pollinators. Graze no more than one-third of an entire grassland stand in any given year. This can be done by grazing only one-third of a single field; or no more than one-third of the entire acreage of a stand in a year. Grazing should occur in 2-4 year cycles with field(s) or portions of a field(s) to remain undisturbed for a period of time (fallow). A longer rotation yields greater diversity in composition and structure. A minimum of one-half acre must be deferred per area evaluated.	**+2**	Grassland
	U2	**Flash grazing** of established pollinator stands on an every third year basis (maximum frequency) as a management tool to remove rank growth and remove accumulated residues. *Utilize this PEP for maintenance.*	**+1**	
(585) Stripcropping	**V**	Implement a strip cropping system if insect pollinated crops are grown. Plants used in adjacent strips of vegetative cover are carefully chosen to provide complementary bloom periods prior to and/or after the crop bloom. This must include a minimum of three species (one in each of the blooming periods) that bloom very early or early, mid and late season. *Hint: Corn and soybean rotations are not considered insect pollinated crops*.	**+4**	Cropland
(595) Integrated Pest Management	**W**	Development of an Integrated Pest Management Plan that incorporates the following: • Utilization of equipment and/or herbicides specifically designed for pollinators whenever possible • Use elective pesticides that target a narrow range of insects, (e.g. *Bacillus thuringiensis* (*Bt*) for moth caterpillars) • Request that utilities be notified to reduce or eliminate spray and maintain rights of way by alternative means. • Application of pesticides during evening hours or after dark • If applicable, discontinue the use of any standard flat fan or hollow cone nozzles; and replace with drift reduction nozzles (e.g. turbo jet, raindrop and air-induction nozzles) and/or utilization of nozzles capable of operating at low pressures (15 to 30 psi) • Operate standard boom sprayers at the lowest effective pressure with nozzles set as low as possible. • If drop nozzles are utilized they should be used to deliver insecticide within the crop canopy. • Discontinue the utilization of any oil-based chemical carriers • Where possible, use thickening agents if they are compatible with the pesticide. • Where applicable, utilize liquid chemical pesticides as opposed to powders • Landowners will be provided risk assessments and explanations of assessments using NRCS protocols from a pesticide screening tool (i.e. Win-PST). At a minimum the Pesticide Active Ingredient Rating Report must be provided. HINT: *This PEP is utilized only on cropland where pesticides are actively being applied.*	**+3**	All

POLLINATOR HABITAT ASSESSMENT

Conservation Practice	Narrative Code	Pollinator Enhancement Narratives	PEP	Applied Setting
(612) Tree and Shrub Establishment	**D6**	Establish or incorporate woody pollinator plantings that provide nesting sites for bees with species such as elderberry or blackberry (*Sambucus* spp. or *Rubus* spp.) box elder or sumac (*Acer negundo* or *Rhus* spp.) to provide pithy areas for nesting. Inclusion of these species should not compromise the intended function. A minimum of 20 total plants per area evaluated. *This PEP may be used as a standalone PEP or in combination with other PEP (i.e. 327, 342, etc.).*	**+1**	All
(647) Early Successional Habitat Management and Development	**Y1**	**Openings** for pollinators may be created in forested cover types when open sunny areas are missing in the evaluated area utilizing this practice. Pollinator openings should be a minimum of one acre in size and consist of at least three species of forbs in each in each of the bloom periods very early or early, mid and late season (nine total species). Mixes shall also contain one species of native warm season grass or sedge. Pollinator enhancement openings should be created in the same fashion and with the same considerations as other wildlife openings. *This PEP should only be utilized where the majority of the evaluated area cover type is forest (greater than 80%). Use with caution due to invasive potential.*	**+1**	Woodland
	Y2	**Disking** may be utilized as a maintenance practice on established stands for retaining pollinator habitat and to revitalize rank stands and improve vegetative structure and density. Disk to achieve 70% bare ground at a maximum frequency of once every third year after stands are established. *Use this PEP for maintenance of practices such as (386) Field Border, (327) Conservation Cover, etc.*	**+1**	All
	Y3	**Deferred mowing of non-hay producing areas** may be used to leave areas for pollinators and create nesting sites for bumble bees. Mow no more than one-third of an entire grassland stand in any given year. This can be done by harvesting only one-third of a single field; or no more than one-third of the entire acreage of a stand in a year. Mowing should occur in 2-4 year cycles with field(s) or portions of a field(s) to remain undisturbed for a period of time (fallow). Longer rotations are encouraged. A minimum of one-half acre must be deferred per area evaluated.	**+1**	Grassland
	Y4	**Brush pile** creation for areas designated for native bees. A minimum of 2 per acre and a maximum of 7piles per five acres are required.	**+1**	All
(INT)* Artificial Nesting Structures for Wildlife	**Z**	Construct 2 nesting blocks, stem or tube bundles, bumble bee boxes per acre and place as indicated within the WVPH and/or the Invertebrate Conservation Fact Sheet-*Nests for Native Bees*. A maximum of 12 per five acres evaluated. Where possible utilize multiple nest structure types. *Utilize this PEP one time per evaluated area.*	**+2**	