

# Schema Guidance

## Table of Contents

Schema Materials: .....	2
Data Import:.....	2
Centerline (Feature Class).....	3
Program (Table) .....	4
Management Area (Feature Class) .....	5
Management Area Conservation Measures (Table).....	7
Site (Feature Class) .....	8
Site Conservation Measures (Table).....	9
Pollinator Scorecard (Feature Class) .....	10

## Schema Materials:

This Document: This document provides a brief description of each of the feature classes and tables included within the Rights-of-Way as Habitat geospatial database. These feature classes and tables allow an organization to record detailed information on Management Areas and Sites along with associated programs, conservation measures, and/or pollinator habitat monitoring. A brief description of each feature class and table's attribute fields, including dropdown options, is also provided.

Excel File: The Schema Excel file provides a detailed index of feature classes and tables that are included within the Rights-of-Way as Habitat geospatial database. In the Excel file, the first tab lists the feature classes and tables that are included in the geospatial database. For each of these feature classes and tables, there is a corresponding tab in the Excel file. Each tab includes the feature class/table name and alias as well as attribute information including: field name and alias, notes to provide guidance for how the field should be used, if there are any related tables and feature classes, and how the field is set up in the geodatabase (i.e., data type, field length, whether the field is required, default value, and if there are drop-down options and what those options are as specified by the domain values). Some fields are highlighted to represent specific conditions including: fields that are auto-populated by the ArcGIS software (gray), fields that will be auto-populated after data is imported to the ArcGIS Online database (pink), key fields that will be used to link to other feature classes/tables (blue), fields that are required to be filled in by the user (yellow), and fields that are recommended to be visible for field use (green).

File Geodatabase: The file geodatabase provides a template for the data that is in the online Rights-of-Way as Habitat Database. This geodatabase can be used to guide a mapping technician in creating fields in an organization's data collection system (e.g., Collector for ArcGIS, ArcPad, or TerraSync) that will correspond to the Rights-of-Way as Habitat Database. Once data is ready, data can be imported into the ROW Online database system (see below). To download the latest file geodatabase, sign into the ROW as Habitat ArcGIS Online website (<https://rowhwg.maps.arcgis.com/home/index.html>) using your user account and navigate to either the Public Gallery Group or your organization's Management Group. Select the "DatabaseSchema" file and choose to download it to a known location.

## Data Import:

Please refer to the Database User Guidance document (available at <http://rightofway.erc.uic.edu/wp-content/uploads/Database-User-Guidance.pdf>) for directions on importing your data into your organization's ROW as Habitat ArcGIS Online group. Once data is imported, some of the attribute fields described below will be automatically populated. These fields are highlighted in pink in the Schema Excel file.

### Auto-populated Fields after Data Import:

Within the schema are a number of fields that will be auto-populated after data is imported to ArcGIS Online. These include fields populated during nightly validation checks and fields that track the creator name and date and the last user name and date of editing. The data validation process inspects each feature class record and stores the validation result in the record's

attributes, including when the record was validated (*ValidationDate*), the validation status level (*ValidationLevel*), and the associated validation message (*ValidationMsg*). During validation, feature length (*Miles*), feature area (*Acres*, *Acres Adjusted*), and geographic information (*County*, *State*) will be auto-populated to ensure data accuracy for analytics. When data is created, the user (*created\_user*) and date (*created\_date*) are recorded. When data is edited, the last user (*lasted\_edited\_user*) and last date (*laste\_edited\_date*) are also recorded.

## Centerline (Feature Class)

**Description:** The Centerline feature class stores line data that delineates the location of rights-of-way features such as transmission lines, interstates, or railroads. These lines can be used to designate new Management Areas (areas of potential habitat) using a geoprocessing tool provided by the Field Museum/UIC. Using values in the attribute table for both the left and right sides of the Centerline, the tool will roughly approximate the area where there is no potential habitat (excluded from new Management Areas) followed by the area where there is potential habitat (included in new Management Areas). Since the tool first measures the width from the left and right of the Centerline as non-habitat followed by the width of potential habitat, if there is habitat directly adjacent to the Centerline (such as along a transmission line right-of-way, the non-habitat fields would be set at 0 and the habitat fields would be set at the distance to the left and right that the habitat extends to. Note: this information is not required in order to report Management Areas, Sites, or habitat monitoring.

**Fields:** The following attribute fields describe each Centerline feature (name, type, start point, end point, and mode) and provide information for use in the geoprocessing tool (non-habitat width on right, non-habitat width on left, habitat width on right, and habitat width on left). Note: to determine the start and end points of a line (as well as which side is on the left or right), start an edit session on the feature, double-click on the line and look for the red square indicating the end point of the feature. Also included in the attribute table is a field for notes, validation fields, and fields to delineate when the data was created and last modified and by whom. The final fields (*Miles*, *State*, and *County*) provide length and location information that will be filled in after the data is imported.

**GlobalID:** This field is auto-populated to uniquely identify each feature.

**Org\_ID:** Organization's short name, which will be provided to the organization. This is a key field, which links the features to a table within the Rights-of-Way as Habitat Database that contains information about your organization (including organization's full name, type, and parent organization). The Organization's short name and other information is derived from the ROW Database Intake Questionnaire your organization should have already submitted. This questionnaire is used to establish new organizations in the Rights-of-Way as Habitat Database.

**LineName:** Name of the line feature, if it is applicable. Examples include a street name or distribution line.

**LineType:** Type of line feature. Drop-down options include: County or Local Roads, Interstate or State Highway, Distribution – Electric, Transmission – Electric, Distribution – Oil and Gas, Transmission – Oil and Gas, Water or Wastewater, Telecommunication, Railroad, and Other.

**StartPoint:** Provide a description if the line has a designated start point. Examples include a substation, intersection, milepost, or tower number.

**EndPoint:** Provide a description if the line has a designated end point. Examples include a substation, intersection, milepost, or tower number.

**LineMode:** Indicates whether the line feature represents a Single line (e.g., one road), Multi-line divided (e.g., two roads separated by a median), or is Unclassified (unknown). Choices are provided as drop-down options.

**NonHab\_R:** Delineate the distance (feet width) to the right of the Centerline where there is no potential habitat. This area will be excluded when delineating new Management Areas using the geoprocessing tool.

**NonHab\_L:** Delineate the distance (feet width) to the left of the Centerline where there is no potential habitat. This area will be excluded when delineating new Management Areas using the geoprocessing tool.

**Habitat\_R:** The distance (feet width) to the right of the Centerline where there is potential habitat. This area will be used to designate new Management Areas using the geoprocessing tool.

**Habitat\_L:** The distance (feet width) to the left of the Centerline where there is potential habitat. This area will be used to designate new Management Areas using the geoprocessing tool.

**Notes:** Provide any notes about the feature.

**ModifyDate:** Enter the date that the feature was last modified (for your internal use). This will allow you to track if data has been recently updated.

**ModifyBy:** Enter the name of the last person to modify the data (for your internal use). This will allow you to track who last updated the data.

**Miles:** Length of the line feature in miles. Mileage will be calculated after data is imported.

**State:** State where the line feature is located. State will be calculated after data is imported.

**County:** County where the line feature is located. County will be calculated after data is imported.

**ValidationDate:** Date when the record was validated.

**ValidationLevel:** Validation status level. Values include 0 (Validated), 1 (High Error), 2 (Medium Error), and 3 (Low Error).

**ValidationMsg:** Validation message associated with validation error.

**Created\_user:** Name of record creator.

**Created\_date:** Date of record creation.

**Last\_edited\_user:** Name of last user to edit the record.

**Last\_edited\_date:** Date of last edit.

## Program (Table)

**Description:** The Program table records information about the programs, which are created and applied to Management Areas and Sites using the “Work with Management Areas” and “Work with Sites” tools in the “ROW Tools” ArcGIS Pro project (see the Database User Guidance document). For Management Areas, a relationship class is set up between the Management Areas feature class and the Program table so that each Management Area feature is associated with a specified Program record. A relationship class between the Program table and the Management Area Conservation Measures table establishes the Conservation Measures (can be multiple) that are associated with each Program. This relationship only applies to Management Areas, since a Site’s Conservation Measures are applied in a direct relationship between Sites feature class and the Site Conservation Measures table. A relationship class is set up between the Sites feature class and the Program table so that each Site feature is

associated with a specified Program record. A relationship class is also set up between the Pollinator Scorecard feature class and the Program table so that each Pollinator Scorecard feature is associated with a specified Program record. A Program is automatically assigned to a Pollinator Scorecard feature, based on the Site or Management Area it overlaps, during the nightly validation checks. Please refer to the Database User Guidance document for more details on how and when a Program is applied.

**Fields:** The following attribute fields describe each Program including: the unique Program name, who created the Program, whether the Program applies to a single Site, a group of Sites, or Management Areas, and notes about the Program. Also included in the attribute table are validation fields and fields to delineate when the data was created and last modified and by whom.

**GlobalID:** This field is auto-populated. It links each Program to associated records in the Management Area feature class, Management Area Conservation Measures table, Site feature class, or Pollinator Scorecard feature class. One Program can be associated with multiple Management Areas, Sites, Pollinator Scorecards, or records in the Management Area Conservation Measures table.

**Org\_ID:** Organization's short name, which will be provided to the organization. This is a key field, which links the features to a table within the Rights-of-Way as Habitat Database that contains information about your organization (including organization's full name, type, and parent organization). The Organization's short name and other information is derived from the ROW Database Intake Questionnaire your organization should have already submitted. This questionnaire is used to establish new organizations in the Rights-of-Way as Habitat Database.

**ProgramName:** Unique name to identify the Program.

**CreatedBy:** Creator of the Program.

**Purpose:** Indicates whether the program applies to Grouped Sites, Management Areas, or a Unique Site. For both Sites (Grouped or Unique) and Management Areas, the Program is used for association with Pollinator Scorecard points in the same Program. If the Program applies to a Management Area, it will also be used to define the Conservation Measures for the associated Management Areas.

**Notes:** Notes on the Program.

**ValidationDate:** Date when the record was validated.

**ValidationLevel:** Validation status level. Values include 0 (Validated), 1 (High Error), 2 (Medium Error), and 3 (Low Error).

**ValidationMsg:** Validation message associated with validation error.

**Created\_user:** Name of record creator.

**Created\_date:** Date of record creation.

**Last\_edited\_user:** Name of last user to edit the record.

**Last\_edited\_date:** Date of last edit.

## Management Area (Feature Class)

**Description:** The Management Area feature class stores polygon data that delineate land management areas where programmatic land management decisions have been established or proposed via policy or otherwise (e.g. program-wide use of targeted herbicide application, conservation mowing). Please refer to the Database User Guidance document and the Sites vs

Management Areas document<sup>1</sup> for more details on whether a location should be delineated as a Site or Management Area.

**Fields:** The following attribute fields describe each Management Area feature (unique identifier, name, location, management status, and ownership type) as well as whether it overlaps lands managed by other entities (i.e., where there is a possibility for double-counting conservation measures) and if so, by how much as well as a field for notes. The ProgramGUID field links each Management Area to its associated Program. The Acres, Acres Adjusted, State, and County fields provide area and location information that is automatically populated after the data is imported. Also included are validation fields and fields to delineate when the data was created and last modified and by whom.

**GlobalID:** This field is auto-populated to uniquely identify each feature.

**Org\_ID:** Organization's short name, which will be provided to the organization. This is a key field, which links the features to a table within the Rights-of-Way as Habitat Database that contains information about your organization (including organization's full name, type, and parent organization). The Organization's short name and other information is derived from the ROW Database Intake Questionnaire your organization should have already submitted. This questionnaire is used to establish new organizations in the Rights-of-Way as Habitat Database.

**Area\_ID:** This field allows the organization to uniquely identify each Management Area feature.

**ProgramGUID:** This field is auto-populated. It links each Management Area to an associated record in the Program table using the "Work with Management Areas" tool. Multiple Management Areas can be associated with one Program.

**AreaName:** This field allows the organization to provide a name for the Management Area. Examples include a project name or the general name of a project location.

**Location:** Provide a description of the Management Area's location. Examples include a mile marker or a structure ID.

**Status:** Select the management status. Drop-down options include: actively managed for habitat, not actively managed for habitat, and proposed area (for future habitat management).

**OwnerType:** Detail the type of land ownership for the Management Area. Drop-down options include: land is owned by you, land is under lease/easement by you from another ROW organization, land is under lease/easement by you from a non-ROW private owner, land is under lease/easement by you from a non-ROW public owner, or land is under another ownership system.

**Overlap:** Yes or no question delineating whether the Management Area overlaps lands managed by other entities (i.e., where there is a possibility for double-counting conservation measures).

**PctOverlap:** Estimate the percentage of the Management Area that overlaps with lands managed by other entities. Drop-down options include: No overlap, 1-25%, 26-50%, 51-75%, and >75%.

**Notes:** Provide any notes about the feature.

**ModifyDate:** Enter the date that the feature was last modified (for your internal use). This will allow you to track if data has been recently updated.

**ModifyBy:** Enter the name of the last person to modify the data (for your internal use). This will allow you to track who last updated the data.

---

<sup>1</sup> <http://rightofway.erc.uic.edu/wp-content/uploads/Sites-vs.-Management-Areas.pdf>

**Acres:** Acreage of the feature. Acres will be calculated after data is imported.

**AcresAdjusted:** This field is auto-populated after data is imported. It calculates the acreage of the Management Area feature after the acreage of overlapping Sites is removed.

**State:** State where the line feature is located. State will be calculated after data is imported.

**County:** County where the line feature is located. County will be calculated after data is imported.

**ValidationDate:** Date when the record was validated.

**ValidationLevel:** Validation status level. Values include 0 (Validated), 1 (High Error), 2 (Medium Error), and 3 (Low Error).

**ValidationMsg:** Validation message associated with validation error.

**Last\_edited\_date:** Date of last edit.

**Created\_user:** Name of record creator.

**Created\_date:** Date of record creation.

**Last\_edited\_user:** Name of last user to edit the record.

## Management Area Conservation Measures (Table)

**Description:** The Management Area Conservation Measures table allows you to record information about the conservation measures being implemented in a Program with one or more Management Areas. This table is set up through a relationship class so that each record in the table is associated with a specified Program, which is in turn associated with one or more Management Areas. The relationship class is formatted so that one Program can be associated with multiple conservation measures and each conservation measure is contained in its own row.

**Fields:** The following attribute fields describe each Management Area's Conservation Measures including: a unique identifier, the conservation measure being implemented, the implementing organization, the implementation status, the date the activity began, the date of last activity or completion, the frequency of implementation, and any notes. Also included are validation fields and fields to delineate when the data was created and last modified and by whom.

**Org\_ID:** Organization's short name, which will be provided to the organization. This is a key field, which links the features to a table within the Rights-of-Way as Habitat Database that contains information about your organization (including organization's full name, type, and parent organization). The Organization's short name and other information is derived from the ROW Database Intake Questionnaire your organization should have already submitted. This questionnaire is used to establish new organizations in the Rights-of-Way as Habitat Database.

**Measure\_ID:** This field allows the organization to uniquely identify each measure so that during future data uploads, measures with the same identifier will either be skipped or replace the existing measure.

**GUID\_:** This field is auto-populated. It links each Management Area Conservation Measure record to the associated Program.

**Measure:** Select the conservation measure being implemented in a Management Area. Drop-down options include: Seeding and planting to restore or create habitat, Conservation mowing to enhance floral resource habitat, Targeted herbicide treatment of undesirable vegetation, Suitable habitat idle lands, or set-asides, Brush removal to promote suitable habitat, Controlled grazing to promote suitable habitat, and Prescribed fire to promote suitable habitat.

**Org:** Name of the organization that is responsible for implementing the conservation measure.  
**Status:** Select the implementation status for each conservation measure. The two drop-down options include: Implemented, and Not yet implemented (i.e., conservation measure is planned to be implemented in the future).

**ActivityStart:** The date on which implementation began.

**ActivityEnd:** The date of last activity or completion.

**Frequency:** Select the implementation frequency for each conservation measure. Drop-down options include: More than once a year, Annually, Once every 2 years, Once every 3-5 years, Once every 6-10 years, and One-time occurrence.

**Notes:** Provide any notes about the feature.

**ValidationDate:** Date when the record was validated.

**ValidationLevel:** Validation status level. Values include 0 (Validated), 1 (High Error), 2 (Medium Error), and 3 (Low Error).

**ValidationMsg:** Validation message associated with validation error.

**Created\_user:** Name of record creator.

**Created\_date:** Date of record creation.

**Last\_edited\_user:** Name of last user to edit the record.

**Last\_edited\_date:** Date of last edit.

## Site (Feature Class)

**Description:** The Site feature class stores polygon data that delineate areas where direct conservation actions are taken that are often more focused or specialized than program-wide or system-wide land management practices. Please refer to the Database User Guidance document and the Sites vs Management Areas document<sup>2</sup> for more details on whether a location should be delineated as a Site or Management Area.

**Fields:** The following attribute fields describe each Site feature (unique identifier, name, location, management status, and ownership type) as well as whether it overlaps lands managed by other entities (i.e., where there is a possibility for double-counting conservation measures) and if so, by how much as well as a field for notes. The ProgramGUID links each Site to its associated Program. The Acres, State, and County fields provide area and location information that is automatically populated after the data is imported. Also included are validation fields and fields to delineate when the data was created and last modified and by whom.

**GlobalID:** This field is auto-populated. It links each Site to associated records in the Site Conservation Measures table. One Site can be associated with multiple Conservation Measures.

**Org\_ID:** Organization's short name, which will be provided to the organization. This is a key field, which links the features to a table within the Rights-of-Way as Habitat Database that contains information about your organization (including organization's full name, type, and parent organization). The Organization's short name and other information is derived from the ROW Database Intake Questionnaire your organization should have already submitted. This questionnaire is used to establish new organizations in the Rights-of-Way as Habitat Database.

**Site\_ID:** This field allows the organization to uniquely identify each Site feature.

---

<sup>2</sup> <http://rightofway.erc.uic.edu/wp-content/uploads/Sites-vs.-Management-Areas.pdf>



**ProgramGUID:** This field is auto-populated. It links each Site to an associated record in the Program table using the “Work with Sites” tool. Multiple Sites can be associated with one Program.

**SiteName:** This field allows the organization to provide a name for the Site. Examples include a project name or the general name of a project location.

**Location:** Provide a description of the Site’s location. Examples include a mile marker or a structure ID.

**Status:** Select the management status. Drop-down options include: actively managed for habitat, not actively managed for habitat, and proposed area (for future habitat management).

**OwnerType:** Detail the type of land ownership for the Site. Drop-down options include: land is owned by you, land is under lease/easement by you from another ROW organization, land is under lease/easement by you from a non-ROW private owner, land is under lease/easement by you from a non-ROW public owner, or land is under another ownership system.

**Overlap:** Yes or no question delineating whether the Site overlaps lands managed by other entities (i.e., where there is a possibility for double-counting conservation measures).

**PctOverlap:** Estimate the percentage of the Site that overlaps with lands managed by other entities. Drop-down options include: No overlap, 1-25%, 26-50%, 51-75%, and >75%.

**Notes:** Provide any notes about the feature.

**ModifyDate:** Enter the date that the feature was last modified (for your internal use). This will allow you to track if data has been recently updated.

**ModifyBy:** Enter the name of the last person to modify the data (for your internal use). This will allow you to track who last updated the data.

**Acres:** Acreage of the feature. Acres will be calculated after data is imported.

**State:** State where the line feature is located. State will be calculated after data is imported.

**County:** County where the line feature is located. County will be calculated after data is imported.

**ValidationDate:** Date when the record was validated.

**ValidationLevel:** Validation status level. Values include 0 (Validated), 1 (High Error), 2 (Medium Error), and 3 (Low Error).

**ValidationMsg:** Validation message associated with validation error.

**Created\_user:** Name of record creator.

**Created\_date:** Date of record creation.

**Last\_edited\_user:** Name of last user to edit the record.

**Last\_edited\_date:** Date of last edit.

## Site Conservation Measures (Table)

**Description:** The Site Conservation Measures table allows you to record information about the conservation measures being implemented at a Site. This table is set up through a relationship class so that each record in the table is associated with a specified Site. The relationship class is formatted so that one Site can be associated with many conservation measures and each conservation measure is contained in its own row.

**Fields:** The following attribute fields describe each Site’s Conservation Measures including: a unique identifier, the conservation measure being implemented, the implementing organization, the implementation status, the percent of the site on which the measure was applied, the date the activity began, the date of last activity or completion, the frequency of implementation, and

any notes. Also included are validation fields and fields to delineate when the data was created and last modified and by whom.

**Org\_ID:** Organization's short name, which will be provided to the organization. This is a key field, which links the features to a table within the Rights-of-Way as Habitat Database that contains information about your organization (including organization's full name, type, and parent organization). The Organization's short name and other information is derived from the ROW Database Intake Questionnaire your organization should have already submitted. This questionnaire is used to establish new organizations in the Rights-of-Way as Habitat Database.

**Measure\_ID:** This field allows the organization to uniquely identify each measure so that during future data uploads, measures with the same identifier will either be skipped or replace the existing measure.

**GUID\_:** This field is auto-populated. It links each Site Conservation Measure record to the associated Site.

**Measure:** Select the conservation measure activity being implemented at a Site. Drop-down options include: Seeding and planting to restore or create habitat, Conservation mowing to enhance floral resource habitat, Targeted herbicide treatment of undesirable vegetation, Suitable habitat idle lands, or set-asides, Brush removal to promote suitable habitat, Controlled grazing to promote suitable habitat, and Prescribed fire to promote suitable habitat.

**Org:** Name of the organization that is responsible for implementing the conservation measure.

**Status:** Select the implementation status for each conservation measure. The two drop-down options include: Implemented, and Not yet implemented (i.e., conservation measure is planned to be implemented in the future).

**PctApplied:** Percent of Site in which measure was applied.

**ActivityStart:** The date on which implementation began.

**ActivityEnd:** The date of last activity or completion.

**Frequency:** Select the implementation frequency for each conservation measure. Drop-down options include: More than once a year, Annually, Once every 2 years, Once every 3-5 years, Once every 6-10 years, and One-time occurrence.

**Notes:** Provide any notes about the feature.

**ValidationDate:** Date when the record was validated.

**ValidationLevel:** Validation status level. Values include 0 (Validated), 1 (High Error), 2 (Medium Error), and 3 (Low Error).

**ValidationMsg:** Validation message associated with validation error.

**Created\_user:** Name of record creator.

**Created\_date:** Date of record creation.

**Last\_edited\_user:** Name of last user to edit the record.

**Last\_edited\_date:** Date of last edit.

## Pollinator Scorecard (Feature Class)

**Description:** The Pollinator Scorecard feature class stores point locations where field staff collected field data on pollinator habitat. These points should be associated with a Site or Management Area.

**Fields:** The following attribute fields describe information collected during a habitat survey. This includes information about when the data was collected and by whom (date, time, assessor's

name, and assessor's organization), where the data was collected (name of Site/Management Area, location of Site/Management Area, geographic region), what type of survey was conducted (survey type, survey tier), information about the plot (number, location, description, adjacent land use), habitat attributes (percentage of nectar cover, number of milkweed stems, additional habitat resources, percentage of invasive species, and pollinator observed), scoring (total score and habitat quality rating), management (threats and opportunities), and any observations/recommendations about the feature. The final fields (Latitude, Longitude, State, County, Validation, and Creation/Editing user and date) provide location, validation, and editing information that will be filled in after the data is imported. Each row in the table below contains the field name, the applicable survey tiers, field description, and drop-down (domain) options if applicable. Tier 1 surveys are intended for anyone with minimal training and provide a "Yes/No" habitat determination. Tier 2 surveys are intended for users with some training and provide a qualitative rating of pollinator habitat and management score. Tier 3 surveys are intended for more advanced users and provide a qualitative rating of pollinator habitat including a list of species present and metrics per species as well as a management score.

<b>Field</b>	<b>Tier</b>	<b>Description</b>	<b>Drop-down Options</b>
<i>GlobalID</i>	All tiers	Auto-populated unique identifier which links a Pollinator Scorecard point to the associated photos in the ATTACH table.	
<i>Org_ID</i>	All tiers	Organization's short name, which will be provided to the organization. This is a key field, which links the features to a table within the Rights-of-Way as Habitat Database that contains information about your organization (including organization's full name, type, and parent organization). The Organization's short name and other information is derived from the ROW Database Intake Questionnaire your organization should have already submitted. This questionnaire is used to establish new organizations in the Rights-of-Way as Habitat Database.	
<i>Scorecard_ID</i>	All tiers	This field allows the organization to uniquely identify each Pollinator Scorecard point so that during future data uploads, features with the same identifier will either be skipped or replace the existing feature.	
<i>ProgramGUID</i>	All tiers	This field is auto-populated. It links each Pollinator Scorecard to an associated record in the Program table using the "Working with Pollinator Scorecard" tool. Multiple Pollinator Scorecard points can be associated with one Program.	
<i>EvalDate</i>	All tiers	The date of assessment.	
<i>Start_Time</i>	All tiers	The start time for plot assessment.	

<i>EvalName</i>	All tiers	The name(s) of the assessor(s).	
<i>EvalOrg</i>	All tiers	The organization name of the assessor(s). This may be a contractor, rights-of-way organization, etc.	
<i>Name</i>	All tiers	Name of the Site or Management Area where the assessment was conducted.	
<i>Location</i>	All tiers	Location of the Site or Management Area where the assessment was conducted.	
<i>Acres</i>	All tiers	Estimated acres of the Site or Management Area where the assessment was conducted.	
<i>Monitoring_Type</i>	All tiers	Indicate whether monitoring is a baseline assessment or post-activity assessment.	Baseline assessment; post-activity assessment.
<i>Geographic_Region</i>	All tiers	The geographic region of your survey. For Tier 1 surveys: if Western/Southern is selected, the <i>Milkweed_West_South</i> field should be filled out and if Midwest/Eastern is selected, the <i>Milkweed_Midwest_East</i> field should be filled out.	Western/Southern; Midwest/Eastern
<i>Survey_Tier</i>	All tiers	The survey tier being used for the assessment. The selected tier will determine what data fields are required.	Tier 1: Basic; Tier 2: Qualitative; and Tier 3: Detailed
<i>Survey_Type</i>	Tiers 2 & 3	Indicate whether plots were distributed in a random/systematic or representative way.	Random/Systematic; Representative
<i>Plot_Number</i>	All tiers	A unique identifier for the plot.	
<i>Plot_Location</i>	All tiers	Location information to re-identify the plot in subsequent visits.	
<i>Plot_Description</i>	All tiers	A general description of the plot (e.g., ROW type, off-ROW or facility, leased vs. owned, etc.).	
<i>T1_AdjacentLU</i>	N/A	<b>Note:</b> This is a legacy field from a previous Tier 1 survey form and is no longer included in the database schema.	
<i>T1_OtherLU</i>	N/A	<b>Note:</b> This is a legacy field from a previous Tier 1 survey form and is no longer included in the database schema.	
<i>T2_3_AdjacentLU</i>	Tiers 2 & 3	Select up to two categories for land use adjacent to the site nearest the plot location for a Tier 2 or Tier 3 survey. Values should be comma separated and consist of up to two of the following options: Cropland, Developed, Woodland, Wetland, Grassland (Diverse), Grassland (Non-Diverse), and Other.	
<i>T2_3_OtherLU</i>	Tiers 2 & 3	Describe other land use adjacent to the site nearest the plot location for a Tier 2 or Tier 3	

		survey.	
<i>AdjacentLU_Cropland</i>	Tiers 2 & 3	If adjacent land use in <i>T2_3_AdjacentLU</i> includes Cropland, value equals True, otherwise value equals False.	True; False
<i>AdjacentLU_Developed</i>	Tiers 2 & 3	If adjacent land use in <i>T2_3_AdjacentLU</i> includes Developed, value equals True, otherwise value equals False.	True; False
<i>AdjacentLU_Woodland</i>	Tiers 2 & 3	If adjacent land use in <i>T2_3_AdjacentLU</i> includes Woodland, value equals True, otherwise value equals False.	True; False
<i>AdjacentLU_Wetland</i>	Tiers 2 & 3	If adjacent land use in <i>T2_3_AdjacentLU</i> includes Wetland, value equals True, otherwise value equals False.	True; False
<i>AdjacentLU_Grass_Diverse</i>	Tiers 2 & 3	If adjacent land use in <i>T2_3_AdjacentLU</i> includes Grassland (Diverse), value equals True, otherwise value equals False.	True; False
<i>AdjacentLU_Grass_NonDiv</i>	Tiers 2 & 3	If adjacent land use in <i>T2_3_AdjacentLU</i> includes Grassland (Non-Diverse), value equals True, otherwise value equals False.	True; False
<i>AdjacentLU_Other</i>	Tiers 2 & 3	If adjacent land use in <i>T2_3_AdjacentLU</i> includes Other, value equals True, otherwise value equals False.	True; False
<i>TenPctNect</i>	Tier 1	Delineate if there is more than 10% cover of potentially flowering nectar plants (e.g., wildflowers and shrubs), whether flowering or not, within the survey plot.	Yes; No
<i>PctNectar</i>	N/A	<b>Note:</b> This is a legacy field from a previous Tier 1 survey form and is no longer included in the database schema.	
<i>Milkweed</i>	N/A	<b>Note:</b> This is a legacy field from a previous Tier 1 survey form and is no longer included in the database schema.	
<i>Milkweed_West_South</i>	Tier 1	Delineate if two or more milkweed stems were present in the survey plot. This field applies if the selected <i>Geographic_Region</i> is Western/Southern. <b>Note:</b> This field replaces the removed <i>Milkweed</i> field.	Yes; No
<i>Milkweed_Midwest_East</i>	Tier 1	Delineate if six or more milkweed stems were present in the survey plot. This field applies if the selected <i>Geographic_Region</i> is Midwest/Eastern. <b>Note:</b> This field replaces the removed <i>Milkweed</i> field.	Yes; No
<i>TotalMW</i>	N/A	<b>Note:</b> This is a legacy field from a previous Tier 1 survey form and is no longer included in the database schema.	
<i>T1_PctNectar</i>	Tier 1	The percent cover of potentially flowering nectar plants (e.g., wildflowers and shrubs), whether flowering or not, for a Tier 1 survey. <b>Note:</b> This field replaces the removed <i>PctNectar</i> field.	0%; 1-5%; 6-10%; 11-25%; 26-50%; 51-75%; and 76-100%

<i>T1_Milkweed_Abundance</i>	Tier 1	Number of milkweed stems observed in the plot for a Tier 1 survey. <b>Note:</b> This field replaces the removed <i>TotalMW</i> field.	0 stems; 1 stem; 2-5 stems; 6-10 stems; 11-50 stems; and >50 stems
<i>T2_PctNectar</i>	Tier 2	The percent cover of potentially flowering nectar plants (e.g., wildflowers and shrubs), whether flowering or not, for a Tier 2 survey.	0% (0 Points); 1-5% (1 Point); 6-10% (7 Points); 11-25% (14 Points); 26-50% (21 Points); 51-75% (28 Points); and 76-100% (35 Points)
<i>T3_PctNectar</i>	Tier 3	The percent cover of potentially flowering nectar plants (e.g., wildflowers and shrubs), whether flowering or not, for a Tier 3 survey.	0% (0 Points); 1-5% (1 Point); 6-10% (6 Points); 11-25% (12 Points); 26-50% (18 Points); 51-75% (24 Points); and 76-100% (30 Points)
<i>T2_PctNectar_Points</i>	Tier 2	Total points calculated for <i>T2_PctNectar</i> .	
<i>T3_PctNectar_Points</i>	Tier 3	Total points calculated for <i>T3_PctNectar</i> .	
<i>T1_Habitat_Resources</i>	N/A	<b>Note:</b> This is a legacy field from a previous Tier 1 survey form and is no longer included in the database schema.	
<i>T2_Habitat_Resources</i>	Tier 2	Habitat resources present during a Tier 2 survey. Values should be comma separated and consist of any number of the following options: Native bunch grasses, Brush piles, Undisturbed thatch, Dead wood/snags, Rock piles, Basking areas, Plants with hollow pithy stems, and Larval host plants (e.g., milkweed).	
<i>T3_Habitat_Resources</i>	Tier 3	Habitat resources present during a Tier 3 survey. Values should be comma separated and consist of any number of the following options: Native bunch grasses, Brush piles, Undisturbed thatch, Dead wood/snags, Rock piles, Basking areas, Plants with hollow pithy stems, and Larval host plants (e.g., milkweed).	
<i>Habitat_Notes</i>	Tiers 2 & 3	Notes on habitat resources for a Tier 2 or Tier 3 survey.	
<i>Bunch_Grass</i>	Tiers 2 & 3	If habitat resources in <i>T2_Habitat_Resources</i> or <i>T3_Habitat_Resources</i> include Native bunch grasses, value equals True, otherwise value equals False.	True; False

<i>Brush</i>	Tiers 2 & 3	If habitat resources in <i>T2_Habitat_Resources</i> or <i>T3_Habitat_Resources</i> include Brush piles, value equals True, otherwise value equals False.	True; False
<i>Thatch</i>	Tiers 2 & 3	If habitat resources in <i>T2_Habitat_Resources</i> or <i>T3_Habitat_Resources</i> include Undisturbed thatch, value equals True, otherwise value equals False.	True; False
<i>Snags</i>	Tiers 2 & 3	If habitat resources in <i>T2_Habitat_Resources</i> or <i>T3_Habitat_Resources</i> include Dead wood/snags, value equals True, otherwise value equals False.	True; False
<i>Rock_Piles</i>	Tiers 2 & 3	If habitat resources in <i>T2_Habitat_Resources</i> or <i>T3_Habitat_Resources</i> include Rock piles, value equals True, otherwise value equals False.	True; False
<i>Bare_Ground</i>	Tiers 2 & 3	If habitat resources in <i>T2_Habitat_Resources</i> or <i>T3_Habitat_Resources</i> include Bare ground, value equals True, otherwise value equals False.	True; False
<i>Hollow_Stems</i>	Tiers 2 & 3	If habitat resources in <i>T2_Habitat_Resources</i> or <i>T3_Habitat_Resources</i> include Plants with hollow pithy stems, value equals True, otherwise value equals False.	True; False
<i>Larval_Host</i>	Tiers 2 & 3	If habitat resources in <i>T2_Habitat_Resources</i> or <i>T3_Habitat_Resources</i> include Larval host plants (e.g., milkweed), value equals True, otherwise value equals False.	True; False
<i>T2_Habitat_Points</i>	Tier 2	Total Points calculated for Tier 2 Additional Habitat Resources. For every value in <i>T2_Habitat_Resources</i> or for every True value in <i>Bunch_Grass</i> , <i>Brush</i> , <i>Thatch</i> , <i>Snags</i> , <i>Rock_Piles</i> , <i>Bare_Ground</i> , <i>Hollow_Stems</i> , and <i>Larval_Host</i> , add two points.	
<i>T3_Habitat_Points</i>	Tier 3	Total Points calculated for Tier 3 Additional Habitat Resources. For every value in <i>T3_Habitat_Resources</i> or for every True value in <i>Bunch_Grass</i> , <i>Brush</i> , <i>Thatch</i> , <i>Snags</i> , <i>Rock_Piles</i> , <i>Bare_Ground</i> , <i>Hollow_Stems</i> , and <i>Larval_Host</i> , add three points.	
<i>ThreeNectar</i>	N/A	<b>Note:</b> This is a legacy field from a previous Tier 1 survey form and is no longer included in the database schema.	
<i>ThreeNectar_Points</i>	N/A	<b>Note:</b> This is a legacy field from a previous Tier 1 survey form and is no longer included in the database schema.	
<i>FloweringNectar:</i>	Tier 2	Delineate the number of flowering nectar plants species observed blooming in the plot. <b>Note:</b> This field replaces the removed <i>ThreeNectar</i> field.	0-2 species (0 Points); 3-5 species (3 Points); 6-10

			species (6 Points); and 11 or more species (9 Points)
<i>FloweringNectar_Points</i>	Tier 2	Total Points calculated for <i>FloweringNectar</i> . <b>Note:</b> This field replaces the removed <i>ThreeNectar_Points</i> field.	
<i>NumNectar</i>	Tier 3	Number of unique nectar plant species identified in the plot.	0 species (0 Points); 1-5 species (3 Points); 6-10 species (6 Points); 11-20 species (8 Points); 21-35 species (11 Points); and >35 species (17 Points)
<i>NumNectar_Points</i>	Tier 3	Total Points calculated for <i>NumNectar</i> .	
<i>NumNative</i>	Tier 3	Number of unique native nectar plant species identified in the plot.	0 species (0 Points); 1-5 species (1 Point); 6-10 species (2 Points); 11-15 species (3 Points); 16-20 species (5 Points); and >20 species (7 Points)
<i>NumNative_Points</i>	Tier 3	Total Points calculated for <i>NumNative</i> .	
<i>T2_Milkweed_Abundance</i>	Tier 2	Number of milkweed stems observed in the plot for a Tier 2 survey.	0 stems (0 Points); 1 stem (4 Points); 2-5 stems (7 Points); 6-10 stems (9 Points); 11-50 stems (13 Points); and >50 stems (20 Points)
<i>T3_Milkweed_Abundance</i>	Tier 3	Number of milkweed stems observed in the plot for a Tier 3 survey.	0 stems (0 Points); 1 stem (5 Points); 2-5 stems (9 Points); 6-10 stems (12



			Points); 11-50 stems (17 Points); and >50 stems (26 Points)
<i>T2_Milkweed_Points</i>	Tier 2	Total Points calculated for <i>T2_Milkweed_Abundance</i> .	
<i>T3_Milkweed_Points</i>	Tier 3	Total Points calculated for <i>T3_Milkweed_Abundance</i> .	
<i>MW_Actual</i>	All Tiers	Count of the number of milkweed stems observed in the plot.	
<i>PctInvasive</i>	Tier 3	Percent cover of invasive species and noxious weeds in the plot.	0% (6 Points); 1-5% (5 Points); 6-10% (4 Points); 11-25% (3 Points); 26-50% (2 Points); 51-75% (1 Point); and 76-100% (0 Points)
<i>PctInvasive_Points</i>	Tier 3	Total Points calculated for <i>PctInvasive</i> .	
<i>Pollinator</i>	All Tiers	Pollinators observed while surveying the plot. Pollinators need not be located within the plot to be counted. Values should be comma separated and consist of any number of the following options: Honey bees, Other bees, Monarch butterflies, Other butterflies, Beetles on flowers, Wasps on flowers, Moths, Flies on flowers, and Other. Note that previous drop-down options included the following: Monarchs only, Bees only, Other pollinators, Monarchs, bees, and other pollinators, and None.	
<i>Other_Pollinators</i>	All Tiers	Describe other pollinators observed while surveying the plot.	
<i>Honey_Bees</i>	All Tiers	If pollinators in <i>Pollinator</i> include Honey bees, value equals True, otherwise value equals False.	True; False
<i>Other_Bees</i>	All Tiers	If pollinators in <i>Pollinator</i> include Other bees, value equals True, otherwise value equals False.	True; False
<i>Monarch_Butterflies</i>	All Tiers	If pollinators in <i>Pollinator</i> include Monarch butterflies, value equals True, otherwise value equals False.	True; False
<i>Other_Butterflies</i>	All Tiers	If pollinators in <i>Pollinator</i> include Other butterflies, value equals True, otherwise value equals False.	True; False
<i>Beetles</i>	All Tiers	If pollinators in <i>Pollinator</i> include Beetles on flowers, value equals True, otherwise value equals False.	True; False

<i>Wasps</i>	All Tiers	If pollinators in <i>Pollinator</i> include Wasps on flowers, value equals True, otherwise value equals False.	True; False
<i>Moths</i>	All Tiers	If pollinators in <i>Pollinator</i> include Moths, value equals True, otherwise value equals False.	True; False
<i>Flies</i>	All Tiers	If pollinators in <i>Pollinator</i> include Flies on flowers, value equals True, otherwise value equals False.	True; False
<i>Pollinators_Other</i>	All Tiers	If pollinators in <i>Pollinator</i> include Other pollinators, value equals True, otherwise value equals False.	True; False
<i>Total_Points</i>	Tiers 2 & 3	Total Points calculated for a Tier 2 or Tier 3 survey. For Tier 2, this should equal the sum of <i>T2_PctNectar_Points</i> + <i>T2_Habitat_Points</i> + <i>FloweringNectar_Points</i> + <i>T2_Milkweed_Points</i> . For Tier 3, this should equal the sum of <i>T3_PctNectar_Points</i> + <i>T3_Habitat_Points</i> + <i>NumNative_Points</i> + <i>NumNectar_Points</i> + <i>T3_Milkweed_Points</i> + <i>PctInvasive_Points</i> .	
<i>Rating</i>	Tiers 2 & 3	Habitat Quality Rating based on <i>Total_Points</i> . For Tier 2 surveys: if <i>Total_Points</i> is 0-25, value equals 'Improvement Opportunity'; if <i>Total_Points</i> 26-40, value equals 'Basic Habitat Quality', if <i>Total_Points</i> is 41-55, value equals 'Moderate Habitat Quality', and if <i>Total_Points</i> is 56 or greater, value equals 'High Habitat Quality'. For Tier 3 surveys: if <i>Total_Points</i> is 0-20, value equals 'Improvement Opportunity'; if <i>Total_Points</i> 21-35, value equals 'Basic Habitat Quality', if <i>Total_Points</i> is 36-50, value equals 'Moderate Habitat Quality', if <i>Total_Points</i> is 51-75, value equals 'High Habitat Quality', and if <i>Total_Points</i> is 76 or greater, value equals 'Exemplary'.	Improvement Opportunity; Basic Habitat Quality; Moderate Habitat Quality; High Habitat Quality; Exemplary
<i>Threats</i>	All Tiers	Habitat threats identified on or adjacent to the plot within the site/area. Values should be comma separated and consist of any number of the following options: Lack of direction or objectives for managing habitat, Negative perception of habitat, Woody encroachment, Invasive species, Habitat conversion (e.g., habitat loss, 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, and Other.	
<i>Other_Threats</i>	All Tiers	Describe other management threats.	

<i>Lack_Objectives</i>	All Tiers	If threats in <i>Threats</i> include lack of direction or objectives, value equals True, otherwise value equals False.	True; False
<i>Negative_Perception</i>	All Tiers	If threats in <i>Threats</i> include negative perception of habitat, value equals True, otherwise value equals False.	True; False
<i>Woody_Encroachment</i>	All Tiers	If threats in <i>Threats</i> include woody encroachment, value equals True, otherwise value equals False.	True; False
<i>Invasive_Species</i>	All Tiers	If threats in <i>Threats</i> include invasive species, value equals True, otherwise value equals False.	True; False
<i>Habitat_Conversion</i>	All Tiers	If threats in <i>Threats</i> include habitat conversion, value equals True, otherwise value equals False.	True; False
<i>Frequent_Veg_Management</i>	All Tiers	If threats in <i>Threats</i> include frequent grazing, mowing or herbicide use, value equals True, otherwise value equals False.	True; False
<i>LandUse_Encroachment</i>	All Tiers	If threats in <i>Threats</i> include adjacent land use encroachment, value equals True, otherwise value equals False.	True; False
<i>LandUse_Impacts</i>	All Tiers	If threats in <i>Threats</i> include adjacent land use impacts, value equals True, otherwise value equals False.	True; False
<i>Threats_Other</i>	All Tiers	If threats in <i>Threats</i> include other, value equals True, otherwise value equals False.	True; False
<i>Opportunities</i>	All Tiers	Habitat opportunities identified on or adjacent to the plot within the site/area. Values should be comma separated and consist of any number of the following options: Enhancement native seeding/planting, Adding nesting structures, Preserving areas of dead wood or undisturbed thatch, Use of site for public outreach or education, Engaging volunteer partnerships in site conservation, and Other.	
<i>Other_Opportunities</i>	All Tiers	Describe other management opportunities.	
<i>Native_Planting</i>	All Tiers	If opportunities in <i>Opportunities</i> include enhancement native seeding/planting, value equals True, otherwise value equals False.	True; False
<i>Nesting_Structures</i>	All Tiers	If opportunities in <i>Opportunities</i> include adding nesting structures, value equals True, otherwise value equals False.	True; False
<i>Area_Preservation</i>	All Tiers	If opportunities in <i>Opportunities</i> include preserving areas of dead wood or undisturbed thatch, value equals True, otherwise value equals False.	True; False
<i>Public_Outreach</i>	All Tiers	If opportunities in <i>Opportunities</i> include use of site for public outreach or education, value equals True, otherwise value equals False.	True; False

<i>Volunteer_Partnerships</i>	All Tiers	If opportunities in <i>Opportunities</i> include engaging volunteer partnerships in site conservation, value equals True, otherwise value equals False.	True; False
<i>Opportunities_Other</i>	All Tiers	If opportunities in <i>Opportunities</i> include other, value equals True, otherwise value equals False.	True; False
<i>Notes</i>	All Tiers	Notes describing observations/recommendations.	
<i>EvalYear</i>	All Tiers	Year of evaluation. <i>EvalYear</i> will be calculated after data is imported	
<i>Latitude</i>	All Tiers	Latitude of the feature. <i>Latitude</i> will be calculated after data is imported.	
<i>Longitude</i>	All Tiers	Longitude of the feature. <i>Longitude</i> will be calculated after data is imported.	
<i>State</i>	All Tiers	State where the point feature is located. <i>State</i> will be calculated after data is imported.	
<i>County</i>	All Tiers	County where the point feature is located. <i>County</i> will be calculated after data is imported.	
<i>ValidationDate</i>	All Tiers	Date when the record was validated. <i>ValidationDate</i> will be calculated after data is imported.	
<i>ValidationLevel</i>	All Tiers	Validation status level. Values include 0 (Validated), 1 (High Error), 2 (Medium Error), and 3 (Low Error). <i>ValidationLevel</i> will be calculated after data is imported.	
<i>ValidationMsg</i>	All Tiers	Validation status message associated with the <i>ValidationLevel</i> . <i>ValidationMsg</i> will be calculated after data is imported.	
<i>Created_user</i>	All Tiers	Name of record creator. <i>Created_user</i> will be calculated after data is imported.	
<i>Created_date</i>	All Tiers	Date of record creation. <i>Created_date</i> will be calculated after data is imported.	
<i>Last_edited_user</i>	All Tiers	Name of last user to edit the record. <i>Last_edited_user</i> will be calculated after data is imported.	
<i>Last_edited_date</i>	All Tiers	Date of last edit. <i>Last_edited_date</i> will be calculated after data is imported.	