SMAPVEX19-22 Massachusetts Field Measured Forest Tree Inventory, Biophysical Data, Leaf Area Index, and Estimated Biomass, Version 1

USER GUIDE

How to Cite These Data

As a condition of using these data, you must include a citation:

Bourgeau-Chavez, L., D. VanderBilt, C. Cook, O. Witting, M. Miller, & A. Chavez. 2024. *SMAPVEX19-22 Massachusetts Field Measured Forest Tree Inventory, Biophysical Data, Leaf Area Index, and Estimated Biomass,* Version 1. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. https://doi.org/10.5067/TEJPJA59KYB0. [Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT NSIDC@NSIDC.ORG

FOR CURRENT INFORMATION, VISIT https://nsidc.org/data/SV19MA_FOR

National Snow and Ice Data Center

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1 DATA DESCRIPTION

1.1 Summary

The SMAPVEX19-22 Massachusetts Field data (SV19MA_FOR) consists of forest tree inventory, biophysical, leaf area index (LAI), and estimated biomass data as well as photos collected between April and August 2022 in the vicinity of Petersham, Massachusetts during the SMAPVEX19-22 (Soil Moisture Active Passive Validation Experiment 2019-2022) field campaign. The location was chosen due to its forested land cover, as SMAPVEX19-22 aims to validate satellite derived soil moisture estimates in forested areas. Over 500 trees of approximately 45 different species were sampled.

1.2 Parameters

This data set includes forest tree inventory (by tree species, diameter, and height), biophysical data (vegetation cover, distance between trees, canopy closure, and branch counts), leaf area index (LAI), estimated biomass (shrub and tree by species, plot, and live/dead), and photos (taken at cardinal directions, nadir, straight up, and 40 degree angles to the sky).

1.3 File Information

1.3.1 Format

Data is provided as comma-separated values (.csv) files with associated metadata files, also in .csv format. The Appendix of this document contains tables describing the contents of the metadata files. Biomass data is separated into several files, biophysical is grouped into summer and spring files, while forest tree inventory, LAI, biomass, and photo data are provided as single files.

Information on sampling locations is provided as three ESRI shapefiles (.shp, .shx, .dbf, and .prj) representing intensive sites, subplots, and transects.

1.3.2 File Contents

Biophysical data is presented in SV19MA_FOR_BIOPHYSICAL_DATA_20220427_20220505_V01.0.csv and SV19MA_FOR_BIOPHYSICAL_DATA_20220719_20220726_V01.0.csv. Table A - 1 contains more details about file contents, which can also be found in associated metadata file

SV19MA_FOR_BIOPHYSICAL_METADATA_20220427_20220505_V01.0.csv and SV19MA_FOR_BIOPHYSICAL_METADATA_20220719_20220726_V01.0.csv.

Forest tree inventory data are presented in SV19MA_FOR_FOREST_INVENTORY_DATA_20220427_20220725_V01.0.csv. Table A - 2 contains more details about file contents, which can also be found in associated metadata file SV19MA_FOR_FOREST_INVENTORY_METADATA_20220427_20220725_V01.0.csv.

LAI data is presented in SV19MA_FOR_LAI_DATA_20220428_20220726_V01.0.csv. Table A - 3 contains more details about file contents, which can also be found in associated metadata file SV19MA_FOR_LAI_METADATA_20220428_20220726_V01.0.csv.

Biomass data is presented in SV19MA_FOR_BIOMASS_HEIGHTS_DATA_20220420_20220801_V01.0.csv, SV19MA_FOR_BIOMASS_SHRUBS_DATA_20220420_20220801_V01.0.csv, SV19MA_FOR_BIOMASS_SUMMARY_DATA_20220420_20220801_V01.0.csv, and SV19MA_FOR_BIOMASS_TREES_DATA_20220420_20220801_V01.0.csv. Tables A - 4, A - 5, A - 6, and A - 7 contain more details about file contents, which can also be found in the following metadata files:
SV19MA_FOR_BIOMASS_HEIGHTS_METADATA_20220420_20220801_V01.0.csv, SV19MA_FOR_BIOMASS_SHRUBS_METADATA_20220420_20220801_V01.0.csv, SV19MA_FOR_BIOMASS_SUMMARY_METADATA_20220420_20220801_V01.0.csv, and SV19MA_FOR_BIOMASS_TREES_METADATA_20220420_20220801_V01.0.csv.

Camera data is presented in SV19MA_FOR_MTRI1656_2022_05_V01.0.tar.gz, SV19MA_FOR_MTRI1657_2022_07_V01.0.tar.gz, and SV19MA_FOR_CAMERANO_PICTUREID_20220420_20220801_V01.0.csv. Table A - 8 contains more details about file contents, which can also be found in the associated metadata file SV19MA_FOR_CAMERA_PHOTO_METADATA_20220420_20220801_V01.0.csv.

1.3.3 Naming Convention

Data file names are:

- SV19MA_FOR_BIOPHYSICAL_DATA_20220427_20220505_V01.0.csv
- SV19MA_FOR_BIOPHYSICAL_DATA_20220719_20220726_V01.0.csv
- SV19MA_FOR_FOREST_INVENTORY_DATA_20220427_20220725_V01.0.csv
- SV19MA_FOR_LAI_DATA_20220428_20220726_V01.0.csv
- SV19MA_FOR_BIOMASS_HEIGHTS_DATA_20220420_20220801_V01.0.csv
- SV19MA_FOR_BIOMASS_SHRUBS_DATA_20220420_20220801_V01.0.csv
- SV19MA_FOR_BIOMASS_SUMMARY_DATA_20220420_20220801_V01.0.csv
- SV19MA_FOR_BIOMASS-TREES_DATA_20220420_20220801_V01.0.csv

- SV19MA_FOR_CAMERANO_PICTUREID_20220420_20220801_V01.0.csv
- SV19MA_FOR_MTRI1656_2022_05_V01.0.tar.gz
- SV19MA_FOR_MTRI1657_2022_07_V01.0.tar.gz

Metadata file names are:

- SV19MA_FOR_BIOPHYSICAL_METADATA_20220427_20220505_V01.0.csv
- SV19MA_FOR_BIOPHYSICAL_METADATA_20220719_20220726_V01.0.csv
- SV19MA_FOR_FOREST_INVENTORY_METADATA_20220427_20220725_V01.0.csv
- SV19MA_FOR_LAI_METADATA_20220428_20220726_V01.0.csv
- SV19MA_FOR_BIOMASS_HEIGHTS_METADATA_20220420_20220801_V01.0.csv
- SV19MA_FOR_BIOMASS_SHRUBS_METADATA_20220420_20220801_V01.0.csv
- SV19MA_FOR_BIOMASS_SUMMARY_METADATA_20220420_20220801_V01.0.csv
- SV19MA_FOR_BIOMASS_TREES_METADATA_20220420_20220801_V01.0.csv
- SV19MA_FOR_CAMERA_PHOTO_METADATA_20220420_20220801_V01.0.csv

Location file names are:

- SV19MA_FOR_INTENSIVE_SITES_20220420_20220801_V01.0.tar.gz
- SV19MA_FOR_SUBPLOTS_20220420_20220801_V01.0.tar.gz
- SV19MA_FOR_TRANSECTS_20220420_20220801_V01.0.tar.gz

1.4 Spatial Information

1.4.1 Coverage

The Petersham, MA site is defined by the following geographic coordinates:

Northernmost Latitude: 42.72° N
Southernmost Latitude: 42.32° N
Easternmost Longitude: 71.91° W
Westernmost Longitude: 72.33° W

Figure 1 displays the field locations, sampling sites, and the dominant land use types in both the SV19MA_FOR and SV19MB_FOR study regions.

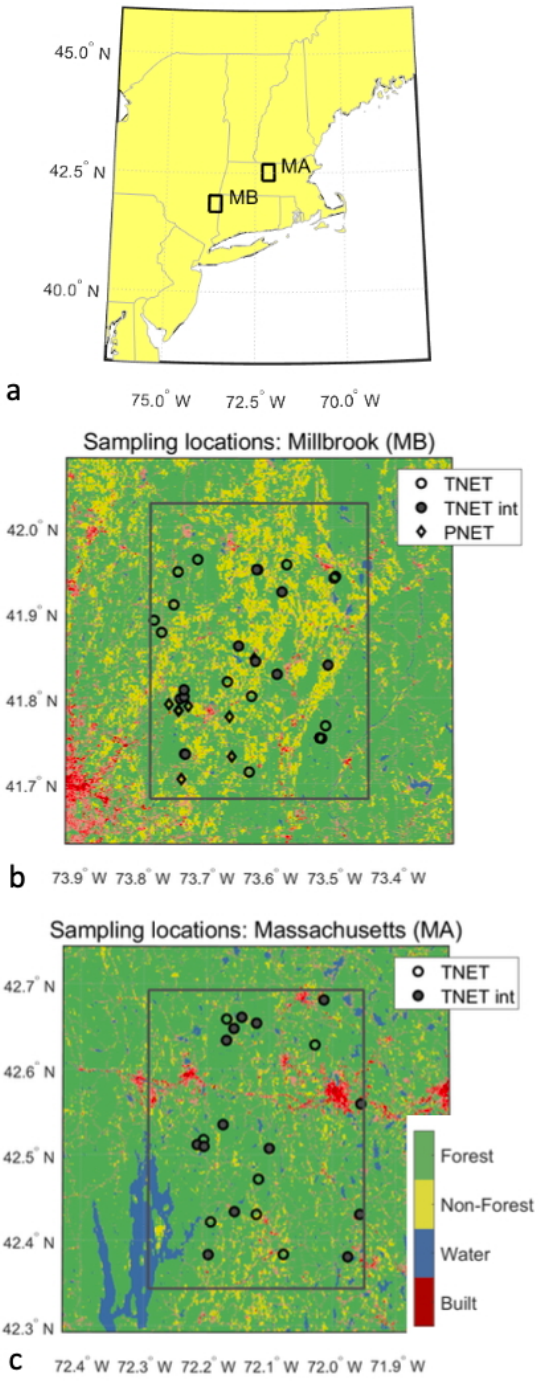

Figure 1. SMAPVEX19-22 Sampling Locations. (a) Map of the experiment locations near Amherst, Massachusetts (MA) and Millbrook, New York (MB). SV19MA_FOR data comes from the Petersham, MA site. (b) Locations of the temporary 25 soil moisture stations (TNET) in the Millbrook pixel and the locations of the eight long-term stations (PNET) operated in the area. “TNET int” stands for the intensive sites. (c) Locations of the temporary 23 soil moisture stations in the Massachusetts pixel. The background colors in (b) and (c) are based on the National Land Cover Database. The rectangles depict the SMAP pixel, and the outlines of (b) and (c) are 50 km by 50 km (Colliander et al., 2025).

1.4.2 Resolution

These data are point observations of individual trees. Sites are 200 m x 200 m, with data sampled in subplots of a nominal 20 m x 20 m size. Figures 2 and 3 display the sampling techniques and spatial layout strategy of the SMAPVEX19-22 campaign.

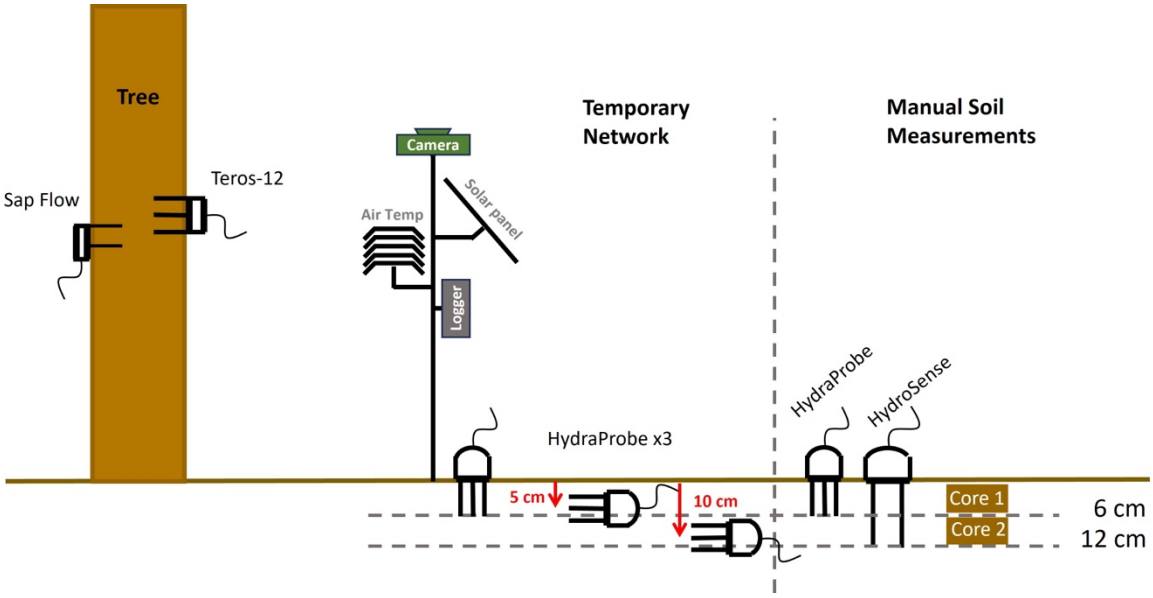

Figure 2. Diagram of the temporary network measurements and manual soil moisture measurements. The temporary networks included soil moisture measurements at three depths, which also include temperature measurements, air temperature, zenith camera, and dielectric (Teros-12) and sap flow sensors in tree at a subset of locations. The manual soil moisture measurements included a triplet of HydraProbe and HydroSense measurements at 14 locations around the stations, and core samples obtained from two depths at four locations around the stations (see also Figure 3) (Colliander et al., 2025).

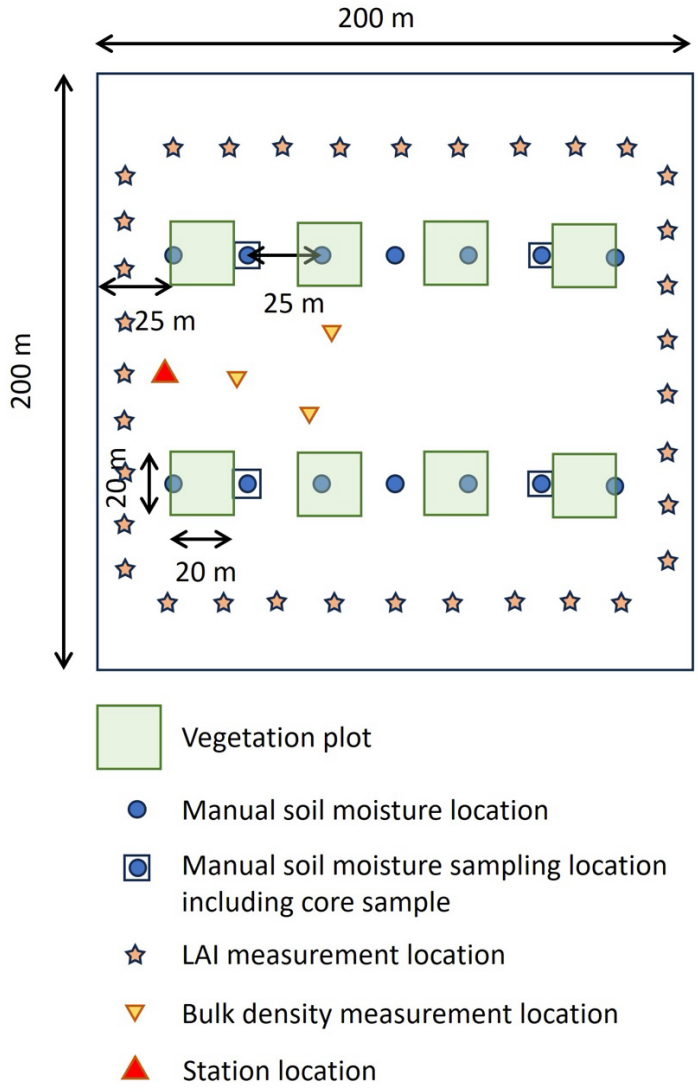

Figure 3. Layout of the soil moisture and vegetation transects. The sampling was intended to represent the predominant hydrological and ecological features of the 200 m by 200 m plot. Soil moisture was measured along two transects extending across the plot (Colliander et al., 2025).

1.4.3 Geolocation

The following table provides information for geolocating this data set:

Table 9. World Geodetic System 1984 (EPSG:4326)

Geographic Coordinate System	WGS 84
Projected Coordinate System	N/A
Longitude of True Origin	0°
Latitude of True Origin	N/A
Scale factor at longitude of true origin	N/A

Datum	World Geodetic System 1984
Ellipsoid/spheroid	WGS 84
Units	degree
False Easting	N/A
False Northing	N/A
EPSG Code	4326
PROJ4 String	+proj=longlat +datum=WGS84 +no_defs
Reference	http://epsg.io/4326

1.5 Temporal Information

This data set spans 20 April 2022 to 1 August 2022. Individual data files contain specific sampling dates.

2 DATA ACQUISITION AND PROCESSING

2.1 Acquisition

This vegetation field data was collected in support of the SMAPVEX19-22 field campaign. The sampling sites were selected to represent the dominant forest types of a SMAP 33 km grid cell centered on Harvard Forest in Petersham, Massachusetts. Sites were 200 m x 200 m in size and data were sampled in subplots of a nominal 20 m x 20 m size that were systematically selected at given distances from the start and end of the 200 m transect lines to avoid bias. Data collected manually in the subplots included: (1) forest tree inventory by tree species, diameter, and height and (2) biophysical data including distances between trees, canopy closure, branch counts of primary and secondary branches, shrub cover, and ground cover in two seasons (spring and summer). LAI was collected with a Licor LAI-2200 Plant Canopy Analyzer. Photos were taken at cardinal directions, nadir, straight up and at 40 degree angles to the sky. Over 500 trees of approximately 45 different species were sampled.

Further details on the study domains, sampling strategies, and forest biometric calculations can be found in the SV19MA/MB_FOR Technical Reference.

2.2 Processing

These data include only basic quality checks and reformatting of the data. Tree biomass was estimated based on individual tree diameters using species specific allometric equations described in the SV19MA/MB_FOR Technical Reference. Python code was used to estimate the biomass

and other forest metrics including percent abundance for each species, biomass, mean DBH, mean overstory height, canopy depth, basal area, density, etc. by plot, by species, and by site. It was also used to estimate biomass by component (foliage, stems, branches) as well as total biomass. The code can be found here: https://gitlab.mtri.org/biomass/smapvex.

3 VERSION HISTORY

Table 10. Version History

Version	Date Implemented	Impacted Temporal Coverage	Description of Changes
v01.0	January 2026	20 April 2022 to 1 August 2022	Initial release

4 RELATED DATA SETS

SMAPVEX19-22 Millbrook Field Measured Forest Tree Inventory, Biophysical Data, Leaf Area Index, and Estimated Biomass, Version 1

SMAPVEX19-22 Massachusetts Lidar Derived Digital Elevation Model, Version 1

SMAPVEX19-22 Millbrook Lidar Derived Digital Elevation Model, Version 1

SMAPVEX19-22 Massachusetts Lidar Derived Digital Surface Model, Version 1

SMAPVEX19-22 Millbrook Lidar Derived Digital Surface Model, Version 1

SMAPVEX19-22 Massachusetts Airborne Lidar, Version 1

SMAPVEX19-22 Millbrook Airborne Lidar, Version 1

SMAPVEX19-22 Massachusetts Temporary Soil Moisture Network, Version 1

SMAPVEX19-22 Millbrook Temporary Soil Moisture Network, Version 1

SMAPVEX19-21 Massachusetts Vegetation Optical Depth, Version 1

SMAPVEX19-22 Massachusetts UAVSAR Mosaics, Version 1

SMAPVEX19-22 Millbrook UAVSAR Mosaics, Version 1

SMAPVEX19-22 Millbrook Plant Area Index, Version 1

SMAPVEX19-22 Massachusetts Plant Area Index, Version 1

5 RELATED WEBSITES

SMAP Validation Data

SMAP Overview

6 REFERENCES

Bourgeau-Chavez, L., Battaglia, M., VanderBilt, D., Cook, C., Miller, M.E., Chavez, A., & French, N. 2025. Forest Vegetation Characterization SMAPVEX19 Cal/ Val Technical Reference. Michigan Tech Research Institute, Michigan Technological University, Ann Arbor, MI. (see PDF)

Colliander, A., Cosh, M. H., Bourgeau-Chavez, L., Kelly, V., Kraatz, S., Siqueira, P., Walker, V. A., Chen, X., Roy, A., Lakhankar, T., McDonald, K., Steiner, N., Kurum, M., Kim, S., Berg, A., Xu, X., Misra, S., Ogut, M., Vittucci, C., … Yueh, S. H. (2025). SMAP validation experiment 2019-2022 (SMAPVEX19-22): Field campaign to improve soil moisture and vegetation optical depth retrievals in temperate forests. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 1–23. https://doi.org/10.1109/JSTARS.2025.3553085

7 DOCUMENT INFORMATION

7.1 Publication Date

January 2026

7.2 Revision Date

January 2026

APPENDIX

Metadata File Descriptions

This appendix provides a description of all data fields from the many metadata .csv files included in the SV19MA_FOR product.

Table A -1. Biophysical data fields and descriptions from SV19MA_FOR_BIOPHYSICAL_METADATA_20220427_20220505_V01.0.csv and SV19MA_FOR_BIOPHYSICAL_METADATA_20220719_20220726_V01.0.csv.

Column Header	Unit	Description
site		Unique name given to a field location, consisting of the name of the SMAPVEX19/22 location (MA for Massachusetts) followed by the site number
plot		Plot number within site (1 through 8)
date	YYYYMMDD	Sampling date
time	HH:MM	Time at the start of the sampling in the plot reported in local time (EDT)
observer		Person(s) who collected the information, identified by initials
latitude	decimal degrees	Latitude of the site
longitude	decimal degrees	Longitude of the site
aspect	degrees or qualitative description	If there is a slope, what direction it faced and if not, a qualitative description (i.e., flat, variable)
slope position		Position of plot on hillslope: top, mid, or bottom
elevation	feet	Elevation from GPS
wetness		Qualitative description of the soil moisture status: dry, moist, soggy, standing water, or some combination of these conditions
ecosystem type		General ecosystem type: upland deciduous, upland conifer, lowland deciduous, lowland conifer, etc.
Live_Canopy_Cover spring	percent	Percent of live tree canopy cover over the plot
Med_shrub_cover spring	percent	Percent of medium shrub cover over the plot
Ground Cover Plot_Size	meters by meters	Size of sampling plot, used for estimating ground cover
GC_Rock_coverage	percent	Percent of ground covered in rock (reported as percent of total plot area)
GC_Rock_distribution		Pattern of distribution of rocks: E (even) or P (peripheral)
GC_Mineral Soil_coverage	percent	Percent of ground covered in exposed mineral soil (reported as percent of total plot area)
GC_Mineral Soil_distribution		Pattern of distribution of exposed mineral soil: E (even) or P (peripheral)

Column Header	Unit	Description
GC_Moss_Lichen_coverage	percent	Percent of ground covered in moss and/or lichen (reported as percent of total plot area)
GC_Moss_Lichen_distribution		Pattern of distribution of moss and/or lichen: E (even) or P (peripheral)
GC_woody_coverage	percent	Percent of ground covered in woody groundcover (reported as percent of total plot area)
GC_woody_distribution		Pattern of distribution of woody groundcover: E (even) or P (peripheral)
GC_Grasses_coverage	percent	Percent of ground covered in grasses (reported as percent of total plot area)
GC_Grasses_distribution		Pattern of distribution of grasses: E (even) or P (peripheral)
GC_Low_Shrubs_coverage	percent	Percent of ground covered in low shrubs < 30 cm height (reported as percent of total plot area)
GC_Low_Shrubs_distribution		Pattern of distribution of low shrubs < 30 cm height: E (even) or P (peripheral)
GC_Woody_debris_coverage	percent	Percent of ground covered in woody debris (reported as percent of total plot area)
GC_Woody_debris_distribution		Pattern of distribution of woody debris: E (even) or P (peripheral)
GC_Herbaceous_coverage	percent	Percent of ground covered in herbaceous plants (reported as percent of total plot area)
GC_Herbaceous_distribution		Pattern of distribution of herbaceous plants: E (even) or P (peripheral)
GC_other_type		Description of other ground cover type: leaf litter, leaves, needle litter, etc.
GC_other_coverage	percent	Percent of ground covered in other ground cover (reported as percent of total plot area)
GC_other_distribution		Pattern of distribution of other ground cover type: E (even) or P (peripheral)
Tree_number		Tree number
Tree_species		Common name of tree species
Tree_height	meters	Total height
Tree_height_to lowest_branch	meters	Height of lowest living branch
Tree_primary_branch_ct		Count of primary branches
Tree_secondary_branch_ct		Count of secondary branches on one given primary branch
Tree_pr_distances_tree_#_#	meters	Distance between two tree pairs

Table A - 2. Tree inventory data fields and descriptions from SV19MA_FOR_FOREST_INVENTORY_METADATA_20220427_20220725_V01.0.csv

Column Header	Unit	Description
site		Unique name given to a field location, consisting of the name of the SMAPVEX19/22 location (MA for Massachusetts) followed by the site number
plot	integer, 1-8	Plot number within site (1 through 8)
date	MM/DD/YYYY	Sampling date

Column Header	Unit	Description
observer	initials	Person(s) who collected the information, identified by initials
plot_size	meters	Plot size: Most commonly 20×20, 10×15, or 10×20
life_form	tree or shrub	Tree or shrub (includes shrubby small trees)
condition	standing or fallen	Condition of tree or shrub: standing or fallen
species		Common name of tree or shrub species
scientific_name		Scientific name of tree or shrub species
diameter_type	basal or dbh	Indicates if the tree or shrub was measured at the base or at breast height (dbh)
diameter	centimeters	Diameter of the tree or shrub
height	meters	Total height
status	living or dead	Indicates if tree or shrub was living or dead
height_to_lowest_living_branch	meters	Height to the lowest living branch (typically, five representative tree or shrub heights were measured per plot, the same as those measured for total height to allow for measuring canopy depth)

Table A - 3. LAI data fields and descriptions from SV19MA_FOR_LAI_METADATA_20220428_20220726_V01.0.csv.

Column Header	Unit	Description
site		Unique name given to a field location, consisting of the name of the SMAPVEX19/22 location (MA for Massachusetts) followed by the site number
date	MM/DD/YYYY	Sampling date
Sky_Condition	value, 0-1	Fraction of the sky visually estimated to be obscured by clouds at the start of data collection, when the scattering coefficient was estimated
Sensor_Compass_Direction	degrees	Compass direction describing the orientation of the sensor
Scatter_Corrected	Y/N	Indicates if a scattering file was collected prior to data collection
Scatter_Correction_Value	value	Indicates the scatter correction value applied to the measured LAI, as determined using LiCOR FV2200 software
N_Below_Measurements	integer	Number of below canopy measurements taken at each site included in the site handheld LAI mean and standard deviation values
Final_Corrected_LAI_Value	units	Site mean LAI field value after correction for the canopy sensor measurements
Final_Corrected_LAI_Stdev	units	Site standard deviation of the mean LAI field value after correction for the canopy sensor measurements
MODIS_Site_LAI_Avg	units	Mean LAI value for all site-overlapping pixels from the MODIS LAI 10-day composite product
MODIS_Contributing_Pixels	integer	Total number of site-overlapping pixels, included in the mean and standard deviation calculation, from the MODIS LAI 10-day composite product
MODIS_Site_LAI_Stdev	units	Standard deviation of the mean LAI value for all site-overlapping pixels from the MODIS LAI 10-day composite product

Column Header	Unit	Description
VIIRS_Site_LAI_Avg	units	Mean LAI value for all site-overlapping pixels from the VIIRS LAI 10-day composite product
VIIRS_Contributinging_Pixels	integer	Total number of site-overlapping pixels, included in the mean and standard deviation calculation, from the VIIRS LAI 10-day composite product
VIIRS_Site_LAI_Stdev	units	Standard deviation of the mean LAI value for all site-overlapping pixels from the VIIRS LAI 10-day composite product
Sentinel3_Site_LAI_Avg	units	Mean LAI value for all site-overlapping pixels from the Sentinel 3 RT0 LAI product
Sentinel3_Contributing_Pixels	integer	Total number of site-overlapping pixels, included in the mean and standard deviation calculation, from the Sentinel 3 RT0 LAI product
Sentinel3_Site_LAI_Stdev	units	Standard deviation of the mean LAI value for all site-overlapping pixels from the Sentinel 3 RT0 LAI composite product
Landsat8_Site_LAI_Avg	units	Mean LAI value for all site-overlapping pixels from the Landsat 8 LAI product
Landsat8_Contributing_Pixels	integer	Total number of site-overlapping pixels, included in the mean and standard deviation calculation, from the Landsat 8 LAI product
Landsat8_Site_LAI_Stdev	units	Standard deviation of the mean LAI value for all site-overlapping pixels from the Landsat 8 LAI product
Sentinel2_Site_Value_LAI_Avg	units	Mean, uncorrected LAI value for all site-overlapping pixels from the Sentinel 2 LAI product
Sentinel2_Contributing_Pixels	integer	Total number of site-overlapping pixels, included in the mean and standard deviation calculation, from the Sentinel 2 LAI product
Sentinel2_Site_Value_LAI_Stdev	units	Uncorrected standard deviation of the mean LAI value for all site-overlapping pixels from the Sentinel 2 LAI product
Sentinel2_Site_LAI_Avg_Corr	units	Final, corrected mean LAI value for all site-overlapping pixels from the Sentinel 2 LAI product
Sentinel2_Site_LAI_Stdev_Corr	units	Final, corrected standard deviation of the mean LAI value for all site-overlapping pixels from the Sentinel 2 LAI product

Table A - 4. Heights data fields and descriptions from SV19MA_FOR_BIOMASS_HEIGHTS_METADATA_20220420_20220801_V01.0.csv.

Column Header	Unit	Description
site		Unique site identifier
Tree Species Average Height americanelm (m)	m	Average tree height for species X for plot X
Tree Species Average Height basswood (m)	m	Average tree height for species X for plot X
Tree Species Average Height beech (m)	m	Average tree height for species X for plot X
Tree Species Average Height bitternuthickory (m)	m	Average tree height for species X for plot X
Tree Species Average Height blackbirch (m)	m	Average tree height for species X for plot X
Tree Species Average Height blackcherry (m)	m	Average tree height for species X for plot X

Column Header	Unit	Description
Tree Species Average Height blackoak (m)	m	Average tree height for species X for plot X
Tree Species Average Height carpinus (m)	m	Average tree height for species X for plot X
Tree Species Average Height chestnut (m)	m	Average tree height for species X for plot X
Tree Species Average Height chestnutoak (m)	m	Average tree height for species X for plot X
Tree Species Average Height cottonwood (m)	m	Average tree height for species X for plot X
Tree Species Average Height greenash (m)	m	Average tree height for species X for plot X
Tree Species Average Height greybirch (m)	m	Average tree height for species X for plot X
Tree Species Average Height hemlock (m)	m	Average tree height for species X for plot X
Tree Species Average Height musclewood (m)	m	Average tree height for species X for plot X
Tree Species Average Height ostrya (m)	m	Average tree height for species X for plot X
Tree Species Average Height paperbirch (m)	m	Average tree height for species X for plot X
Tree Species Average Height pignuthickory (m)	m	Average tree height for species X for plot X
Tree Species Average Height pitchpine (m)	m	Average tree height for species X for plot X
Tree Species Average Height redcedar (m)	m	Average tree height for species X for plot X
Tree Species Average Height redmaple (m)	m	Average tree height for species X for plot X
Tree Species Average Height redoak (m)	m	Average tree height for species X for plot X
Tree Species Average Height redpine (m)	m	Average tree height for species X for plot X
Tree Species Average Height shagbarkhickory (m)	m	Average tree height for species X for plot X
Tree Species Average Height stripedmaple (m)	m	Average tree height for species X for plot X
Tree Species Average Height sugarmaple (m)	m	Average tree height for species X for plot X
Tree Species Average Height whiteash (m)	m	Average tree height for species X for plot X
Tree Species Average Height whitecedar (m)	m	Average tree height for species X for plot X
Tree Species Average Height whiteoak (m)	m	Average tree height for species X for plot X
Tree Species Average Height whitepine (m)	m	Average tree height for species X for plot X
Tree Species Biomass Live AB americanelm (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB americanelm (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB americanelm (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB americanelm (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB americanelm (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB basswood (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X

Column Header	Unit	Description
Tree Species Biomass Live AB beech (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB beech (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB beech (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB beech (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB beech (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB beech (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB bitternuthickory (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB bitternuthickory (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB bitternuthickory (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB bitternuthickory (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB bitternuthickory (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB bitternuthickory (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackbirch (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackbirch (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackbirch (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackbirch (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackbirch (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackbirch (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackbirch (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackbirch (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackcherry (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackcherry (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackcherry (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackcherry (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackcherry (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackcherry (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackcherry (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackcherry (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackoak (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackoak (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X

Column Header	Unit	Description
Tree Species Biomass Live AB blackoak (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackoak (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB blackoak (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB carpinus (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB carpinus (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB chestnut (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB chestnutoak (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB chestnutoak (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB chestnutoak (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB chestnutoak (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB chestnutoak (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB chestnutoak (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB chestnutoak (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB chestnutoak (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB cottonwood (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB greenash (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB greybirch (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB hemlock (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB hemlock (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB hemlock (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB hemlock (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB hemlock (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB hemlock (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB hemlock (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB hemlock (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB musclewood (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB musclewood (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB musclewood (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB musclewood (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB ostrya (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X

Column Header	Unit	Description
Tree Species Biomass Live AB ostrya (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB ostrya (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB ostrya (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB ostrya (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB ostrya (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB ostrya (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB ostrya (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB paperbirch (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB pignuthickory (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB pignuthickory (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB pignuthickory (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB pignuthickory (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB pignuthickory (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB pignuthickory (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB pignuthickory (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB pignuthickory (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB pitchpine (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redcedar (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redcedar (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redcedar (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redcedar (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redcedar (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redcedar (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redcedar (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redcedar (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redmaple (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redmaple (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redmaple (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redmaple (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redmaple (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X

Column Header	Unit	Description
Tree Species Biomass Live AB redmaple (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redmaple (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redmaple (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redoak (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redoak (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redoak (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redoak (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redoak (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redoak (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redoak (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redoak (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB redpine (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB shagbarkhickory (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB shagbarkhickory (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB shagbarkhickory (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB shagbarkhickory (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB shagbarkhickory (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB stripedmaple (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB stripedmaple (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB stripedmaple (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB stripedmaple (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB sugarmaple (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB sugarmaple (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB sugarmaple (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB sugarmaple (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB sugarmaple (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB sugarmaple (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB sugarmaple (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB sugarmaple (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteash (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X

Column Header	Unit	Description
Tree Species Biomass Live AB whiteash (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteash (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteash (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteash (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteash (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteash (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitecedar (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitecedar (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitecedar (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitecedar (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitecedar (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitecedar (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteoak (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteoak (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteoak (kg/m^2) Plot 3c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteoak (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteoak (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteoak (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteoak (kg/m^2) Plot 7c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whiteoak (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitepine (kg/m^2) Plot 1c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitepine (kg/m^2) Plot 2c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitepine (kg/m^2) Plot 4c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitepine (kg/m^2) Plot 5c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitepine (kg/m^2) Plot 6c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Live AB whitepine (kg/m^2) Plot 8c	kg/sq m	Average live aboveground biomass for species X for plot X
Tree Species Biomass Dead AB beech (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB beech (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB blackbirch (kg/m^2) Plot 1c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB blackbirch (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X

Column Header	Unit	Description
Tree Species Biomass Dead AB blackbirch (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB blackbirch (kg/m^2) Plot 8c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB blackcherry (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB blackcherry (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB blackoak (kg/m^2) Plot 8c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB carpinus (kg/m^2) Plot 1c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB chestnut (kg/m^2) Plot 6c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB chestnutoak (kg/m^2) Plot 2c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB chestnutoak (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB chestnutoak (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB chestnutoak (kg/m^2) Plot 6c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB chestnutoak (kg/m^2) Plot 7c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB greenash (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB hemlock (kg/m^2) Plot 1c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB hemlock (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB hemlock (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB ostrya (kg/m^2) Plot 1c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB ostrya (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB ostrya (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB paperbirch (kg/m^2) Plot 8c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB pignuthickory (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB pignuthickory (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB pignuthickory (kg/m^2) Plot 6c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB pignuthickory (kg/m^2) Plot 7c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redcedar (kg/m^2) Plot 1c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redcedar (kg/m^2) Plot 2c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redcedar (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redcedar (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redcedar (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redcedar (kg/m^2) Plot 6c	kg/sq m	Average dead aboveground biomass for species X for plot X

Column Header	Unit	Description
Tree Species Biomass Dead AB redcedar (kg/m^2) Plot 7c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redcedar (kg/m^2) Plot 8c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redmaple (kg/m^2) Plot 1c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redmaple (kg/m^2) Plot 2c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redmaple (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redmaple (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redmaple (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redmaple (kg/m^2) Plot 6c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redmaple (kg/m^2) Plot 7c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redmaple (kg/m^2) Plot 8c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redoak (kg/m^2) Plot 1c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redoak (kg/m^2) Plot 2c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redoak (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redoak (kg/m^2) Plot 7c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB redoak (kg/m^2) Plot 8c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB stripedmaple (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB stripedmaple (kg/m^2) Plot 7c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB sugarmaple (kg/m^2) Plot 1c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB sugarmaple (kg/m^2) Plot 2c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB sugarmaple (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB sugarmaple (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB sugarmaple (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB sugarmaple (kg/m^2) Plot 6c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB sugarmaple (kg/m^2) Plot 7c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB sugarmaple (kg/m^2) Plot 8c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whiteash (kg/m^2) Plot 2c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whiteash (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whiteash (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whiteash (kg/m^2) Plot 6c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whiteash (kg/m^2) Plot 8c	kg/sq m	Average dead aboveground biomass for species X for plot X

Column Header	Unit	Description
Tree Species Biomass Dead AB whitecedar (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whitecedar (kg/m^2) Plot 6c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whiteoak (kg/m^2) Plot 2c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whiteoak (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whiteoak (kg/m^2) Plot 7c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whitepine (kg/m^2) Plot 1c	kg/sq m	Average dead aboveground biomass for species X for plot X
Tree Species Biomass Dead AB whitepine (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground biomass for species X for plot X
Shrub Species Biomass Live AB autumnolive (kg/m^2) Plot 8c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB buckthorn (kg/m^2) Plot 2c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB buckthorn (kg/m^2) Plot 3c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB buckthorn (kg/m^2) Plot 4c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB buckthorn (kg/m^2) Plot 7c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB floweringdogwood (kg/m^2) Plot 1c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB floweringdogwood (kg/m^2) Plot 8c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB serviceberry (kg/m^2) Plot 1c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB serviceberry (kg/m^2) Plot 2c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB serviceberry (kg/m^2) Plot 3c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB serviceberry (kg/m^2) Plot 4c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB serviceberry (kg/m^2) Plot 5c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB serviceberry (kg/m^2) Plot 6c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB serviceberry (kg/m^2) Plot 7c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB serviceberry (kg/m^2) Plot 8c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB witchhazel (kg/m^2) Plot 2c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB witchhazel (kg/m^2) Plot 3c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB witchhazel (kg/m^2) Plot 4c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB witchhazel (kg/m^2) Plot 5c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB witchhazel (kg/m^2) Plot 6c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB witchhazel (kg/m^2) Plot 7c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Live AB witchhazel (kg/m^2) Plot 8c	kg/sq m	Average live aboveground shrub biomass for species X for plot X
Shrub Species Biomass Dead AB buckthorn (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X

Column Header	Unit	Description
Shrub Species Biomass Dead AB buckthorn (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X
Shrub Species Biomass Dead AB serviceberry (kg/m^2) Plot 2c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X
Shrub Species Biomass Dead AB serviceberry (kg/m^2) Plot 4c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X
Shrub Species Biomass Dead AB serviceberry (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X
Shrub Species Biomass Dead AB serviceberry (kg/m^2) Plot 6c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X
Shrub Species Biomass Dead AB serviceberry (kg/m^2) Plot 8c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X
Shrub Species Biomass Dead AB witchhazel (kg/m^2) Plot 2c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X
Shrub Species Biomass Dead AB witchhazel (kg/m^2) Plot 3c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X
Shrub Species Biomass Dead AB witchhazel (kg/m^2) Plot 5c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X
Shrub Species Biomass Dead AB witchhazel (kg/m^2) Plot 8c	kg/sq m	Average dead aboveground shrub biomass for species X for plot X

Table A - 5. Shrubs data fields and descriptions from SV19MA_FOR_BIOMASS_SHRUBS_METADATA_20220420_20220801_V01.0.csv.

Column Header	Unit	Description
site		Unique site identifier
Number Plots Shrubs	integer	Number of plots sampled for shrubs in site x, should be max 8 plots for every site. Note shrubs had to be greater than 2 m tall and 5 cm diameter, and not all plots had shrubs that large
Shrub Plot Area (m^2) 1c	sq m	Area of plot 1 for shrubs in sq meters (sometimes this plot size may be different than the tree plot size, it would be nested within)
Shrub Plot Area (m^2) 2c	sq m	Area of plot 2 for shrubs in sq meters (sometimes this plot size may be different than the tree plot size, it would be nested within)
Shrub Plot Area (m^2) 3c	sq m	Area of plot 3 for shrubs in sq meters (sometimes this plot size may be different than the tree plot size, it would be nested within)
Shrub Plot Area (m^2) 4c	sq m	Area of plot 4 for shrubs in sq meters (sometimes this plot size may be different than the tree plot size, it would be nested within)
Shrub Plot Area (m^2) 5c	sq m	Area of plot 5 for shrubs in sq meters (sometimes this plot size may be different than the tree plot size, it would be nested within)
Shrub Plot Area (m^2) 6c	sq m	Area of plot 6 for shrubs in sq meters (sometimes this plot size may be different than the tree plot size, it would be nested within)
Shrub Plot Area (m^2) 7c	sq m	Area of plot 7 for shrubs in sq meters (sometimes this plot size may be different than the tree plot size, it would be nested within)
Shrub Plot Area (m^2) 8c	sq m	Area of plot 8 for shrubs in sq meters (sometimes this plot size may be different than the tree plot size, it would be nested within)
Shrub Total Plot Area (m^2)	sq m	Total sampled area for shrubs for all plots summed
Shrub Count Total	integer	Total number of shrubs (live and dead) across all plots at site x
Shrub Count Live	integer	Total number of live shrubs across all plots at site x
Shrub Count Dead	integer	Total number of dead shrubs across all plots at site x
Shrub Density (stems/m^2)	shrubs/sq m	Shrub count total divided by total shrub plot area
Average Shrub Diameter (cm)	cm	Average shrub diameter, sum of all shrub diameters/total shrub count
Average Shrub Height (m)	m	Average shrub height, sum of all shrub heights/number of shrubs sampled for height
Shrub Distribution autumnolive	fractional proportion	Count of shrub species X/total shrub count

Column Header	Unit	Description
Shrub Distribution buckthorn	fractional proportion	Count of shrub species X/total shrub count
Shrub Distribution floweringdogwood	fractional proportion	Count of shrub species X/total shrub count
Shrub Distribution serviceberry	fractional proportion	Count of shrub species X/total shrub count
Shrub Distribution witchhazel	fractional proportion	Count of shrub species X/total shrub count
Shrub Species Average Diameter autumnolive	cm	Average diameter of shrub species X in site
Shrub Species Average Diameter buckthorn	cm	Average diameter of shrub species X in site
Shrub Species Average Diameter floweringdogwood	cm	Average diameter of shrub species X in site
Shrub Species Average Diameter serviceberry	cm	Average diameter of shrub species X in site
Shrub Species Average Diameter witchhazel	cm	Average diameter of shrub species X in site
Shrub Biomass Live plot AB (kg/m^2) 1c	kg/sq m	Total live shrub aboveground biomass of plot 1
Shrub Biomass Live plot AB (kg/m^2) 2c	kg/sq m	Total live shrub aboveground biomass of plot 2
Shrub Biomass Live plot AB (kg/m^2) 3c	kg/sq m	Total live shrub aboveground biomass of plot 3
Shrub Biomass Live plot AB (kg/m^2) 4c	kg/sq m	Total live shrub aboveground biomass of plot 4
Shrub Biomass Live plot AB (kg/m^2) 5c	kg/sq m	Total live shrub aboveground biomass of plot 5
Shrub Biomass Live plot AB (kg/m^2) 6c	kg/sq m	Total live shrub aboveground biomass of plot 6
Shrub Biomass Live plot AB (kg/m^2) 7c	kg/sq m	Total live shrub aboveground biomass of plot 7
Shrub Biomass Live plot AB (kg/m^2) 8c	kg/sq m	Total live shrub aboveground biomass of plot 8
Shrub Biomass Live plot BR (kg/m^2) 1c	kg/sq m	Total live shrub branch biomass of plot 1
Shrub Biomass Live plot BR (kg/m^2) 2c	kg/sq m	Total live shrub branch biomass of plot 2
Shrub Biomass Live plot BR (kg/m^2) 3c	kg/sq m	Total live shrub branch biomass of plot 3
Shrub Biomass Live plot BR (kg/m^2) 4c	kg/sq m	Total live shrub branch biomass of plot 4
Shrub Biomass Live plot BR (kg/m^2) 5c	kg/sq m	Total live shrub branch biomass of plot 5
Shrub Biomass Live plot BR (kg/m^2) 6c	kg/sq m	Total live shrub branch biomass of plot 6
Shrub Biomass Live plot BR (kg/m^2) 7c	kg/sq m	Total live shrub branch biomass of plot 7
Shrub Biomass Live plot BR (kg/m^2) 8c	kg/sq m	Total live shrub branch biomass of plot 8
Shrub Biomass Live plot FL (kg/m^2) 1c	kg/sq m	Total live shrub foliage biomass of plot 1
Shrub Biomass Live plot FL (kg/m^2) 2c	kg/sq m	Total live shrub foliage biomass of plot 2
Shrub Biomass Live plot FL (kg/m^2) 3c	kg/sq m	Total live shrub foliage biomass of plot 3
Shrub Biomass Live plot FL (kg/m^2) 4c	kg/sq m	Total live shrub foliage biomass of plot 4
Shrub Biomass Live plot FL (kg/m^2) 5c	kg/sq m	Total live shrub foliage biomass of plot 5

Column Header	Unit	Description
Shrub Biomass Live plot FL (kg/m^2) 6c	kg/sq m	Total live shrub foliage biomass of plot 6
Shrub Biomass Live plot FL (kg/m^2) 7c	kg/sq m	Total live shrub foliage biomass of plot 7
Shrub Biomass Live plot FL (kg/m^2) 8c	kg/sq m	Total live shrub foliage biomass of plot 8
Shrub Biomass Live plot SB (kg/m^2) 1c	kg/sq m	Total live shrub stem bark biomass of plot 1
Shrub Biomass Live plot SB (kg/m^2) 2c	kg/sq m	Total live shrub stem bark biomass of plot 2
Shrub Biomass Live plot SB (kg/m^2) 3c	kg/sq m	Total live shrub stem bark biomass of plot 3
Shrub Biomass Live plot SB (kg/m^2) 4c	kg/sq m	Total live shrub stem bark biomass of plot 4
Shrub Biomass Live plot SB (kg/m^2) 5c	kg/sq m	Total live shrub stem bark biomass of plot 5
Shrub Biomass Live plot SB (kg/m^2) 6c	kg/sq m	Total live shrub stem bark biomass of plot 6
Shrub Biomass Live plot SB (kg/m^2) 7c	kg/sq m	Total live shrub stem bark biomass of plot 7
Shrub Biomass Live plot SB (kg/m^2) 8c	kg/sq m	Total live shrub stem bark biomass of plot 8
Shrub Biomass Live plot ST (kg/m^2) 1c	kg/sq m	Total live shrub stem total (wood + bark) biomass of plot 1
Shrub Biomass Live plot ST (kg/m^2) 2c	kg/sq m	Total live shrub stem total (wood + bark) biomass of plot 2
Shrub Biomass Live plot ST (kg/m^2) 3c	kg/sq m	Total live shrub stem total (wood + bark) biomass of plot 3
Shrub Biomass Live plot ST (kg/m^2) 4c	kg/sq m	Total live shrub stem total (wood + bark) biomass of plot 4
Shrub Biomass Live plot ST (kg/m^2) 5c	kg/sq m	Total live shrub stem total (wood + bark) biomass of plot 5
Shrub Biomass Live plot ST (kg/m^2) 6c	kg/sq m	Total live shrub stem total (wood + bark) biomass of plot 6
Shrub Biomass Live plot ST (kg/m^2) 7c	kg/sq m	Total live shrub stem total (wood + bark) biomass of plot 7
Shrub Biomass Live plot ST (kg/m^2) 8c	kg/sq m	Total live shrub stem total (wood + bark) biomass of plot 8
Shrub Biomass Live plot STBR (kg/m^2) 1c	kg/sq m	Total STBR (stem total + branch total) live shrub biomass for all live srubs calculated by species allometry per sq m for plot 1
Shrub Biomass Live plot STBR (kg/m^2) 2c	kg/sq m	Total STBR (stem total + branch total) live shrub biomass for all live srubs calculated by species allometry per sq m for plot 2
Shrub Biomass Live plot STBR (kg/m^2) 3c	kg/sq m	Total STBR (stem total + branch total) live shrub biomass for all live srubs calculated by species allometry per sq m for plot 3
Shrub Biomass Live plot STBR (kg/m^2) 4c	kg/sq m	Total STBR (stem total + branch total) live shrub biomass for all live srubs calculated by species allometry per sq m for plot 4
Shrub Biomass Live plot STBR (kg/m^2) 5c	kg/sq m	Total STBR (stem total + branch total) live shrub biomass for all live srubs calculated by species allometry per sq m for plot 5
Shrub Biomass Live plot STBR (kg/m^2) 6c	kg/sq m	Total STBR (stem total + branch total) live shrub biomass for all live srubs calculated by species allometry per sq m for plot 6
Shrub Biomass Live plot STBR (kg/m^2) 7c	kg/sq m	Total STBR (stem total + branch total) live shrub biomass for all live srubs calculated by species allometry per sq m for plot 7
Shrub Biomass Live plot STBR (kg/m^2) 8c	kg/sq m	Total STBR (stem total + branch total) live shrub biomass for all live srubs calculated by species allometry per sq m for plot 8
Shrub Biomass Live plot SW (kg/m^2) 1c	kg/sq m	Total live shrub stem wood biomass of plot 1
Shrub Biomass Live plot SW (kg/m^2) 2c	kg/sq m	Total live shrub stem wood biomass of plot 2
Shrub Biomass Live plot SW (kg/m^2) 3c	kg/sq m	Total live shrub stem wood biomass of plot 3

Column Header	Unit	Description
Shrub Biomass Live plot SW (kg/m^2) 4c	kg/sq m	Total live shrub stem wood biomass of plot 4
Shrub Biomass Live plot SW (kg/m^2) 5c	kg/sq m	Total live shrub stem wood biomass of plot 5
Shrub Biomass Live plot SW (kg/m^2) 6c	kg/sq m	Total live shrub stem wood biomass of plot 6
Shrub Biomass Live plot SW (kg/m^2) 7c	kg/sq m	Total live shrub stem wood biomass of plot 7
Shrub Biomass Live plot SW (kg/m^2) 8c	kg/sq m	Total live shrub stem wood biomass of plot 8
Shrub Biomass Dead plot AB (kg/m^2) 1	kg/sq m	Total dead shrub aboveground biomass of plot 1
Shrub Biomass Dead plot AB (kg/m^2) 2	kg/sq m	Total dead shrub aboveground biomass of plot 2
Shrub Biomass Dead plot AB (kg/m^2) 3	kg/sq m	Total dead shrub aboveground biomass of plot 3
Shrub Biomass Dead plot AB (kg/m^2) 4	kg/sq m	Total dead shrub aboveground biomass of plot 4
Shrub Biomass Dead plot AB (kg/m^2) 5	kg/sq m	Total dead shrub aboveground biomass of plot 5
Shrub Biomass Dead plot AB (kg/m^2) 6	kg/sq m	Total dead shrub aboveground biomass of plot 6
Shrub Biomass Dead plot AB (kg/m^2) 7	kg/sq m	Total dead shrub aboveground biomass of plot 7
Shrub Biomass Dead plot AB (kg/m^2) 8	kg/sq m	Total dead shrub aboveground biomass of plot 8
Shrub Biomass Dead plot BR (kg/m^2) 1	kg/sq m	Total dead shrub branch biomass of plot 1
Shrub Biomass Dead plot BR (kg/m^2) 2	kg/sq m	Total dead shrub branch biomass of plot 2
Shrub Biomass Dead plot BR (kg/m^2) 3	kg/sq m	Total dead shrub branch biomass of plot 3
Shrub Biomass Dead plot BR (kg/m^2) 4	kg/sq m	Total dead shrub branch biomass of plot 4
Shrub Biomass Dead plot BR (kg/m^2) 5	kg/sq m	Total dead shrub branch biomass of plot 5
Shrub Biomass Dead plot BR (kg/m^2) 6	kg/sq m	Total dead shrub branch biomass of plot 6
Shrub Biomass Dead plot BR (kg/m^2) 7	kg/sq m	Total dead shrub branch biomass of plot 7
Shrub Biomass Dead plot BR (kg/m^2) 8	kg/sq m	Total dead shrub branch biomass of plot 8
Shrub Biomass Dead plot FL (kg/m^2) 1	kg/sq m	Total dead shrub foliage biomass of plot 1
Shrub Biomass Dead plot FL (kg/m^2) 2	kg/sq m	Total dead shrub foliage biomass of plot 2
Shrub Biomass Dead plot FL (kg/m^2) 3	kg/sq m	Total dead shrub foliage biomass of plot 3
Shrub Biomass Dead plot FL (kg/m^2) 4	kg/sq m	Total dead shrub foliage biomass of plot 4
Shrub Biomass Dead plot FL (kg/m^2) 5	kg/sq m	Total dead shrub foliage biomass of plot 5
Shrub Biomass Dead plot FL (kg/m^2) 6	kg/sq m	Total dead shrub foliage biomass of plot 6
Shrub Biomass Dead plot FL (kg/m^2) 7	kg/sq m	Total dead shrub foliage biomass of plot 7
Shrub Biomass Dead plot FL (kg/m^2) 8	kg/sq m	Total dead shrub foliage biomass of plot 8
Shrub Biomass Dead plot SB (kg/m^2) 1	kg/sq m	Total dead shrub stem bark biomass of plot 1

Column Header	Unit	Description
Shrub Biomass Dead plot SB (kg/m^2) 2	kg/sq m	Total dead shrub stem bark biomass of plot 2
Shrub Biomass Dead plot SB (kg/m^2) 3	kg/sq m	Total dead shrub stem bark biomass of plot 3
Shrub Biomass Dead plot SB (kg/m^2) 4	kg/sq m	Total dead shrub stem bark biomass of plot 4
Shrub Biomass Dead plot SB (kg/m^2) 5	kg/sq m	Total dead shrub stem bark biomass of plot 5
Shrub Biomass Dead plot SB (kg/m^2) 6	kg/sq m	Total dead shrub stem bark biomass of plot 6
Shrub Biomass Dead plot SB (kg/m^2) 7	kg/sq m	Total dead shrub stem bark biomass of plot 7
Shrub Biomass Dead plot SB (kg/m^2) 8	kg/sq m	Total dead shrub stem bark biomass of plot 8
Shrub Biomass Dead plot ST (kg/m^2) 1	kg/sq m	Total dead shrub stem total (bark + wood biomass of plot 1
Shrub Biomass Dead plot ST (kg/m^2) 2	kg/sq m	Total dead shrub stem total (bark + wood) biomass of plot 2
Shrub Biomass Dead plot ST (kg/m^2) 3	kg/sq m	Total dead shrub stem total (bark + wood) biomass of plot 3
Shrub Biomass Dead plot ST (kg/m^2) 4	kg/sq m	Total dead shrub stem total (bark + wood) biomass of plot 4
Shrub Biomass Dead plot ST (kg/m^2) 5	kg/sq m	Total dead shrub stem total (bark + wood) biomass of plot 5
Shrub Biomass Dead plot ST (kg/m^2) 6	kg/sq m	Total dead shrub stem total (bark + wood) biomass of plot 6
Shrub Biomass Dead plot ST (kg/m^2) 7	kg/sq m	Total dead shrub stem total (bark + wood) biomass of plot 7
Shrub Biomass Dead plot ST (kg/m^2) 8	kg/sq m	Total dead shrub stem total (bark + wood) biomass of plot 8
Shrub Biomass Dead plot STBR (kg/m^2) 1	kg/sq m	Total dead shrub stem and branch biomass of plot 1
Shrub Biomass Dead plot STBR (kg/m^2) 2	kg/sq m	Total dead shrub stem and branch biomass of plot 2
Shrub Biomass Dead plot STBR (kg/m^2) 3	kg/sq m	Total dead shrub stem and branch biomass of plot 3
Shrub Biomass Dead plot STBR (kg/m^2) 4	kg/sq m	Total dead shrub stem and branch biomass of plot 4
Shrub Biomass Dead plot STBR (kg/m^2) 5	kg/sq m	Total dead shrub stem and branch biomass of plot 5
Shrub Biomass Dead plot STBR (kg/m^2) 6	kg/sq m	Total dead shrub stem and branch biomass of plot 6
Shrub Biomass Dead plot STBR (kg/m^2) 7	kg/sq m	Total dead shrub stem and branch biomass of plot 7
Shrub Biomass Dead plot STBR (kg/m^2) 8	kg/sq m	Total dead shrub stem and branch biomass of plot 8
Shrub Biomass Dead plot SW (kg/m^2) 1	kg/sq m	Total dead shrub stem wood biomass of plot 1
Shrub Biomass Dead plot SW (kg/m^2) 2	kg/sq m	Total dead shrub stem wood biomass of plot 2
Shrub Biomass Dead plot SW (kg/m^2) 3	kg/sq m	Total dead shrub stem wood biomass of plot 3
Shrub Biomass Dead plot SW (kg/m^2) 4	kg/sq m	Total dead shrub stem wood biomass of plot 4
Shrub Biomass Dead plot SW (kg/m^2) 5	kg/sq m	Total dead shrub stem wood biomass of plot 5
Shrub Biomass Dead plot SW (kg/m^2) 6	kg/sq m	Total dead shrub stem wood biomass of plot 6
Shrub Biomass Dead plot SW (kg/m^2) 7	kg/sq m	Total dead shrub stem wood biomass of plot 7

Column Header	Unit	Description
Shrub Biomass Dead plot SW (kg/m^2) 8	kg/sq m	Total dead shrub stem wood biomass of plot 8

Table A - 6. Trees data fields and descriptions from SV19MA_FOR_BIOMASS_TREES_METADATA_20220420_20220801_V01.0.csv.

Column Header	Unit	Description
site		Unique site identifier
Number Plots Trees	integer	Number of plots sampled for trees in site x, should be max 8 plots for every site
Tree Plot Area (m^2) 1c	sq m	Area of plot 1 in sq meters
Tree Plot Area (m^2) 2c	sq m	Area of plot 2 in sq meters
Tree Plot Area (m^2) 3c	sq m	Area of plot 3 in sq meters
Tree Plot Area (m^2) 4c	sq m	Area of plot 4 in sq meters
Tree Plot Area (m^2) 5c	sq m	Area of plot 5 in sq meters
Tree Plot Area (m^2) 6c	sq m	Area of plot 6 in sq meters
Tree Plot Area (m^2) 7c	sq m	Area of plot 7 in sq meters
Tree Plot Area (m^2) 8c	sq m	Area of plot 8 in sq meters
Tree Total Plot Area (m^2)	sq m	Total sampled area for all plots summed
Tree Count Total	integer	Ttal number of trees (live and dead) across all plots at site x
Tree Count Live	integer	Total number of live trees across all plots at site x
Tree Count Dead	integer	Total number of dead trees across all plots at site x
Tree Density all Plots (trees/m^2)	trees/sq m	Tree count total divided by total plot area
Avg Tree Diameter (cm)	cm	Average tree diameter, sum of all tree diameters/total tree count
Avg Tree Height (m)	m	Average tree height, sum of all tree heights/number of trees sampled for height (note only 5 trees/plot were sampled for height)
Avg Canopy Depth (m)	m	Average of (tree heights minus heights to lowest living branches), sum of all tree canopy depths/number of trees sampled for height and lowest living branch (note only 5 trees/plot were sampled for height)
Tree Distribution americanelm	fractional proportion	Count of basswood trees/total tree count
Tree Distribution basswood	fractional proportion	Count of american elm trees/total tree count
Tree Distribution beech	fractional proportion	Count of trees of species /total tree count
Tree Distribution bitternuthickory	fractional proportion	Count of trees of species /total tree count
Tree Distribution blackbirch	fractional proportion	Count of trees of species /total tree count
Tree Distribution blackcherry	fractional proportion	Count of trees of species /total tree count
Tree Distribution blackoak	fractional proportion	Count of trees of species /total tree count
Tree Distribution carpinus	fractional proportion	Count of trees of species /total tree count
Tree Distribution chestnut	fractional proportion	Count of trees of species /total tree count
Tree Distribution chestnutoak	fractional proportion	Count of trees of species /total tree count
Tree Distribution cottonwood	fractional proportion	Count of trees of species /total tree count
Tree Distribution greenash	fractional proportion	Count of trees of species /total tree count

Column Header	Unit	Description
Tree Distribution greybirch	fractional proportion	Count of trees of species /total tree count
Tree Distribution hemlock	fractional proportion	Count of trees of species /total tree count
Tree Distribution musclewood	fractional proportion	Count of trees of species /total tree count
Tree Distribution ostrya	fractional proportion	Count of trees of species /total tree count
Tree Distribution paperbirch	fractional proportion	Count of trees of species /total tree count
Tree Distribution pignuthickory	fractional proportion	Count of trees of species /total tree count
Tree Distribution pitchpine	fractional proportion	Count of trees of species /total tree count
Tree Distribution redcedar	fractional proportion	Count of trees of species /total tree count
Tree Distribution redmaple	fractional proportion	Count of trees of species /total tree count
Tree Distribution redoak	fractional proportion	Count of trees of species /total tree count
Tree Distribution redpine	fractional proportion	Count of trees of species /total tree count
Tree Distribution shagbarkhickory	fractional proportion	Count of trees of species /total tree count
Tree Distribution stripedmaple	fractional proportion	Count of trees of species /total tree count
Tree Distribution sugarmaple	fractional proportion	Count of trees of species /total tree count
Tree Distribution whiteash	fractional proportion	Count of trees of species /total tree count
Tree Distribution whitecedar	fractional proportion	Count of trees of species /total tree count
Tree Distribution whiteoak	fractional proportion	Count of trees of species /total tree count
Tree Distribution whitepine	fractional proportion	Count of trees of species /total tree count
Tree Species Average Diameter americanelm (cm)	cm	Average diameter of american elm trees in site
Tree Species Average Diameter basswood (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter beech (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter bitternuthickory (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter blackbirch (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter blackcherry (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter blackoak (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter carpinus (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter chestnut (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter chestnutoak (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter cottonwood (cm)	cm	Average diameter of trees of species X in site

Column Header	Unit	Description
Tree Species Average Diameter greenash (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter greybirch (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter hemlock (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter musclewood (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter ostrya (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter paperbirch (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter pignuthickory (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter pitchpine (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter redcedar (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter redmaple (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter redoak (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter redpine (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter shagbarkhickory (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter stripedmaple (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter sugarmaple (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter whiteash (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter whitecedar (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter whiteoak (cm)	cm	Average diameter of trees of species X in site
Tree Species Average Diameter whitepine (cm)	cm	Average diameter of trees of species X in site
Basal Area Plot (m^2/ha) 1c	sq m / ha	Basal Area =SUM(((1/2 dbh)2/(unit area)) π) for plot 1
Basal Area Plot (m^2/ha) 2c	sq m / ha	Basal Area =SUM(((1/2 dbh)2/(unit area)) π) for plot 2
Basal Area Plot (m^2/ha) 3c	sq m / ha	Basal Area =SUM(((1/2 dbh)2/(unit area)) π) for plot 3
Basal Area Plot (m^2/ha) 4c	sq m / ha	Basal Area =SUM(((1/2 dbh)2/(unit area)) π) for plot 4
Basal Area Plot (m^2/ha) 5c	sq m / ha	Basal Area =SUM(((1/2 dbh)2/(unit area)) π) for plot 5
Basal Area Plot (m^2/ha) 6c	sq m / ha	Basal Area =SUM(((1/2 dbh)2/(unit area)) π) for plot 6
Basal Area Plot (m^2/ha) 7c	sq m / ha	Basal Area =SUM(((1/2 dbh)2/(unit area)) π) for plot 7
Basal Area Plot (m^2/ha) 8c	sq m / ha	Basal Area =SUM(((1/2 dbh)2/(unit area)) π) for plot 8
Tree Biomass Live plot AB (kg/m^2) 1c	kg/ sq m	Total AB (aboveground) live tree biomass for all live trees calculated by species allometry per sq m for plot 1

Column Header	Unit	Description
Tree Biomass Live plot AB (kg/m^2) 2c	kg/ sq m	Total AB (aboveground) live tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Live plot AB (kg/m^2) 3c	kg/ sq m	Total AB (aboveground) live tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Live plot AB (kg/m^2) 4c	kg/ sq m	Total AB (aboveground) live tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Live plot AB (kg/m^2) 5c	kg/ sq m	Total AB (aboveground) live tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Live plot AB (kg/m^2) 6c	kg/ sq m	Total AB (aboveground) live tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Live plot AB (kg/m^2) 7c	kg/ sq m	Total AB (aboveground) live tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Live plot AB (kg/m^2) 8c	kg/ sq m	Total AB (aboveground) live tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Live plot BR (kg/m^2) 1c	kg/ sq m	Total BR (branch - wood + bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Live plot BR (kg/m^2) 2c	kg/ sq m	Total BR (branch) live tree branch biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Live plot BR (kg/m^2) 3c	kg/ sq m	Total BR (branch) live tree branch biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Live plot BR (kg/m^2) 4c	kg/ sq m	Total BR (branch) live tree branch biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Live plot BR (kg/m^2) 5c	kg/ sq m	Total BR (branch) live tree branch biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Live plot BR (kg/m^2) 6c	kg/ sq m	Total BR (branch) live tree branch biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Live plot BR (kg/m^2) 7c	kg/ sq m	Total BR (branch) live tree branch biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Live plot BR (kg/m^2) 8c	kg/ sq m	Total BR (branch) live tree branch biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Live plot FL (kg/m^2) 1c	kg/ sq m	Total FL (foliar) live tree foliage biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Live plot FL (kg/m^2) 2c	kg/ sq m	Total FL (foliar) live tree foliage biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Live plot FL (kg/m^2) 3c	kg/ sq m	Total FL (foliar) live tree foliage biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Live plot FL (kg/m^2) 4c	kg/ sq m	Total FL (foliar) live tree foliage biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Live plot FL (kg/m^2) 5c	kg/ sq m	Total FL (foliar) live tree foliage biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Live plot FL (kg/m^2) 6c	kg/ sq m	Total FL (foliar) live tree foliage biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Live plot FL (kg/m^2) 7c	kg/ sq m	Total FL (foliar) live tree foliage biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Live plot FL (kg/m^2) 8c	kg/ sq m	Total FL (foliar) live tree foliage biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Live plot SB (kg/m^2) 1c	kg/ sq m	Total SB (stem bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Live plot SB (kg/m^2) 2c	kg/ sq m	Total SB (stem bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Live plot SB (kg/m^2) 3c	kg/ sq m	Total SB (stem bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Live plot SB (kg/m^2) 4c	kg/ sq m	Total SB (stem bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Live plot SB (kg/m^2) 5c	kg/ sq m	Total SB (stem bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Live plot SB (kg/m^2) 6c	kg/ sq m	Total SB (stem bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Live plot SB (kg/m^2) 7c	kg/ sq m	Total SB (stem bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 7

Column Header	Unit	Description
Tree Biomass Live plot SB (kg/m^2) 8c	kg/ sq m	Total SB (stem bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Live plot ST (kg/m^2) 1c	kg/ sq m	Total SB (stem total wood + bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Live plot ST (kg/m^2) 2c	kg/ sq m	Total SB (stem total wood + bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Live plot ST (kg/m^2) 3c	kg/ sq m	Total SB (stem total wood + bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Live plot ST (kg/m^2) 4c	kg/ sq m	Total SB (stem total wood + bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Live plot ST (kg/m^2) 5c	kg/ sq m	Total SB (stem total wood + bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Live plot ST (kg/m^2) 6c	kg/ sq m	Total SB (stem total wood + bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Live plot ST (kg/m^2) 7c	kg/ sq m	Total SB (stem total wood + bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Live plot ST (kg/m^2) 8c	kg/ sq m	Total SB (stem total wood + bark) live tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Live plot STBR (kg/m^2) 1c	kg/ sq m	Total STBR (stem total + branch total) live tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Live plot STBR (kg/m^2) 2c	kg/ sq m	Total STBR (stem total + branch total) live tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Live plot STBR (kg/m^2) 3c	kg/ sq m	Total STBR (stem total + branch total) live tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Live plot STBR (kg/m^2) 4c	kg/ sq m	Total STBR (stem total + branch total) live tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Live plot STBR (kg/m^2) 5c	kg/ sq m	Total STBR (stem total + branch total) live tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Live plot STBR (kg/m^2) 6c	kg/ sq m	Total STBR (stem total + branch total) live tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Live plot STBR (kg/m^2) 7c	kg/ sq m	Total STBR (stem total + branch total) live tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Live plot STBR (kg/m^2) 8c	kg/ sq m	Total STBR (stem total + branch total) live tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Live plot SW (kg/m^2) 1c	kg/ sq m	Total SW (stem wood) live tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Live plot SW (kg/m^2) 2c	kg/ sq m	Total SW (stem wood) live tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Live plot SW (kg/m^2) 3c	kg/ sq m	Total SW (stem wood) live tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Live plot SW (kg/m^2) 4c	kg/ sq m	Total SW (stem wood) live tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Live plot SW (kg/m^2) 5c	kg/ sq m	Total SW (stem wood) live tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Live plot SW (kg/m^2) 6c	kg/ sq m	Total SW (stem wood) live tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Live plot SW (kg/m^2) 7c	kg/ sq m	Total SW (stem wood) live tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Live plot SW (kg/m^2) 8c	kg/ sq m	Total SW (stem wood) live tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Dead plot AB (kg/m^2) 1c	kg/ sq m	Total AB (aboveground) dead tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Dead plot AB (kg/m^2) 2c	kg/ sq m	Total AB (aboveground) dead tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Dead plot AB (kg/m^2) 3c	kg/ sq m	Total AB (aboveground) dead tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Dead plot AB (kg/m^2) 4c	kg/ sq m	Total AB (aboveground) dead tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Dead plot AB (kg/m^2) 5c	kg/ sq m	Total AB (aboveground) dead tree biomass for all live trees calculated by species allometry per sq m for plot 5

Column Header	Unit	Description
Tree Biomass Dead plot AB (kg/m^2) 6c	kg/ sq m	Total AB (aboveground) dead tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Dead plot AB (kg/m^2) 7c	kg/ sq m	Total AB (aboveground) dead tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Dead plot AB (kg/m^2) 8c	kg/ sq m	Total AB (aboveground) dead tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Dead plot BR (kg/m^2) 1c	kg/ sq m	Total BR (branch - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Dead plot BR (kg/m^2) 2c	kg/ sq m	Total BR (branch - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Dead plot BR (kg/m^2) 3c	kg/ sq m	Total BR (branch - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Dead plot BR (kg/m^2) 4c	kg/ sq m	Total BR (branch - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Dead plot BR (kg/m^2) 5c	kg/ sq m	Total BR (branch - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Dead plot BR (kg/m^2) 6c	kg/ sq m	Total BR (branch - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Dead plot BR (kg/m^2) 7c	kg/ sq m	Total BR (branch - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Dead plot BR (kg/m^2) 8c	kg/ sq m	Total BR (branch - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Dead plot FL (kg/m^2) 1c	kg/ sq m	Total FL (foliage) dead tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Dead plot FL (kg/m^2) 2c	kg/ sq m	Total FL (foliage) dead tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Dead plot FL (kg/m^2) 3c	kg/ sq m	Total FL (foliage) dead tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Dead plot FL (kg/m^2) 4c	kg/ sq m	Total FL (foliage) dead tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Dead plot FL (kg/m^2) 5c	kg/ sq m	Total FL (foliage) dead tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Dead plot FL (kg/m^2) 6c	kg/ sq m	Total FL (foliage) dead tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Dead plot FL (kg/m^2) 7c	kg/ sq m	Total FL (foliage) dead tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Dead plot FL (kg/m^2) 8c	kg/ sq m	Total FL (foliage) dead tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Dead plot SB (kg/m^2) 1c	kg/ sq m	Total SB (stem bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Dead plot SB (kg/m^2) 2c	kg/ sq m	Total SB (stem bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Dead plot SB (kg/m^2) 3c	kg/ sq m	Total SB (stem bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Dead plot SB (kg/m^2) 4c	kg/ sq m	Total SB (stem bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Dead plot SB (kg/m^2) 5c	kg/ sq m	Total SB (stem bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Dead plot SB (kg/m^2) 6c	kg/ sq m	Total SB (stem bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Dead plot SB (kg/m^2) 7c	kg/ sq m	Total SB (stem bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Dead plot SB (kg/m^2) 8c	kg/ sq m	Total SB (stem bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Dead plot ST (kg/m^2) 1c	kg/ sq m	Total ST (Stem total - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Dead plot ST (kg/m^2) 2c	kg/ sq m	Total ST (Stem total - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Dead plot ST (kg/m^2) 3c	kg/ sq m	Total ST (Stem total - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 3

Column Header	Unit	Description
Tree Biomass Dead plot ST (kg/m^2) 4c	kg/ sq m	Total ST (Stem total - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Dead plot ST (kg/m^2) 5c	kg/ sq m	Total ST (Stem total - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Dead plot ST (kg/m^2) 6c	kg/ sq m	Total ST (Stem total - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Dead plot ST (kg/m^2) 7c	kg/ sq m	Total ST (Stem total - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Dead plot ST (kg/m^2) 8c	kg/ sq m	Total ST (Stem total - wood + bark) dead tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Dead plot STBR (kg/m^2) 1c	kg/ sq m	Total STBR (stem total + branch total) dead tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Dead plot STBR (kg/m^2) 2c	kg/ sq m	Total STBR (stem total + branch total) dead tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Dead plot STBR (kg/m^2) 3c	kg/ sq m	Total STBR (stem total + branch total) dead tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Dead plot STBR (kg/m^2) 4c	kg/ sq m	Total STBR (stem total + branch total) dead tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Dead plot STBR (kg/m^2) 5c	kg/ sq m	Total STBR (stem total + branch total) dead tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Dead plot STBR (kg/m^2) 6c	kg/ sq m	Total STBR (stem total + branch total) dead tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Dead plot STBR (kg/m^2) 7c	kg/ sq m	Total STBR (stem total + branch total) dead tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Dead plot STBR (kg/m^2) 8c	kg/ sq m	Total STBR (stem total + branch total) dead tree biomass for all live trees calculated by species allometry per sq m for plot 8
Tree Biomass Dead plot SW (kg/m^2) 1c	kg/ sq m	Total SW (stem wood) dead tree biomass for all live trees calculated by species allometry per sq m for plot 1
Tree Biomass Dead plot SW (kg/m^2) 2c	kg/ sq m	Total SW (stem wood) dead tree biomass for all live trees calculated by species allometry per sq m for plot 2
Tree Biomass Dead plot SW (kg/m^2) 3c	kg/ sq m	Total SW (stem wood) dead tree biomass for all live trees calculated by species allometry per sq m for plot 3
Tree Biomass Dead plot SW (kg/m^2) 4c	kg/ sq m	Total SW (stem wood) dead tree biomass for all live trees calculated by species allometry per sq m for plot 4
Tree Biomass Dead plot SW (kg/m^2) 5c	kg/ sq m	Total SW (stem wood) dead tree biomass for all live trees calculated by species allometry per sq m for plot 5
Tree Biomass Dead plot SW (kg/m^2) 6c	kg/ sq m	Total SW (stem wood) dead tree biomass for all live trees calculated by species allometry per sq m for plot 6
Tree Biomass Dead plot SW (kg/m^2) 7c	kg/ sq m	Total SW (stem wood) dead tree biomass for all live trees calculated by species allometry per sq m for plot 7
Tree Biomass Dead plot SW (kg/m^2) 8c	kg/ sq m	Total SW (stem wood) dead tree biomass for all live trees calculated by species allometry per sq m for plot 8

Table A - 7. Summary metadata data fields and descriptions from SV19MA_FOR_BIOMASS_SUMMARY_METADATA_20220420_20220801_V01.0.csv.

Column Header	Unit	Description
site		Unique site identifier
Tree Count Total	integer	Total number of trees (live and dead) across all plots at site x
Tree Count Live	integer	Total number of live trees across all plots at site x
Tree Count Dead	integer	Total number of dead trees across all plots at site x
Total Tree Biomass Live AB (kg/m^2)	kg/ sq m	Total live aboveground tree biomass across all plots in a site
Total Tree Biomass Dead AB (kg/m^2)	kg/ sq m	Total dead aboveground tree biomass across all plots in a site
Total Tree Biomass Live ST (kg/m^2)	kg/ sq m	Total live stem total (wood + bark) tree biomass across all plots in a site
Total Tree Biomass Dead ST (kg/m^2)	kg/ sq m	Total dead stem total (wood + bark) tree biomass across all plots in a site

Column Header	Unit	Description
Total Tree Biomass Live BR (kg/m^2)	kg/ sq m	Total live branch tree biomass across all plots in a site
Total Tree Biomass Dead BR (kg/m^2)	kg/ sq m	Total dead branch tree biomass across all plots in a site
Total Tree Biomass Live FL (kg/m^2)	kg/ sq m	Total live tree foliage biomass across all plots in a site
Total Tree Biomass Dead FL (kg/m^2)	kg/ sq m	Total dead tree foliage biomass across all plots in a site
Shrub Count Total	integer	Total number of shrubs (live and dead) across all plots at site x
Shrub Count Live	integer	Total number of live shrubs across all plots at site x
Shrub Count Dead	integer	Total number of dead shrubs across all plots at site x
Total Shrub Biomass Live AB (kg/m^2)	kg/ sq m	Total live aboveground shrub biomass across all plots in a site
Total Shrub Biomass Dead AB (kg/m^2)	kg/ sq m	Total dead aboveground shrub biomass across all plots in a site
Total Shrub Biomass Live ST (kg/m^2)	kg/ sq m	Total live stem total (wood + bark) shrub biomass across all plots in a site
Total Shrub Biomass Dead ST (kg/m^2)	kg/ sq m	Total dead stem total (wood + bark) shrub biomass across all plots in a site
Total Shrub Biomass Live BR (kg/m^2)	kg/ sq m	Total live branch shrub biomass across all plots in a site
Total Shrub Biomass Dead BR (kg/m^2)	kg/ sq m	Total dead branch shrub biomass across all plots in a site
Total Shrub Biomass Live FL (kg/m^2)	kg/ sq m	Total live shrub foliage biomass across all plots in a site
Total Shrub Biomass Dead FL (kg/m^2)	kg/ sq m	Total dead shrub foliage biomass across all plots in a site
Total Biomass Live AB (kg/m^2)	kg/ sq m	Total live aboveground tree and shrub biomass across all plots in a site
Total Biomass Dead AB (kg/m^2)	kg/ sq m	Total dead aboveground tree and shrub biomass across all plots in a site
Total Biomass Live ST (kg/m^2)	kg/ sq m	Total live stem total (wood + bark) tree and shrub biomass across all plots in a site
Total Biomass Dead ST (kg/m^2)	kg/ sq m	Total dead stem total (wood + bark) tree and shrub biomass across all plots in a site
Total Biomass Live BR (kg/m^2)	kg/ sq m	Total live branch tree and shrub biomass across all plots in a site
Total Biomass Dead BR (kg/m^2)	kg/ sq m	Total dead branch tree and shrub biomass across all plots in a site
Total Biomass Live FL (kg/m^2)	kg/ sq m	Total live tree and shrub foliage biomass across all plots in a site
Total Biomass Dead FL (kg/m^2)	kg/ sq m	Total dead tree and shrub foliage biomass across all plots in a site
Total Biomass AB (kg/m^2)	kg/ sq m	Total live and dead aboveground tree and shrub biomass across all plots in a site
Total Biomass ST (kg/m^2)	kg/ sq m	Total live and dead stem total tree and shrub biomass across all plots in a site
Total Biomass BR (kg/m^2)	kg/ sq m	Total live and dead branch tree and shrub biomass across all plots in a site
Total Biomass FL (kg/m^2)	kg/ sq m	Total live and dead foliage tree and shrub biomass across all plots in a site

Table A - 8. Camera data fields and descriptions from SV19MA_FOR_CAMERA_PHOTO_METADATA_20220420_20220801_V01.0.csv.

Column Header	Unit	Description
site	alpha numeric	Unique name given to a field location, consisting of the name of the SMAPVEX19/22 location (MA for Massachusetts) followed by the site number

Column Header	Unit	Description
plot	1-8	Plot number within site (1 through 8)
Camera #	MTRI #	Unique identifier for camera number to match to photo number for spring (April-May) or summer (July) 2022
North photo	integer	Unique photo number for the North photo at a given site/plot
East photo	integer	Unique photo number for the East photo at a given site/plot
South photo	integer	Unique photo number for the South photo at a given site/plot
West photo	integer	Unique photo number for the West photo at a given site/plot
Nadir photo	integer	Unique photo number for the Nadir photo at a given site/plot
Straight up photo	integer	Unique photo number for the Straight up photo at a given site/plot
40 degree photos (NESW)	integer	Unique photo number for the 40 degree angle North, East, South, West photos at a given site/plot
Other	alpha numeric	Notes or additional photo numbers and descriptions