Vegetation Type and Ground Cover Metric Names and Descriptions

Key information for reading Table 2:

- Unless otherwise indicated, vegetation metrics are summarized to site level. Metrics are calculated based on data from five 100-m^2 plots in the Assessment Area (AA) for the site (or if fewer than 5 plots were sampled, then the total number plots sampled). In the metric descriptions or formulas provided in this appendix, the phrase 'five 100-m^2 plots' can be assumed to mean the 5 plots in the AA or the total number of plots sampled if less than 5. Rarely were fewer than 5 vegetation plots sampled at the AA.
- The term '*Species*' as typically used in this appendix refers to taxonomic species or lowest identifiable taxonomic unit (e.g., variety, genus, family, growth habit).
- **GRAY BANNER,** heading each major group of metrics, lists the NWCA Field Data Form from which the validated field data that is used in metrics originated.
- **COLORED BANNERS**, under each major metric group, provide section and subsection headings for sets of metrics that describe related ecological components.
- **METRIC NAME column** corresponds to the metric name in the NWCA vegetation metrics data set.
- **DESCRIPTION column** provides narrative description of each metric.
- **CALCULATION/TRAIT INFORMATION column** provides:
  - ***In white metric rows:***
    - A general formula for calculation of the metric, if not evident in text in the DESCRIPTION column, is provided. PARAMETER NAMES representing raw data that are included in calculations are highlighted in BLUE and are defined **Table 1**.
    - Some calculated metrics listed in the METRIC NAME column are, in turn, used as components of other calculated metrics.
  - ***In colored banner rows defining metric sets*** – General categories of species trait information used in calculating a particular series of metrics are listed, if applicable.
- **METRIC TYPE column** indicates whether the candidate metric describes ecological condition or stress.

Table 1. Parameter names from NWCA 2011 Form V-2 (from Appendix B in NWCA 2011 Technical Report)

PARAMETER NAME	DESCRIPTION	RESULT	VALID RANGE/ LEGAL VALUES
Form V-3: NWCA Vegetation Types (Front) and Ground Surface Attributes (Back)			
Vegetation Type Data: Observations from each of five 100-m2 (10x10m) Veg Plots			
Predominant Status & Trends Category			
PAL_FARMED	Palustrine farmed (Pf) Class dominating Veg Plot	If Pf present, PF where present	PF
SANDT_CLASS	FWS Status Trends Class dominating Veg Plot	**One S&T Category: E2EM - E**stuarine Intertidal Emergent, **E2SS -** Estuarine Shrub/Forested, **PEM –** Palustrine, Lacustrine, or Riverine Emergent, **PSS –** Palustrine, Lacustrine, or Riverine Scrub/Shrub, **PFO -** Palustrine , Lacustrine, or Riverine Forested, **PUBPAB** - Palustrine, Lacustrine, or Riverine Unconsolidated Bottom	E2EM, E2SS, PEM, PSS, PFO, or PUBPAB
% Cover Vascular Vegetation Strata			
SUBMERGED_AQ	% Cover Submerged Aquatic Vegetation	0-100 % Cover	0-100%
FLOATING_AQ	% Cover Floating Aquatic Vegetation	0-100 % Cover	0-100%
LIANAS	% Cover Lianas, vines, and vascular epiphytes	0-100 % Cover	0-100%
Cover for other vascular vegetation in height classes indicated below:			
VTALL_VEG	% Cover Vegetation > 30m tall	0-100 % Cover	0-100%
TALL_VEG	% Cover Vegetation > 15m to 30m tall	0-100 % Cover	0-100%
HMED_VEG	% Cover Vegetation > 5m to 15m tall	0-100 % Cover	0-100%
MED_VEG	% Cover Vegetation >2m to 5 tall	0-100 % Cover	0-100%
SMALL_VEG	% Cover Vegetation 0.5 to 2m tall	0-100 % Cover	0-100%
VSMALL_VEG	% Cover Vegetation < 0.5m tall	0-100 % Cover	0-100%
% Cover and Categorical Data for Non-Vascular Taxa			
BRYOPHYTES	% Cover of Bryophytes growing on ground surfaces, logs, rocks, etc.	0-100 % Cover	0-100%
PEAT_MOSS	Bryophytes dominated by Sphagnum or other peat forming moss	Y (yes), if present	Yes/No
LICHENS	% Cover of Lichens growing on ground surfaces, logs, rocks, etc.	0-100 % Cover	0-100%

PARAMETER NAME	DESCRIPTION	RESULT	VALID RANGE/ LEGAL VALUES
ARBOREAL	% Cover of Arboreal Bryophytes and Lichens	0-100 % Cover	0-100%
ALGAE	% Cover of filamentous or mat forming algae	0-100 % Cover	0-100%
MACROALGAE	% Cover of macroalgae (freshwater species/seaweeds)	0-100 % Cover	0-100%
WRACK	Macroalgae occurs wrack (detached, debris, stranded)	Y (yes), if present	Yes/No
ATTACHED	Macroalgae is attached/living	Y (yes), if present	Yes/No
UNK_ALGAE	Macroalgae status unknown (can't determine whether wrack or living)	Y (yes), if present	Yes/No
Ground Surface Attributes			
Water Cover and Depth			
TOTAL_WATER	Total cover of water (percent of Veg Plot area with water = a+b+c ≤ 100%)	% Cover	0-100%
WATER_NOVEG	a) % Veg Plot area with water and no vegetation	% Cover	0-100%, ≤ TOTAL_WATER
WATER_AQVEG	b) % Veg Plot area with water and floating/submerged aquatic vegetation	% Cover	0-100%, ≤ TOTAL_WATER
WATER_EMERGVEG	c) % Veg Plot area with water and emergent and/or woody vegetation	% Cover	0-100%, ≤ TOTAL_WATER
MINIMUM_DEPTH	Minimum water depth	depth in cm	Investigate if >100 cm
PREDOMINANT_DEPTH	Predominant water depth	depth in cm	Investigate if >100 cm
MAXIMUM_DEPTH	Maximum water depth	depth in cm	Investigate if >100 cm
TIME	Time water depth measurements were made	time on 24 hour clock	500 to 2100 (investigate if outside this range)
Bareground and Litter			
Total cover of bareground = a + b + c ≤ 100%			
EXPOSED_SOIL	a) Cover exposed soil/sediment	% Cover	≤ 100%
EXPOSED_GRAVEL	b) Cover exposed gravel/cobble (~2mm to 25cm)	% Cover	≤ 100%
EXPOSED_ROCK	c) Cover exposed rock (>25cm)	% Cover	≤ 100%
TOTAL_LITTER	Total cover of litter	% Cover	≤ 100%
Predominant Litter Types (>25% cover) or Primary Litter type (if all litter < 25%):			

PARAMETER NAME	DESCRIPTION	RESULT	VALID RANGE/ LEGAL VALUES
LITTER_THATCH	Thatch (dead graminoid (e.g., grasses, sedges, rushes) leaves, rhizomes, or other material))	If present, THATCH	THATCH
LITTER_FORB	Forb litter	If present, FORB	FORB
LITTER_CONIFER	Conifer litter	If present, CONIFER	CONIFER
LITTER_DECID	Deciduous litter	If present, DECID	DECID
LITTER_BROADLEAF	Broadleaf evergreen litter	If present, BROADLEAF	BROADLEAF
LITTER_NONE	No litter	If litter absent, NONE	NONE
LITTER_DEPTH_SW	Litter depth (cm) in center of 1-m^2 quadrat at SW corner of Veg Plot	depth in cm	Investigate if >100 cm
LITTER_DEPTH_NE	Litter depth (cm) in center of 1-m^2 quadrat at NE corner of Veg Plot	depth in cm	Investigate if >100 cm
WD_FINE	Cover of fine woody debris (<5cm diameter)	% Cover	0-100%
WD_COARSE	Cover of coarse woody debris (> 5cm diameter)	% Cover	0-100%

Table 2. Metric names and descriptions (from Appendix D in NWCA 2011 Technical Report)

METRIC NAME	METRIC DESCRIPTION	**CALCULATION** (listed in White Metric Row), **SPECIES TRAIT TYPE** (if applicable, indicated in Colored Banners)	**METRIC TYPE** (C = condition, S = stress)
	METRICS BASED ON FIELD DATA FROM FORM V-3: NWCA VEGETATION TYPES (FRONT) AND NWCA GROUND SURFACE ATTRIBUTES (BACK)		
SECTION 6	**WETLAND TYPE HETEROGENEITY BASED ON PLOT-LEVEL NWCA WETLAND TYPES (*designated as 'Predominant S & T Class' on Form V-3*)**		
N_SANDT	Number of unique NWCA Wetland Types in AA	Count number of unique NWCA Wetland Types across the 5 plots	C
DOM_SANDT	Dominant NWCA Wetland Type(s) in AA	Select dominant NWCA Wetland Types: Most frequent (greatest number of plots), or in case of ties, the two most frequent hyphenated	C
D_SANDT	Simpson's Diversity - Heterogeneity of NWCA Wetland Types in AA *s* = number of S&T classes present, *i* = class *i*, *p* = proportion of S&T Classes belonging to class *i*	$D = 1 - \sum_{i}^{s} p_i^2$	C
H_SANDT	Shannon-Wiener - Heterogeneity of NWCA Wetland Types in AA *s* = number of S&T classes present, *i* = class *i*, *p* = proportion of S&T Classes belonging to class *i*	$H' = -\sum_{i}^{s} p_i \ln p_i$	C
J_SANDT	Pielou Evenness - Heterogeneity of NWCA Wetland Types in AA *S* = number of S&T classes observed	$J = \frac{H'}{\ln S}$	C
SECTION 7	**VEGETATION STRUCTURE/TYPES**		
SECTION 7.1	***Vascular Strata***		
N_VASC_STRATA	Number of unique Vascular Vegetation Strata across AA	Count number of unique vascular vegetation strata across the 5 plots	C
XN_VASC_ STRATA	Mean number of vascular vegetation strata across plots		C
RG_VASC_ STRATA	Range in number of vascular vegetation strata found in all 100-m^2 plots	Maximum - minimum number of vegetation strata across five 100-m^2 plots	C
XTOTCOV_VASC_ STRATA	Mean total cover of all vascular strata	(S cover for all vascular strata across all 100-m^2 plots)/5 plots	C

METRIC NAME	METRIC DESCRIPTION	**CALCULATION** (listed in White Metric Row), **SPECIES TRAIT TYPE** (if applicable, indicated in Colored Banners)	**METRIC TYPE** (C = condition, S = stress)
FREQ_ SUBMERGED_AQ	Frequency Submerged Aquatic Vegetation	(# of 100-m^2 plots in which SUBMERGED_AQ occurs/5 plots) x 100	C
FREQ_FLOATING_ AQ	Frequency Floating Aquatic Vegetation	(# of 100-m^2 plots in which FLOATING_AQ occurs/5 plots) x 100	C
FREQ_LIANAS	Frequency Lianas, vines, and vascular epiphytes	(# of 100-m^2 plots in which LIANAS occurs/5 plots) x 100	C
FREQ_VTALL_VEG	Frequency Vegetation > 30m tall	(# of 100-m^2 plots in which VTALL_VEG occurs/5 plots) x 100	C
FREQ_TALL_VEG	Frequency Vegetation > 15m to 30m tall	(# of 100-m^2 plots in which TALL_VEG occurs/5 plots) x 100	C
FREQ_HMED_ VEG	Frequency Vegetation > 5m to 15m tall	(# of 100-m^2 plots in which HMED_VEG occurs/5 plots) x 100	C
FREQ_MED_VEG	Frequency Vegetation >2m to 5 tall	(# of 100-m^2 plots in which MED_VEG occurs/5 plots) x 100	C
FREQ_SMALL_ VEG	Frequency Vegetation 0.5 to 2m tall	(# of 100-m^2 plots in which SMALL_VEG occurs/5 plots) x 100	C
FREQ_VSMALL_ VEG	Frequency Vegetation < 0.5m tall	(# of 100-m^2 plots in which VSMALL_VEG occurs/5 plots) x 100	C
XCOV_ SUBMERGED_AQ	Mean absolute cover Submerged Aquatic Vegetation	S cover of SUBMERGED_AQ across 5 plots/5 plots	C
XCOV_ FLOATING_AQ	Mean absolute cover Floating Aquatic Vegetation	S cover of FLOATING_AQ across 5 plots/5 plots	C
XCOV_LIANAS	Mean absolute cover Lianas, vines, and vascular epiphytes	S cover of LIANAS across 5 plots/5 plots	C
XCOV_VTALL_ VEG	Mean absolute cover Vegetation > 30m tall	S cover of VTALL_VEG across 5 plots/5 plots	C
XCOV_TALL_VEG	Mean absolute cover Vegetation > 15m to 30m tall	S cover of TALL_VEG across 5 plots/5 plots	C
XCOV_HMED_ VEG	Mean absolute cover Vegetation > 5m to 15m tall	S cover of HMED_VEG across 5 plots/5 plots	C
XCOV_MED_VEG	Mean absolute cover Vegetation >2m to 5 tall	S cover of MED_VEG across 5 plots/5 plots	C
XCOV_SMALL_ VEG	Mean absolute cover Vegetation 0.5 to 2m tall	S cover of SMALL_VEG across 5 plots/5 plots	C
XCOV_VSMALL_ VEG	Mean absolute cover Vegetation < 0.5m tall	∑cover of VSMALL_VEG across 5 plots/5 plots	C
IMP_ SUBMERGED_AQ	Importance Submerged Aquatic Vegetation	(FREQ_SUBMERGED_AQ + XCOV_SUBMERGED_AQ)/2	C
IMP_FLOATING_ AQ	Importance Floating Aquatic Vegetation	(FREQ_FLOATING_AQ + XCOV_FLOATING_AQ)/2	C
IMP_LIANAS	Importance Lianas, vines, and vascular epiphytes	(FREQ_LIANAS + XCOV_LIANAS)/2	C
IMP_VTALL_VEG	Importance Vegetation > 30m tall	(FREQ_VTALL_VEG + XCOV_VTALL_VEG)/2	C

METRIC NAME	METRIC DESCRIPTION	**CALCULATION** (listed in White Metric Row), **SPECIES TRAIT TYPE** (if applicable, indicated in Colored Banners)	**METRIC TYPE** (C = condition, S = stress)
IMP_TALL_VEG	Importance Vegetation > 15m to 30m tall	(FREQ_TALL_VEG + XCOV_TALL_VEG)/2	C
IMP_HMED_VEG	Importance Vegetation > 5m to 15m tall	(FREQ_HMED_VEG + XCOV_HMED_VEG)/2	C
IMP_MED_VEG	Importance Vegetation >2m to 5 tall	(FREQ_MED_VEG + XCOV_MED_VEG)/2	C
IMP_SMALL_VEG	Importance Vegetation 0.5 to 2m tall	(FREQ_SMALL_VEG + XCOV_SMALL_VEG)/2	C
IMP_VSMALL_ VEG	Importance Vegetation < 0.5m tall	(FREQ_VSMALL_VEG + XCOV_VSMALL_VEG)/2	C
XRCOV_ SUBMERGED_AQ	Relative mean cover Submerged Aquatic Vegetation	(XCOV_SUBMERGED_AQ/ XTOTCOV_VASC_STRATA) x 100	C
XRCOV_ FLOATING_AQ	Relative mean cover Floating Aquatic Vegetation	(XCOV_FLOATING_AQ/ XTOTCOV_VASC_STRATA) x 100	C
XRCOV_LIANAS	Relative cover Lianas, Vines, and Vascular Epiphytes	(XCOV_LIANAS/ XTOTCOV_VASC_STRATA) x 100	C
XRCOV_VTALL_ VEG	Relative cover Vegetation > 30m tall	(XCOV_VTALL_VEG/ XTOTCOV_VASC_STRATA) x 100	C
XRCOV_TALL_ VEG	Relative cover Vegetation > 15m to 30m tall	(XCOV_TALL_VEG/ XTOTCOV_VASC_STRATA) x 100	C
XRCOV_HMED_ VEG	Relative cover Vegetation > 5m to 15m tall	(XCOV_HMED_VEG/ XTOTCOV_VASC_STRATA) x 100	C
XRCOV_MED_ VEG	Relative cover Vegetation >2m to 5 tall	(XCOV_MED_VEG/ XTOTCOV_VASC_STRATA) x 100	C
XRCOV_SMALL_ VEG	Relative cover Vegetation 0.5 to 2m tall	(XCOV_SMALL_VEG/ XTOTCOV_VASC_STRATA) x 100	C
XRCOV_VSMALL_ VEG	Relative cover Vegetation < 0.5m tall	(XCOV_VSMALL_/ XTOTCOV_VASC_STRATA) x 100	C
D_VASC_STRATA	Simpson's Diversity - Heterogeneity of Vertical Vascular Structure in AA based on occurrence and relative cover of all strata in all plots *s* = number of veg strata observed, *i* = veg stratum *i*, *p* = relative cover belonging to veg stratum *i*	$D = 1 - \sum_{i}^{s} p_i^2$	C
H_VASC_STRATA	Shannon-Wiener - Heterogeneity of Vertical Vascular Structure in AA based on occurrence and relative cover of all strata in all plots *s* = number of veg strata observed, *i* = veg stratum *i*, *p* = relative cover belonging to veg stratum *i*	$H' = -\sum_{i}^{s} p_i \ln p_i$	C

METRIC NAME	METRIC DESCRIPTION	**CALCULATION** (listed in White Metric Row), **SPECIES TRAIT TYPE** (if applicable, indicated in Colored Banners)	**METRIC TYPE** (C = condition, S = stress)
J_VASC_STRATA	Pielou Evenness - Heterogeneity of Vertical Vascular Structure in AA based on occurrence and relative cover of all strata in all plots S=number of strata observed	$J = \frac{H'}{\ln S}$	C

Section 7.2	***Non-Vascular Groups***		
N_PEAT_MOSS_DOM	Number of plots where bryophytes are dominated by Sphagnum or other peat forming moss	Count number of plots where PEAT_MOSS = Y	C
FREQ_PEAT_MOSS_DOM	Frequency of plots where bryophytes are dominated by Sphagnum or other peat forming moss	(N_PEAT_MOSS_DOM/5 plots) x 100	C
FREQ_BRYOPHYTES	Frequency of bryophytes growing on ground surfaces, logs, rocks, etc.	(# of 100-m^2 plots in which BRYOPHYTES occur/5 plots) x 100	C
FREQ_LICHENS	Frequency of lichens growing on ground surfaces, logs, rocks, etc.	(# of 100-m^2 plots in which LICHENS occur/5 plots) x 100	C
FREQ_ARBOREAL	Frequency of arboreal Bryophytes and Lichens	(# of 100-m^2 plots in which ARBOREAL occur/5 plots) x 100	C
FREQ_ALGAE	Frequency of filamentous or mat forming algae	(# of 100-m^2 plots in which ALGAE occurs/5 plots) x 100	C
FREQ_MACROALGAE	Macroalgae (freshwater species/seaweeds)	(# of 100-m^2 plots in which MACROALGAE occurs/5 plots) x 100	C
XCOV_BRYOPHYTES	Mean absolute cover bryophytes growing on ground surfaces, logs, rocks, etc.	S cover of BRYOPHYTES across 5 plots/5 plots	C
XCOV_LICHENS	Mean absolute cover lichens growing on ground surfaces, logs, rocks, etc.	S cover of LICHENS across 5 plots/5 plots	C
XCOV_ARBOREAL	Mean absolute cover arboreal Bryophytes and Lichens	∑ cover of ARBOREAL across 5 plots/5 plots	C
XCOV_ALGAE	Mean absolute cover filamentous or mat forming algae	∑ cover of ALGAE across 5 plots/5 plots	C
XCOV_MACROALGAE	Mean absolute cover macroalgae (freshwater species/seaweeds)	∑ cover of MACROALGAE across 5 plots/5 plots	C
IMP_BRYOPHYTES	Bryophytes growing on ground surfaces, logs, rocks, etc.	(FREQ_BRYOPHYTES + XCOV_BRYOPHYTES)/2	C
IMP_LICHENS	Lichens growing on ground surfaces, logs, rocks, etc.	(FREQ_LICHENS + XCOV_LICHENS)/2	C
IMP_ARBOREAL	Arboreal Bryophytes and Lichens	(FREQ_ARBOREAL + XCOV_ARBOREAL)/2	C
IMP_ALGAE	Filamentous or mat forming algae	(FREQ_ALGAE + XCOV_ALGAE)/2	C
IMP_MACROALGAE	Macroalgae (freshwater species/seaweeds)	(FREQ_MACROALGAE + XCOV_MACROALGAE)/2	C

METRIC NAME	METRIC DESCRIPTION	**CALCULATION** (listed in White Metric Row), **SPECIES TRAIT TYPE** (if applicable, indicated in Colored Banners)	**METRIC TYPE** (C = condition, S = stress)
Section 8	**Ground Surface Attributes**		
Section 8.1	***Water Cover and Depth***		
MIN_H2O_DEPTH	Minimum water depth	Lowest value for MINIMUM_DEPTH across five 100-m^2 plots	C
XH2O_DEPTH	Mean Predominant water depth in plots where water occurs	∑PREDOMINANT_DEPTH across plots where standing water occurs/number of plots where standing water occurs	C
XH2O_DEPTH_AA	Mean Predominant water depth across AA	∑PREDOMINANT_DEPTH across plots all sampled 100-m^2 plots/5 plots	C
MAX_H2O_ DEPTH	Maximum water depth	Highest value for MAXIMUM_DEPTH across five 100-m^2 plots	C
FREQ_H2O	Frequency of occurrence of water across 100-m^2 plots	(# of 100-m^2 plots in which TOTAL_WATER occurs/5 plots) x 100	C
FREQ_H2O_ NOVEG	Frequency of occurrence of water and no vegetation	(# of 100-m^2 plots in which WATER_NOVEG occurs/5 plots) x 100	C
FREQ_H2O_ AQVEG	Frequency of occurrence of water and floating/submerged aquatic vegetation	(# of 100-m^2 plots in which WATER_AQVEG occurs/5 plots) x 100	C
FREQ_H2O_ EMERGVEG	Frequency of occurrence of water and emergent and/or woody vegetation	(# of 100-m^2 plots in which WATER_EMERGVEG occurs/5 plots) x 100	C
MIN_COV_H2O	Minimum cover of water	Lowest value for TOTAL_WATER across five 100-m^2 plots	C
MAX_COV_H2O	Maximum cover of water	Highest value for TOTAL_WATER across five 100-m^2 plots	C
XCOV_H2O	Total cover of water (percent of Veg Plot area with water = a+b+c ≤ 100%)	S cover of TOTAL_WATER across 5 plots/5 plots	C
XCOV_H2O_ NOVEG	a) % Veg Plot area with water and no vegetation	S cover of WATER_AQVEG across 5 plots/5 plots	C
XCOV_H2O_ AQVEG	b) % Veg Plot area with water and floating/submerged aquatic vegetation	S cover of WATER_NOVEG across 5 plots/5 plots	C
XCOV_H2O_ EMERGVEG	c) % Veg Plot area with water and emergent and/or woody vegetation	S cover of WATER_EMERGVEG across 5 plots/5 plots	C
IMP_H2O	Importance total cover of water (percent of Veg Plot area with water = a+b+c ≤ 100%)	(FREQ_H2O + XCOV_H2O)/2	C
IMP_H2O_ NOVEG	Importance a) % Veg Plot area with water and no vegetation	(FREQ_H2O_NOVEG + COV_H2O_NOVEG)/2	C

METRIC NAME	METRIC DESCRIPTION	**CALCULATION** (listed in White Metric Row), **SPECIES TRAIT TYPE** (if applicable, indicated in Colored Banners)	**METRIC TYPE** (C = condition, S = stress)
IMP_H2O_AQVEG	Importance b) % Veg Plot area with water and floating/submerged aquatic vegetation	(FREQ_H2O_AQVEG + XCOV_H2O_AQVEG)/2	C
IMP_H2O_ EMERGVEG	Importance c) % Veg Plot area with water and emergent and/or woody vegetation	(FREQ_H2O_EMERGVEG + XCOV_H2O_EMERGVEG)/2	C
Section 8.2	***Bareground and Litter***		
N_LITTER_TYPE	Number of unique litter types observed across the five 100-m^2 plots	Count the number of unique litter types (LITTER_THATCH, LITTER_FORB, LITTER_CONIFER, LITTER_DECID, LITTER_BROADLEAF). Count each type only once.	C
XDEPTH_LITTER	Mean depth of litter across all 1-m^2 quadrats in AA	Sum LITTER_DEPTH for all 1-m^2 quadrats/total number of sampled quadrats (usually 10)	C
MEDDEPTH_ LITTER	Median depth of litter across all 1-m^2 quadrats in AA		C
FREQ_LITTER	Frequency of litter	(# of 100-m^2 plots in which TOTAL_LITTER occurs/5 plots) x 100	C
FREQ_BAREGD	Frequency of bareground	(# of 100-m^2 plots in which any one of EXPOSED_SOIL; EXPOSED_GRAVEL; EXPOSED_ROCK occurs/5 plots) x 100	C
FREQ_EXPOSED_ SOIL	Frequency exposed soil/sediment	(# of 100-m^2 plots in which EXPOSED_SOIL occurs/5 plots) x 100	C
FREQ_EXPOSED_ GRAVEL	Frequency exposed gravel/cobble (~2mm to 25cm)	(# of 100-m^2 plots in which EXPOSED_GRAVEL occurs/5 plots) x 100	C
FREQ_EXPOSED_ ROCK	Frequency exposed rock (> 25cm)	(# of 100-m^2 plots in which EXPOSED_ROCK occurs/5 plots) x 100	C
FREQ_WD_FINE	Frequency of fine woody debris (< 5cm diameter)	(# of 100-m^2 plots in which WD_FINE occurs/5 plots) x 100	C
FREQ_WD_ COARSE	Frequency of coarse woody debris (> 5cm diameter)	(# of 100-m^2 plots in which WD_COARSE occurs/5 plots) x 100	C
XCOV_LITTER	Mean Cover of litter	S cover of TOTAL_LITTER across 5 plots/5 plots	C
XCOV_BAREGD	Mean cover of bareground	S cover of EXPOSED_SOIL + EXPOSED_GRAVEL + EXPOSED_ROCK across 5 plots/5 plots	C

METRIC NAME	METRIC DESCRIPTION	**CALCULATION** (listed in White Metric Row), **SPECIES TRAIT TYPE** (if applicable, indicated in Colored Banners)	**METRIC TYPE** (C = condition, S = stress)
XCOV_EXPOSED_SOIL	Mean Cover exposed soil/sediment	S cover of EXPOSED_SOIL across 5 plots/5 plots	C
XCOV_EXPOSED_GRAVEL	Mean Cover exposed gravel/cobble (~2mm to 25cm)	S cover of EXPOSED_GRAVEL across 5 plots/5 plots	C
XCOV_EXPOSED_ROCK	c) Cover exposed rock (> 25cm)	S cover of EXPOSED_ROCK across 5 plots/5 plots	C
XCOV_WD_FINE	Mean Cover of fine woody debris (< 5cm diameter)	S cover of WD_FINE across 5 plots/5 plots	C
XCOV_WD_COARSE	Mean Cover of coarse woody debris (> 5cm diameter)	S cover of WD_COARSE across 5 plots/5 plots	C
IMP_LITTER	Importance of litter	(FREQ_LITTER + XCOV_LITTER)/2	C
IMP_BAREGD	Importance of bare ground	(FREQ_BAREGD + XCOV_BAREGD)/2	C
IMP_EXPOSED_SOIL	Importance exposed soil/sediment	(FREQ_EXPOSED_SOIL + XCOV_EXPOSED_SOIL)/2	C
IMP_EXPOSED_GRAVEL	Importance exposed gravel/cobble (~2mm to 25cm)	(FRQ_EXPOSED_GRAVEL + XCOV_EXPOSED_GRAVEL)/2	C
IMP_EXPOSED_ROCK	Importance exposed rock (> 25cm)	(FREQ_EXPOSED_ROCK + XCOV_EXPOSED_ROCK)/2	C
IMP_WD_FINE	Importance of fine woody debris (< 5cm diameter)	(FREQ_WD_FINE + XCOV_WD_FINE)/2	C
IMP_WD_COARSE	Importance of coarse woody debris (> 5cm diameter)	(FREQ_WD_COARSE+ XCOV_WD_COARSE)/2	C