Plot Data: CVS Levels 1 & 2

GENERAL INFORMATION

Project Number:

Project Name:

Team #:

Plot:

☐ Level 1 (planted stems only)
☐ Level 2 (planted and natural stems)

Start Date: /   /
dd/mmm/yyyy e.g. 15 / JAN / 2007

Party	Role**
	Plot Leader

**Roles: Co-leader, Assistant, Guide, Land owner, Taxonomist, Other

Soil Drainage*

☐ Excessively drained
☐ Somewhat excessively drained
☐ Well drained
☐ Moderately well drained
☐ Somewhat poorly drained
☐ Poorly drained
☐ Very poorly drained

WATER

Percent of Plot Submerged:

_____ %

Mean Water Depth Now: ___ cm

TAXONOMIC STANDARD USED FOR PLANT IDENTIFICATION

Authority: _____ , **Publ. Date:** _____

LOCATION

General:

State: County:

Quadrangle:

Place Names: 1)

2)   3)

EEP Reach:

Land Owner:

⊗ **GPS Receiver Location** (m):
x=   y=

Coordinate System:
☐ Lat/Long ☐ UTM ☐ State Plane
☐ Other (specify):
_____

Coord. Units:
☐ deg. ☐ deg. min.
☐ deg. min. sec.
☐ m ☐ ft ☐ _____

Datum:
☐ NAD83/WGS84 ☐ NAD27

Zone:
(if applicable)

Lat: (or **Northing**)

Long: (or **Easting**)

Coordinate Accuracy (m radius):
e.g. 30

GPS File Name:

SITE CHARACTERISTICS

Elevation: ±   ☐m
                              ☐ft.

Slope (degrees):

Aspect (degrees):

Compass Type: ☐ magnetic ☐ true

Plot Placement   (check 1 or more)
☐ Representative
☐ Random
☐ Stratified
☐ Transect component
☐ Systematic (grid)
☐ Capture specific feature

Further details of placement can be recorded in Plot Rationale.

PLOT DIAGRAM

Fill in *ONE* of the templates below, using the key to draw GPS location, photos and posts. Edit shape if plot doesn't match one of the templates. Draw any landmarks, such as streams, banks, fences, etc.

Standard 10m x 10m
(14.142m diagonal):
Y-axis

Plot X-Axis Bearing:
_____ °
X-axis

Non-standard 5m x 20m
(20.616m diagonal):
Y
X

●Posts
(x,y)
(meters)
(,)
(,)
(,)
(,)
(,)
(,)

Key
◎ Plot origin (0,0) point
⊗ GPS location point
○→ photo taken, with direction
● posts

Plot Size (ares, default=1):
(An "are" is 100 m²)

○→ Photo Identifier(s):

Plot Credit Type (check up to two): ☐Riparian Buffer Credit ☐Stream Credit ☐Wetland Credit

Date plot was last planted (MM/YYYY):
(baseline data or if planted after last monitoring)

Heavy plot grading? ☐Yes ☐No ☐Unknown
(≥ 50% of plot, ≥ 6" in depth)

NOTES
If more space is needed, check the box and use back of datasheets.

Layout: (anything unusual about plot layout and shape)

☐ more...

Plot Location: (directions to plot, landscape content)

☐ more...

Plot Rationale: (why location was chosen for the plot)

☐ more...

Other Notes: (invasive species, erosion, disturbances, etc.)

☐ more...

Plot Data: CVS Level 3

GENERAL INFORMATION

Project Number:

Project Name:

Team:

Plot:

Start Date: ___ / ___ / ___
dd/mmm/yyyy e.g. 15 / JAN / 2007

End Date (if >1 day): ___ / ___ / ___

Party	Role**
	Plot Leader

**Roles: Co-leader, Assistant, Guide, Land owner, Taxonomist, Other

Soil Drainage* / Salinity*

Soil Drainage*
- □ Excessively drained
- □ Somewhat excessively
- □ Well drained
- □ Moderately well d.
- □ Somewhat poorly d.
- □ Poorly drained
- □ Very poorly drained

Salinity*
- □ Saltwater
- □ Brackish
- □ Fresh
- □ Upland (n/a)

Soil Series / Type:

Soil Series Source:

Soil Texture*:

Rock Type*:

Surficial Deposits*:

Soil Descr.:

Classification* Fit:excellent,good, fair, poor; Conf: high, med, low
Provisional comm._____
Comm.(1)_____ Fit=__ Conf=__
Comm.(2)_____ Fit=__ Conf=__
Classifier _____ Date ___/___/___

TAXONOMIC STANDARD USED FOR PLANTS
Authority: _____, **Publ. Date:** _____

LOCATION

General:

State: County:

Quadrangle:

Place Names: 1)

2)   3)

EEP Reach:

Land Owner:

Source of coordinates:
(map, GPS, survey)

⊗ GPS location in plot (meters):
x=   y=

Coordinate System: / Coord. Units:

Coordinate System:
- □ Lat/Long □ UTM □ State Plane
- □ Other (specify): _____

Coord. Units:
- □ deg. □ deg. min.
- □ m □ ft □ _____

Datum:
□ NAD83/WGS84 □ NAD27

Zone: (if applicable)

Lat: **(or Northing)**

Long: **(or Easting)**

Coordinate Accuracy (m radius):

GPS File Name:

SITE CHARACTERISTICS

Elevation: ±   □ m □ ft.

Slope (degrees):

Aspect (degrees):

Compass Type: □ magnetic □ true

Plot Placement: (check 1 or more)
- □ Representative
- □ Random
- □ Stratified
- □ Transect component
- □ Systematic (grid)
- □ Capture specific feature

PLOT DIAGRAM:
Draw plot boundaries and show location of any landmarks and objects in the key below. Also indicate X and Y dimensions of plot, in meters.

Plot X-Axis Bearing: _____ °

Key: ◎ Plot origin (0,0) point   ⊗ GPS location point   ◯→ Photo taken, with direction   ● Location of posts

Plot Size (ares):

◯→ Photo Identifier(s):

Topographic Position*
- □ Interfluve (crest, summit, ridge)
- □ High slope (shoulder, upper, convex)
- □ High level
- □ Midslope
- □ Backslope (cliff)
- □ Step in slope
- □ Lowslope (lower, foot, colluvial)
- □ Toeslope
- □ Low level (terrace)
- □ Channel wall (bank)
- □ Channel bed (valley bottom)
- □ Basin floor (depression)
- □ Other: _____

COVER BY STRATA

Canopy Height (m):

Strata	Height Range (m)	Total Cover (%)
Tree	3-____	
Shrub	1-3	
Herb	0-1	
(**F**loating)	-	
(**A**quatic Submerged)	-	

Height defaults listed, but can be edited if other values better suit vegetation.

● Posts (x,y) (meters)
(	,	)
(	,	)
(	,	)
(	,	)
(	,	)
(	,	)
(	,	)

Hydrologic Regime*
- □ Upland (seldom flooded)
- □ Intermittently/seasonally saturated (seldom flooded)
- □ Permanently/ semipermanently saturated (dry < 1 / yr, seldom flooded)
- □ Occasionally flooded (<1 / yr)
- □ Temporarily flooded
- □ Intermittently flooded
- □ Semipermanently flooded
- □ Permanently flooded
- □ Tidally flooded - daily
- □ Tidally flooded - monthly
- □ Tidally flooded - irregular (wind, storms)
- □ Unknown

WATER
Percent of Plot Submerged: ____ %
Mean Water Depth Now: ____ cm
Closest Dist. to Shore: _____ m

Landform Type*:

NOTES
If more space is needed, check the box and use back of datasheets

Date plot was last planted (MM/YYYY):
(baseline or if since last monitoring)

Layout: (anything unusual about plot layout and shape)
□ more...

Plot Location: (directions to plot, landscape content)
□ more...

Plot Rationale: (why location was chosen for the plot)
□ more...

Vegetation: (characterization of community, dominants, and principle strata)
□ more...

Plot Data: CVS Levels 4 & 5

page 1 of 2

GENERAL INFORMATION

Project Number:

Project Name:

Team:

Plot:

☐ Level 4 (no nested corners sampled)
☐ Level 5 (nested corners sampled)

Start Date: / /
dd/mmm/yyyy e.g. 15 / JAN / 2007

End Date (if >1 day): / /

Party	Role**
	Plot Leader

**Roles: Co-leader, Assistant, Guide, Land owner, Taxonomist, Other

SAMPLING QUALITY*

Effort Level:
☐ Very thorough
☐ Accurate
☐ Hurried

Taxonomic Accuracy:
(for each category)

Category	High	Moderate	Low	Not sampled
Vascular:				n/a
Bryophyte:				
Lichen:				

Classification* Fit:excellent,good, fair, poor; Conf: high, med, low
Provisional comm._____
Comm.(1)_____ Fit=__ Conf=__
Comm.(2)_____ Fit=__ Conf=__
Classifier _____ Date ___/___/___

TAXONOMIC STANDARD USED FOR PLANTS
Authority: _____, **Publ. Date:** _____

LOCATION

General:

State: County:

Quadrangle:

Place Names: 1)

2)   3)

Land Owner:

Data Confidentiality:
Check one: ☐ Public Data   ☐ Private Data
☐ Fuzz 1 km ☐ Fuzz 10 km ☐ Fuzz 100 km

Reason:
If data not public, why?

Source of coordinates (map, GPS):

⊗ GPS location in plot (meters):
x=   y=

Coordinate System:
☐ Lat/Long ☐ UTM ☐ State Plane
☐ Other (specify): _____

Coord. Units:
☐ deg. ☐ deg. min.
☐ m ☐ ft ☐ _____

Datum:
☐ NAD83/WGS84 ☐ NAD27

Zone:
(if applicable)

Lat: (or **Northing**)

Long: (or **Easting**)

Coord. Accuracy (m radius):

GPS File Name:

SITE CHARACTERISTICS
Elevation: ±   ☐m ☐ft.
Slope (degrees):
Aspect (degrees):
Compass Type: ☐ magnetic ☐ true

Plot Placement:
(check 1 or more)
☐ Representative
☐ Random
☐ Stratified
☐ Transect component
☐ Systematic (grid)
☐ Capture specific feature

PLOT DIAGRAM

Fill in the template below (2+ modules) or one on the right (1 module plot), using the key below. Edit shape if needed, to show actual arrangement of modules, sampled corners, and location of any landmarks.

Standard one module plot:
(14.142m diagonal)

Non-standard 5m x 20m plot:
(20.616m diagonal)

2-10 module plot:

Plot X-Axis Bearing: _____°

Diagram Key: ◎ Plot origin (0,0) point   ⊗ GPS location point   ○→ photo taken, with direction   ● location of permanent posts

Plot Size for Cover Data (ares): __

☐ Stems not sampled on this plot
☐ Stems present ☐ Stems absent
Plot Size, Stems (ares): ____

Depth (1-5):   (Level 5 Only)

Intensive Modules: , , ,

○→ Photo Identifier(s):

COVER BY STRATA
Canopy Height (m):

Strata	**Height Range (m)**	**Total Cover (%)**
Tree	-	
Shrub	-	
Herb	-	
(**F**loating)	-	
(**A**quatic Submerged)	-	

Strata in parentheses often not present, but should be filled in if they exist.

NOTES
If more space is needed, check the box and use back of datasheets.

Layout: (anything unusual about plot layout and shape)
☐ more...

Plot Location: (directions to plot, landscape content)
☐ more...

Plot Rationale: (why location was chosen for the plot)
☐ more...

Vegetation: (characterization of community, dominants, and principle strata)
☐ more...

OVER

Required Fields in Bold and Underlined.   *Definitions & values in Definitions section of the CVS Field Guide.   EntryTool 2.3   ©2012 Carolina Vegetation Survey. cvs.bio.unc.edu   Form PLT45, ver 8.3

SOIL INSTRUCTIONS

<u>Depths (right):</u> After measuring a corner (at the circle) cross it out on the diagram below.
<u>Samples (below):</u> Mark location of soil samples with a triangle and horizon, e.g.: △B
<u>Other soil data:</u> enter below.

3	1m 4	3	4
	#9	#8	
2	1	2	1
1	2	1	2
	#2	#3	
4	3 4		3

SOIL SAMPLES

Module* 1-10, S (plot deep sample)	**Horizon** (A,B,C)

Soil Series / Type:

Soil Series Source:

Soil Texture*:

Rock Type*:

Surficial Deposits*:

Soil Description:

SOIL DEPTHS

Length of soil probe: _____cm
standard corners given below, correct if needed

Module	Corner	Soil Depth (cm)
2	1	
2	2	
2	3	
2	4	
3	1	
3	2	
3	3	
3	4	
8	1	
8	2	
8	3	
8	4	
9	1	
9	2	
9	3	
9	4	

Organic layer depth: _____cm

Homogeneity
☐ Homogeneous
☐ Compositional trend across plot
☐ Conspicuous inclusions
☐ Irregular / pattern mosaic

Stand Size
☐ >1,000 × plot size
☐ > 100 × plot size
☐ 10-100 × plot size
☐ 3-10 × plot size
☐ 1-3 × plot size
☐ < plot size

Landform Type*:

Topographic Position*
☐ Interfluve (crest, summit, ridge)
☐ High slope (shoulder, upper, convex)
☐ High level
☐ Midslope
☐ Backslope (cliff)
☐ Step in slope
☐ Lowslope (lower, foot, colluvial)
☐ Toeslope
☐ Low level (terrace)
☐ Channel wall (bank)
☐ Channel bed (valley bottom)
☐ Basin floor (depression)
☐ Other: _____

EARTH SURFACE & GROUND COVER

Underlying Earth Surface: *(sum =100%)*	percent	Ground Cover: *(each ≤100%)*	percent
Histosol		Coarse Woody Debris >5cm	
Mineral Soil / Sediment		Fine Woody Debris <5cm	
		Litter	
Gravel / Cobble		Duff (F+H)	
		Bryo / Lichen	
Boulder		Water	
Bedrock		*Other (name): _____*	

McNAB INDICES
(degrees)
+ for upslope
- for downslope

at aspect	
+45 degrees	
+90 degrees	
+135 degrees	
+180 degrees	
+225 degrees	
+270 degrees	
+315 degrees	

LFI: Landform Index
(position within landscape)

TSI: Terrain Shape Index
(site micro-topographic shape)

WATER

Hydrologic Regime*
☐ Upland (seldom flooded)
☐ Intermittently / seasonally saturated (seldom flooded)
☐ Permanently / semipermanently saturated (dry < 1 / yr, seldom flooded)
☐ Occasionally flooded (<1 / yr)
☐ Temporarily flooded
☐ Intermittently flooded
☐ Semipermanently flooded
☐ Permanently flooded
☐ Tidally flooded - daily
☐ Tidally flooded - monthly
☐ Tidally flooded - irregular (wind, storms)
☐ Unknown

Salinity*
☐ Saltwater ☐ Fresh
☐ Brackish ☐ Upland (n/a)

Aquatic Vegetation
Mean water depth:___cm
Closest distance to shore: _____ m

Soil Drainage*
☐ Excessively drained
☐ Somewhat excessively
☐ Well drained
☐ Moderately well dr.
☐ Somewhat poorly dr.
☐ Poorly drained
☐ Very poorly drained

DISTURBANCES

Type	Severity (none, L,M,H)	Yrs ago	% of plot	Description
human				
natural				
fire				
clear-cut				
animal				
other				

Current Land Use:

Former Land Use:

Season of Plot Sampling
☐ Typical growing season
☐ Vernal
☐ Aestival
☐ Autumnal
☐ Winter
☐ Temporarily flooded
☐ Temporarily dry

Physiognomy*
☐ I Forest
☐ II Woodland
☐ III Shrubland
☐ IV Dwarf Shrubland
☐ V Herbaceous
☐ VI Nonvascular
☐ VII Sparsely Vegetated
☐ VIII Barren

Additional Notes:
(Representativeness of the plot to the stand, Successional Status, Stand Maturity, etc.)

☐ more...

Planted Woody Stem Data: CVS Level 1

Species Name	**Source**	Coordinates		**Height** (1* cm)	DBH (1 cm)	**Vigor**	Damage
		X (0.1 m)	Y (0.1 m)				

Source: **T**ransplant, **L**ive stake, **B**all and burlap, **P**ot, **Tu**bling, Bare **R**oot, **A**uger, **M**echanically planted, **U**nknown

Vigor: **4**=excellent, **3**=good, **2**=fair, **1**=unlikely to survive year, **0**=Dead, **M**issing.

↓

Damage: **Rem**oval, **Cut**, **Mow**ing, **Beav**er, **Deer**, **Rod**ents, **Ins**ects, **Game**, **Livest**ock, Other/Unknown **Anim**al, Human **Tram**pled, Site Too **Wet**, Site Too **Dry**, **Flood**, **Drou**ght, **Storm**, **Hurr**icane, **Dis**eased, **Vine** Strangulation, **Unkn**own, specify other.

*Height precision is 10cm if 250-400cm and 50cm if >400cm. EntryTool 2.3   ©2012 Carolina Vegetation Survey. cvs.bio.unc.edu   Form PWS12, ver 12.1

Woody Stem Data: CVS Level 2
Planted Woody Stems - individual stems measured

Leader: _____ **Project:** _____ **Team:** _____ **Plot:** _____ **Date:** _____ / _____ / _____

Species Name	Source	Coordinates X (0.1 m)	Coordinates Y (0.1 m)	Height (1* cm)	DBH (1 cm)	Vigor	Damage

Source: **Tr**ansplant, **L**ive stake, **B**all and burlap, **P**ot, **Tu**bling, Bare **R**oot, **A**uger, **M**echanically planted, **U**nknown

Vigor: **4**=excellent, **3**=good, **2**=fair, **1**=unlikely to survive year, **0**=Dead, **M**issing.

↓

*Height precision drops to 10cm if 250-400cm and 50cm if >400cm.

Damage: Removal, Cut, Mowing, Beaver, Deer, Rodents, Insects, Game, Livestock, Other/Unknown Animal, Human Trampled, Site Too Wet, Site Too Dry, Flood, Drought, Storm, Hurricane, Diseased, Vine Strangulation, Unknown, specify other.

Natural Woody Stems - tallied by species

Explanation of cut-off & subsampling:

Height Cut-Off (All stems shorter than this are ignored. If >10cm, explain why to the right.): ☐ 10cm ☐ 50cm ☐ 100cm ☐ 137cm

Species Name	☑ c	SEEDLINGS — HEIGHT CLASSES Sub-Seed	10 cm-50 cm	50 cm-100 cm	100 cm-137 cm	SAPLINGS — DBH Sub-Sapl	0-1 cm	1-2.5	TREES — DBH 2.5-	5-	≥10 (write DBH)
		—				—					
		—				—					
		—				—					
		—				—					
		—				—					
		—				—					
		—				—					

Required if cut-off >10cm or subsample ≠100%.

•1 •2 •3 •4 •5 •6 •7 •8 •9 •10

Natural Woody Stem Data: CVS Levels 2 & 3

Leader: _____ **Project:** _____ **Team:** _____ **Plot:** _____ **Date:** ____/____/_____ **Ares** (=100m²): _____ ➔ | **Explanation of cut-off & subsampling*:**
□ more..

Height Cut-Off (All stems shorter than this are ignored. If >10cm, explain why to the right.): □ 10cm □ 50cm □ 100cm □ 137cm

Species Name	☑ c	Sub-Seed	10 cm-50 cm	50 cm-100 cm	100 cm-137 cm	Sub-Sapl	0-1 cm	1-2.5 cm	2.5-	5-	10-	15-	20-	25-	30-	35-	≥40 (write dbh)
				SEEDLINGS — HEIGHT CLASSES			**SAPLINGS — DBH**					**TREES — DBH**					
		—				—											
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*Required if cut-off >10cm or any subsample ≠100%.   ●1 ●●2 ●●3 ●●●4 ●●●5 ●●●●6 ●●●●7 ●●●●8 ●●●●9 ●●●●10   EntryTool2.2.7   ©2008 Carolina Vegetation Survey.   Form NWS23, ver 8.3
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Natural Woody Stem Data: CVS Levels 4 & 5

Explanation of subsampling*:   □ more...

Leader:_____ Project:_____ Team:____ Plot:_____ Date:___/___/____ Ares:___ Plot Sapling Subsample %:_____ Plot Tree Subsample %:____ Page__ of ___

Species Name	☑c	Mod	Sub Sapl	SAPLINGS — DBH		Sub Tree	TREES — DBH								
				0-1 cm	1-2.5 cm		2.5-	5-	10-	15-	20-	25-	30-	35-	≥40 (write DBH)
			—			—									
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*Explain how & why subsampled. Required if subsample≠100%. ●1 ●●2 ●● 3 ●●●4 ●●●5 ●●●6 ●●●7 ●●●8 ●●●9 ●●●10   EntryTool2.2.7   ©2008 Carolina Vegetation Survey.   Form NWS45, ver 8.1
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Cover Data: CVS Levels 3 & 4

Strata

Column headers are module numbers (level 4 only), with cover codes below:

T	S	H	(F)	(A)	Species Name	c									
						1									
						2									
						3									
						4									
						5									
						6									
						7									
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						32									
						33									
						34									
						35									
						36									

Cover: trace=1; 0-1%=2; 1-2%=3; 2-5%=4; 5-10%=5; 10-25%=6; 25-50%=7; 50-75%=8; 75-95%=9; 95-100%=*

EntryTool2.2.7 Form COV34, v9.1
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Cover Data: CVS Level 5

Leader:_____ **Project:**_____ **Team:**___ **Plot:**_____ **Date:**___/___/____ **Depth** (1-5):___ **Ares:**___ **Page** __ of ___

Strata

Column headers are couplets of module and corner numbers, under which presence values and cover codes are entered (see lists at bottom of page)

T	S	H	(F)	(A)	Species Name	c																					
						1																					
						2																					
						3																					
						4																					
						5																					
						6																					
						7																					
						8																					
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						34																					
						35																					
						36																					

Cover: trace=1; 0-1%=2; 1-2%=3; 2-5%=4; 5-10%=5; 10-25%=6; 25-50%=7; 50-75%=8; 75-95%=9; 95-100%=*
Presence: overhanging=0; 10 x 10m=1; 3.16 x 3.16m=2; 1 x 1m=3; 32 x 32cm=4; 10 x 10cm=5

EntryTool2.2.7   Form COV5, v9.1
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Strip Plot Inventory - Project Stem Density

Project: _____ **Team:** _S___ **Plot/Transect #:** _____ **Date:** _____/_____/_____ Page ___ of _____

Surveyors: | **Distance to Previous Transect:** 20 m

| **Latitude/Northing of Origin:** | | **Datum:** | | **Zone:** | |

| **Longitude/Easting of Origin:** | | **Accuracy (m):** | | **System:** | □ Lat/Long □ UTM □ State Plane |

| **Transect Bearing from Origin:** | ° | Time Start:
Time End: | _____ | **Units:** | □ deg. □ deg. min. □ deg. min. sec.
□ m □ ft □ _____ |

Species or Stream start/stop or High Density (HD) start/stop or transect stop	Transect Distance (min = every 10 m)	Tally			
		1m - 1.37m tall	0 - 5 DBH	5 -25 DBH	25+ cm DBH
Transect start	0 m	------------------	-----------	-------------	--------------------

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