

CLEVELAND METROPARKS Plant Community Assessment Program: Quality Control Form



Project Label:

PCAP

Plot No: 1097

Date Sampled: 8/26/15

Lead: CKM

Comment required if item answer is NO

Parking/Access outside of Park Boundaries:	Y	<input checked="" type="radio"/> N	If yes, write details in Comments section below
Field journals completed	Y	<input checked="" type="radio"/> N	
Site sketch made on 1:3000 map?	<input checked="" type="radio"/> Y	N	
Check cover page	X-axis Bearing of plot recorded	<input checked="" type="radio"/> Y	N
	GPS coords. Recorded	<input checked="" type="radio"/> Y	N
	North direction recorded	<input checked="" type="radio"/> Y	N
	Photographs taken?	<input checked="" type="radio"/> Y	N
	Relocated Pins Mapped	<input checked="" type="radio"/> Y	N
Plot No., Date agreement on all pages?	<input checked="" type="radio"/> Y	N	
Header data completed all pages?	<input checked="" type="radio"/> Y	N	
Cover classes recorded in all Intensive modules	<input checked="" type="radio"/> Y	N	
Browse Level By Species	<input checked="" type="radio"/> Y	N	
Woody stem quality control check	<input checked="" type="radio"/> Y	N	Check every line and cross check with the Tree Cover Sheet
Invasive plant quality control check	Y	N	NA
Ash trees mapped	<input checked="" type="radio"/> Y	N	
Completed Forest Pest/Pathogen Datasheet	<input checked="" type="radio"/> Y	N	
Cover by Strata? (confirm cover type)	<input checked="" type="radio"/> Y	N	
Soil samples collected with matching plot #.	<input checked="" type="radio"/> Y	N	
Cross check 2010 information	<input checked="" type="radio"/> Y	N	Highlight any changes from 2010 information
Vouchers labeled on datasheet with initials and number	<input checked="" type="radio"/> Y	N	
Vouchers labeled on collection bag	<input checked="" type="radio"/> Y	N	
Pink flags removed	<input checked="" type="radio"/> Y	N	
Data sheet QA before leaving site?	<input checked="" type="radio"/> Y	N	
Common equipment returned to tub.	Y	N	
Data sheets scanned?			Enter date to left
Final data sheets scanned?			Enter date to left
Buffer Widths measured?	Y	N	
Web Soil Survey	Y	N	
Voucher Location	Refrigerator	Y	N
(# vouchers collected)	Press (#)		Enter number to left
CKM 434-435	Drier	Y	N
	Identified	Y	N
	Mounted	Y	N
	Thrown away	Y	N

Nested Corners
MOD 2 (1,2)

Strata hts.

Tree 0-5

Shrub 5-0.5

Herb 0.5-0

- 2 pages

GRTS point verification: Is plot sampleable?	
<input type="radio"/> Yes	Original GRTS point is sampleable
<input type="radio"/> No	Original GRTS point lands in a non-sampleable area (fill in category below)
	<input type="checkbox"/> Point falls in a water (i.e. river, lake)
	<input type="checkbox"/> Managed mowed area (i.e. golf course, picnic area, right-of-way)
	<input type="checkbox"/> Paved area (i.e. parkinglot, road)
	<input type="checkbox"/> Unsafe to sample (i.e. steep slope)
	<input type="checkbox"/> Other

Additional Comments:

Found all pins except ~~some~~ 30m left side, and 30m + 10m right side
C4890 - Photo of erosion near origin

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

GENERAL INFORMATION	
Project Label:	PCAP
Project Name:	02 NC2015
Plot Name:	Strawfield Lake Heights
Plot No.:	1097
<input type="checkbox"/> Level 4 (no nested corners sampled) <input checked="" type="checkbox"/> Level 5 (nested corners sampled)	
Date (mm/dd/yyyy):	8/25/2015
End date (if > 1 day):	8/26/2015
Party:	C. Minney
Role:	Plot leader
	D. Sweet
	M. Giffney
	Woody Tech
	T. Cochran
	Woody Tech
** Roles: Collector, Asst. Guide, Owner, Taxonomist, etc.	
PLOT NOT SAMPLED: <input type="checkbox"/> Other	
<input type="checkbox"/> Perm. water <input type="checkbox"/> Paved <input type="checkbox"/> Slope <input type="checkbox"/> Safety	
SAMPLING QUALITY*	
Effort Level:	subjective evaluation of how much effort put into sampling. Hurried plots may still provide good data
<input checked="" type="checkbox"/> Very thorough <input type="checkbox"/> Accurate <input type="checkbox"/> Hurried <input type="checkbox"/> Hurried	
TAXONOMIC ACCURACY	
high	moderate
low	not sampled
vascular	n/a
bryo	
lichen	
TAXONOMIC STANDARD	
Authority:	G&C Pub Date: 1998

LOCATION	
State:	OH
County:	Lake
Quadrangle:	Mayfield Heights
Local Place Names:	Strawberry Picnic Area
Landowner:	CMP
Data Confidentiality:	
Check one:	<input checked="" type="checkbox"/> Public data <input type="checkbox"/> Private Data <input type="checkbox"/> Fuzz 100m <input type="checkbox"/> Fuzz 250m <input type="checkbox"/> Fuzz 500m
Reason:	
If data not public why?	
Source of coordinates:	<input type="checkbox"/> MAP <input checked="" type="checkbox"/> GPS
Coordinate system:	<input checked="" type="checkbox"/> Coord. Units <input type="checkbox"/> Lat/Long <input type="checkbox"/> UTM <input type="checkbox"/> StatePlane <input type="checkbox"/> deg <input type="checkbox"/> deg mm <input type="checkbox"/> Other (specify)
Datum:	<input checked="" type="checkbox"/> NAD83/WGS84 <input type="checkbox"/> NAD27
GPS location in plot x=0 to 5, y=-1.0 to 1.0:	
x = 0 y = 0 (base of plot x=0, y=0)	
Latitude:	41.57837
Longitude:	81.43095
Coord. Accuracy:	<input checked="" type="checkbox"/> m <input type="checkbox"/> ft
GPS File Name:	1097 2015
Plot size for cover data:	<input type="checkbox"/> 1 (hectares)
X-axis Bearing of plot:	188°
Depth: (1-5):	4
Intensive modules:	2, 3, 8, 9
Camera No.:	4
Photo Nos.:	C4 1889
Plot placement:	<input checked="" type="checkbox"/> GRTS <input type="checkbox"/> Representative <input type="checkbox"/> Random <input type="checkbox"/> Stratified Random <input type="checkbox"/> Transect component <input type="checkbox"/> Systematic (grid) <input type="checkbox"/> Capture specific feature <input type="checkbox"/> Other

NOTES: Include Layout (any unusual shape details), Location (directions and landscape content), Rationale (why here), and Veg Characterization (description of community, dominants, strata, BROWSE). Additional notes in space on back.

Diagram: Plot origin (0,0) point, GPS location point, photo taken, location of permanent posts

Key: Plot origin (0,0) point, GPS location point, photo taken, location of permanent posts

Diagram: A grid diagram showing a 2x5 layout of plots. The grid is labeled with plot numbers 1 through 10. Plot 1 is at the top left, and Plot 10 is at the top right. The grid is oriented with a north arrow pointing towards the top right. The diagram is labeled "GRIDLE TRAIL" and "ROAD".

Layout: 2 x 5

Location: Park at Strawberry Picnic Area. Plot is ~100m SW of parking area. It is within ~10m of Butter milk Falls PKway on the south side. It is also with 10m of bridle trail.

Rationale: GRTS

Veg Characterization: The canopy is dominated by Sugar Maple and Beech. The shrub layer is dominated by Beech and Sugar Maple. The herb layer is dominated by Acer seedlings with weedy stuff on edges.

OVER

CLEVELAND METROPARKS Plant Community Assessment Program - Background Data Sheet

Project Name: 02 NC 2015

Plot No.: 1097

Project Label: PCAP

Page 2 of 2

MODIFIED NATURESERVE CLASS*

CODE (on separate form):

Fit= Conf=

COMMUNITY NAME:

Beech-Maple Forest

HOMOGENEITY

☐ Homogeneous
☐ Compositional trend across the plot

☒ Conspicuous inclusions
☐ Irregular/pattern mosaic

DISTURBANCES

type*	severity**	hrs ago	% of plot	description
Human				
Natural	ML	0	5	Erosion near origin
Fire				
Cut				
Animal	M	0	100	Deer Browse
Other	MH	0	40	Edge effect/Beech Disease

**L=low, ML=med low, M=med, MH=med high, H=high, VH=very high

Current Land Use: CMP

Former Land Use:

SALINITY*

☐ Saltwater
☐ Brackish
☐ Fresh
☒ Upland (n/a)

HYDROLOGIC REGIME*

☒ Upland (seldom flooded)
☐ Intermittently/seasonally saturated (seldom flooded)
☐ Permanently/Semipermanent. saturated (dry <1/yr, seldom flooded)
☐ Occasionally flooded (<1/yr)
☐ Temporarity flooded

☐ Intermittently flooded
☐ Semipermanently flooded
☐ Permanently flooded
☐ Tidal/Seiche flooded daily
☐ Tidal/Seiche flooded monthly
☐ Tidal/Seiche flooded irregular (e.g. wind, storms)
☐ Unknown

(by default unless plot is a wetland)

Additional notes & diagrams: (Representativeness of plot to the stand, successional status, maturity, etc.)

The stand is mature and un-evenaged. Nice examples of Beech. Impressive number of Acer seedlings, all of which are A. saccharum. Plot would be sparse if not for the Acer seedlings and the edge. Podophyllum is almost completely wilted, its cover would be more substantial otherwise. The creek running through Mud 10 + 1 is causing some erosion. Beech Disease is heavy. The edges which are mostly downslope are where most of the diversity is, they are wet-footed and successional. A lot of fresh browse occurs here. Plot photo taken at 10m centerline which may cause confusion.

Page 1 of 2

Plot area (ha)



Cleveland Metroparks

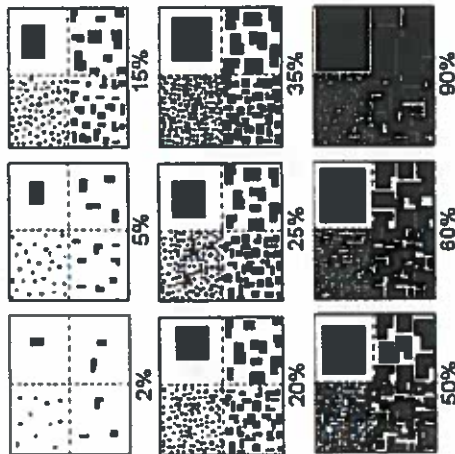
Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

Strata - Cov. entire plot

[illegible]

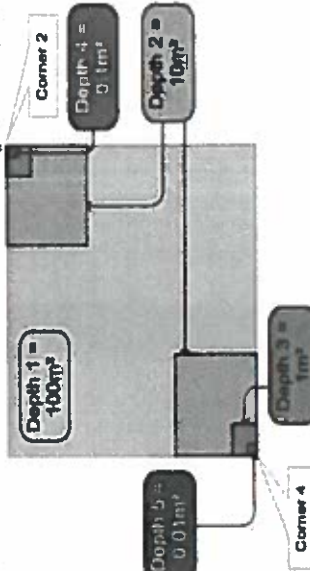
EXAMPLES OF PERCENT OF AREA COVERED

The following graphics can be used for various data elements to convey "Amount" or "Quality". NOTE: When any given box, each quadrant contains the same total area covered, just different sized objects.



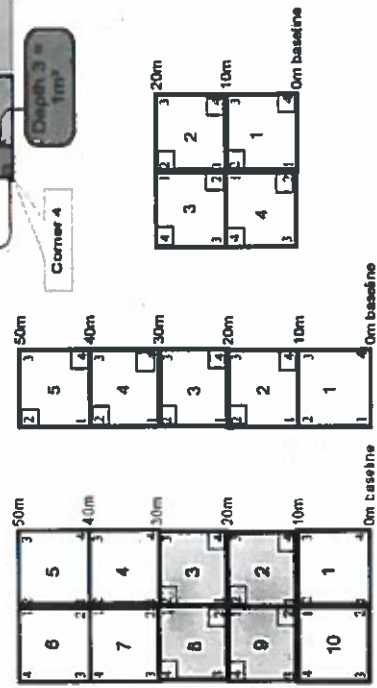
cover class	% cover	midpoint
1	solitary or few	0.0001
2	0-1%	0.005
3	1-2%	0.015
4	2-5%	0.035
5	5-10%	0.075
6	10-25%	0.175
7	25-50%	0.375
8	50-75%	0.625
9	75-95%	0.850
10	95-100%	0.975

Nested Corners



BROWSE RATING NARRATIVE DESCRIPTION
LOW OR NONE: there is no measurable browse line AND there are very few or no plants 1-m nested quadrat and intensive module. In general, low values relate to less than 10 percent, by numbers of stems browsed.
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas. For example, trilliums may flower and fruit, but jewelweed and arrowwood viburnum exhibit browse.
MEDIUM: browse affects greater than 10 percent and less than 25 percent of stems in the 1 m2 nested quadrat and intensive module. A browse line is usually not evident or obvious for all classes and species of vegetation, but careful examination may show preferential browse and/or browse lines for some species of plants.
MEDIUM HIGH values include evidence of a browse line and 25 percent of stems browsed with very little vegetation regeneration evident. In this rating, for some species of plants, reproduction does not appear to occur or it is very severely limited.
HIGH: greater than 25 percent of the stems of plants in the 1 m2 nested quadrat and intensive module AND a browse line is evident.
VERY HIGH values include extensive browse conditions, where the browse line is very evident AND almost all seedlings and herbs are severely browsed or missing. Browse line may be 5 to 6 feet in height with no or little green growth beneath.

Typical Plot: 50m x 50m. The plot is divided into four 25m x 25m quadrats. Each quadrat is further divided into four 12.5m x 12.5m sub-quadrats. The plot is numbered 1 through 10 in the corners. A key indicates: Plot Origin (center dot), Post (small circle), Module Number (number in a box), Intensive Corner (number in a box), and Tape (line). The plot shows various browse lines and vegetation patterns.



CLEVELAND METROPARKS Plant Community Assessment Program Species Cover Data Sheet

Project Label: PCAP Project name: 02N62015 Plot no.: 1097
 Total modules: 10 Intensive modules: 4 Plot configuration: 2X5

Plot area (ha): .1



Br = Browse Level. Use cover classes to describe amount of browse per species over entire plot

Cleveland
Metroparks

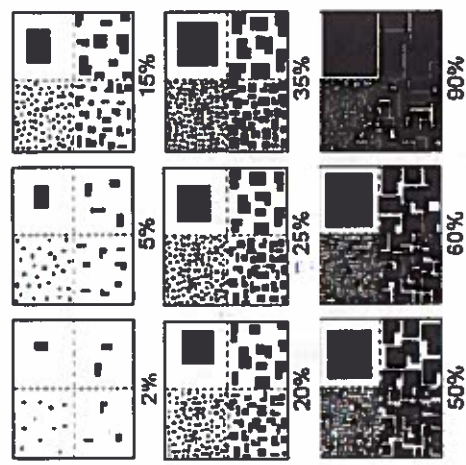
Br = Browse Level Use cover classes to
describe amount of browse per species over
entire plot

Strata - Cov. entire plot

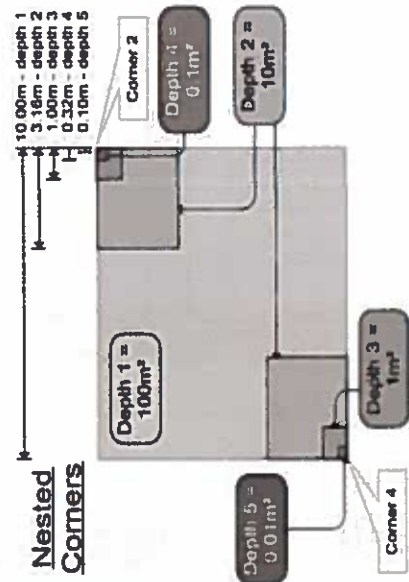
S	H	(F)	(A)	Br	Species	C	Voucher #	Estimate for each intensive module:												mod	corner
								%open water			%unvegetated open water			%unveg. ground (bare soil)			%unveg. litter (bare litter)				
								depth	cov	depth	depth	cov	depth	depth	cov	depth	depth	cov	depth	depth	corner
2					Carex swanii			1		1	1		1	1		1	1		1	1	
2					Loesia virginica																
2				8	Impatiens capensis																
2					Polygonum virginianum																
2					Gum sp.																
2				10	Aster lateriflorus																
1				10	Galium sp.																
2					Hydrocotyle caroliniana																
2					Solidago rugosa																
1					CELASTRUS ORBITATUS																
2					Gum canadense																
2					Oxalis stricta																
2				5	Toxicodendron radicans																
2					Tilia americana																
2					Potentilla simplex																
2					Potentilla 1 Aster ^{perennans} perennans																
2-2					Carpinus caroliniana																
2				7	Carya ovata																
2					Nyssa sylvatica																
2					Crataegus sp.																
2					Quercus rubra																
1					Monotropa uniflora																
2				7	Prenanthes sp.																

EXAMPLES OF PERCENT OF AREA COVERED

The following graphic can be used for various data elements in canopy "Amount" or "Quantity". NOTE: Within any given box, each quadrant contains the same sized area covered, but different sized objects.



cover class	% cover	midpoint
1	solitary or few	0.0001
2	0-1%	0.005
3	1-2%	0.015
4	2-5%	0.035
5	5-10%	0.075
8	10-25%	0.175
7	25-50%	0.375
8	50-75%	0.625
9	75-95%	0.850
10	95-100%	0.875



BROWSE RATING NARRATIVE DESCRIPTION

LOW OR NONE: there is no measurable browse line AND there are very few or no plants 1-m nested quadrat and intensive module. In general, low values relate to less than 10 percent, by numbers of stems browsed.

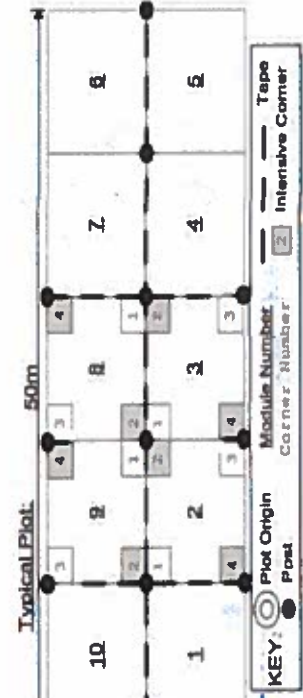
MEDIUM LOW values include evidence of browse at about 10 percent of the stems with no significant impact to plant reproduction evident. In this rating, plants are browsed but preferential species are observed to be reproducing in numbers that appear normal or near-normal in comparison to low browse areas. For example, trilliums may flower and fruit, but jewelweed and arrowwood viburnum exhibit browse.

MEDIUM: browse affects greater than 10 percent and less than 25 percent of stems in the 1 m2 nested quadrat and intensive module. A browse line is usually not evident or obvious for all classes and species of vegetation, but careful examination may show preferential browse and/or browse lines for some species of plants.

MEDIUM HIGH values include evidence of a browse line and 25 percent of stems browsed with very little vegetation regeneration evident. In this rating, for some species of plants, reproduction does not appear to occur or it is very severely limited.

HIGH: greater than 25 percent of the stems of plants in the 1 m2 nested quadrat and intensive module AND a browse line is evident.

VERY HIGH values include extensive browse conditions, where the browse line is very evident AND almost all seedlings and herbs are severely browsed or missing. Browse line may be 5 to 6 feet in height with no or little green growth beneath.



Page 1 of 1

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
84

% COVER		Strata - Cov, entire plot		Prevalence of tree species (X)		mod					R	
T	Br	Species	c	Voucher #	2	3	8	9				
9		<i>Fagus grandifolia</i>			X	X	X	X				
8		<i>Acer saccharum</i>			X	X	X	X				
5		<i>Quercus alba</i>			X	X						
5		<i>Quercus rubra</i>						X				
6		<i>Acer rubrum</i>										
3		<i>Sassafras albidum</i>										
4		<i>Ulmus americana</i>										
5		<i>Fraxinus sp.</i>										
5		<i>Tilia americana</i>						X				
4		<i>Magnolia acuminata</i>							X			

Page of

Plot no.: _____

[illegible]

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet



Project Label: PCAP Project Name: 02N2015 Plot No.: 1097 Page: 1 of 3

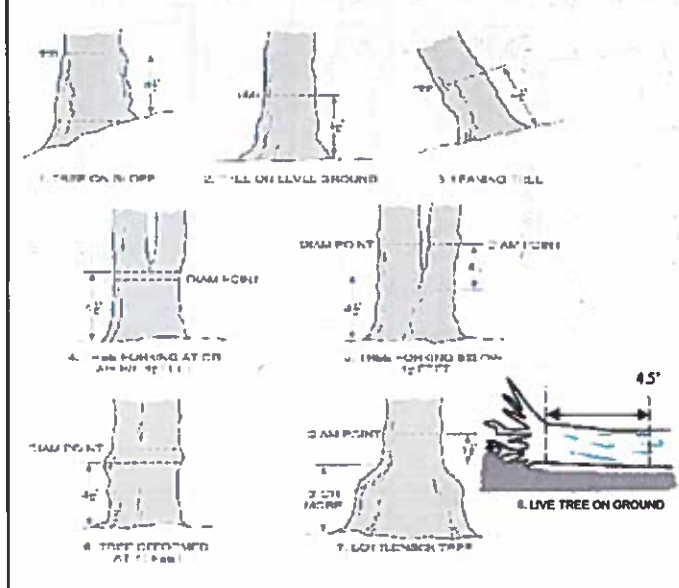
Explain subsample (additional room on back):

mod #	species	c	voucher	# stems 0-1.4m browsed	% sub or super sample	# shrub clumps	size class (cm)	1 0-1	2 1-2.5	3 2.5-4.5	4 5-10	5 10-15	6 15-20	7 20-25	8 25-30	9 30-35	10 35-40	11 >40 (record each tree)
1	Fagus grandifolia																	
1	Acer Saccharum																	
1	Carpinus caroliniana																	
1	Standing dead																	
1	Acer rubrum																	
1	Viburnum acerifolium																	
1	Larrea tridentata																	
2	Acer Saccharum																	
2	Fagus grandifolia																	
2	Standing dead																	
3	Fagus grandifolia																	
3	Standing dead																	
3	Smilax latifolia																	
4	Fagus grandifolia																	
4	Acer Saccharum																	
4	Standing dead																	
4	Acer rubrum																	
4	Carpinus caroliniana																	
4	Smilax latifolia																	
5	Acer Saccharum																	
5	Ostrya virginiana																	
5	Acer rubrum																	
5	Fagus grandifolia																	
5	Standing dead																	

47.6
56.5
SEE 8-31-K

SEE 8-31-15
march
Branch shoot

DBH Measurement Rules



Woody Stem Deer Browse

Record the number of stems/plants between 0.5-1.0 meters tall that exhibit evidence of this years deer browse.

Record using the tally system from 1 to 10



1



2



3



4



5

ASH CANOPY CONDITION

1. **Healthy, full canopy:** A healthy ash canopy is normally thinner than many other trees such as maple.
2. **Thinning canopy:** There aren't as many leaves as there ought to be, but all top branches exposed to sunlight have leaves.
3. **Dieback:** Canopy is thinning and some top branches exposed to sunlight are dead (have no leaves). Lower branches, not exposed to sunlight, die naturally and are not considered.
4. **>50% Dieback:** The canopy has less than half of the leaves that should be there and/or half of the top branches are dead.
5. **Dead canopy:** No leaves remain in the canopy portion of the tree. It still counts as a 5 even if there are epicormic sprouts below the canopy (lowest branch) on the trunk.



A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

(If an ash receives a score of 5 (dead) under canopy condition it must also receive a breakup condition rank as described below)

- A: All main branches contain fine twigs (newly dead).
- B: Over 50% of main branches have fine twigs.
- C: Less than 50% of main branches have fine twigs.
- D: Stem still standing and tertiary main branches present.
- E: Central stem still standing.

CLEVELAND METROPARKS Plant Community Assessment Program Natural Woody Stem Data Sheet

Project Label: PCAP

Project Name: 02NC2015

Plot No.: 1097

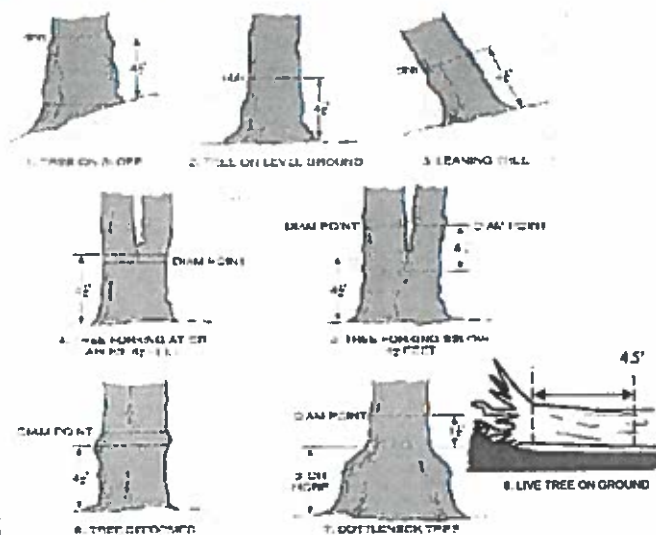
Page: 2 of 3

Explain subsample (additional room on back):

mod #	species	c	voucher#	# stems 0-1.4m or super sample	% sub shrub clumps	size class (cm)	1	2	3	4	5	6	7	8	9	10	11
6	Fagus grandifolia			..	1:	1:	1:	1:	1:	1:	1:	1:	1:	1:	1:	1:	57.5
6	Acer rubrum																
6	Magnolia acuminata																
6	Standing dead																
6	Acer saccharum																
7	Fagus grandifolia																67.7
7	Acer saccharum																43.0
7	Standing dead																
7	Acer Sp. (seedling)																
7	Acer rubrum																
8	Fagus grandifolia																67.7
8	Standing dead																
8	Acer saccharum																
8	No browse																
9	Fagus grandifolia																
9	Acer saccharum																
9	Standing dead																
9	Lindera benzoin																
9	Tilia americana																
9	Carpinus caroliniana																
9	Quercus rubra																56.3
10	Fagus grandifolia																
10	Quercus rubra																
10	Acer saccharum																

March
Breed
Sheet
SRE
9-31-15

DBH Measurement Rules



Woody Stem Deer Browse

Record the number of stems/plants between 0.5-1.0 meters tall that exhibit evidence of this years deer browse.

Record using the tally system from 1 to 10



1



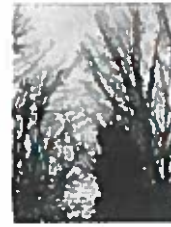
2



3



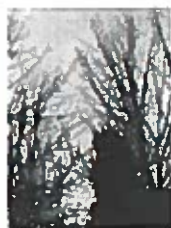
4



5

ASH CANOPY CONDITION

1. **Healthy, full canopy:** A healthy ash canopy is normally thinner than many other trees such as maple.
2. **Thinning canopy:** There aren't as many leaves as there ought to be, but all top branches exposed to sunlight have leaves.
3. **Dieback:** Canopy is thinning and some top branches exposed to sunlight are dead (have no leaves). Lower branches, not exposed to sunlight, die naturally and are not considered.
4. **>50% Dieback:** The canopy has less than half of the leaves that should be there and/or half of the top branches are dead.
5. **Dead canopy:** No leaves remain in the canopy portion of the tree. It still counts as a 5 even if there are epicormic sprouts below the canopy (lowest branch) on the trunk.



A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

(If an ash receives a score of 5 (dead) under canopy condition it must also receive a breakup condition rank as described below)

- A: All main branches contain fine twigs (newly dead).
- B: Over 50% of main branches have fine twigs.
- C: Less than 50% of main branches have fine twigs.
- D: Stem still standing and tertiary main branches present.
- E: Central stem still standing.

Сирељана Методулис

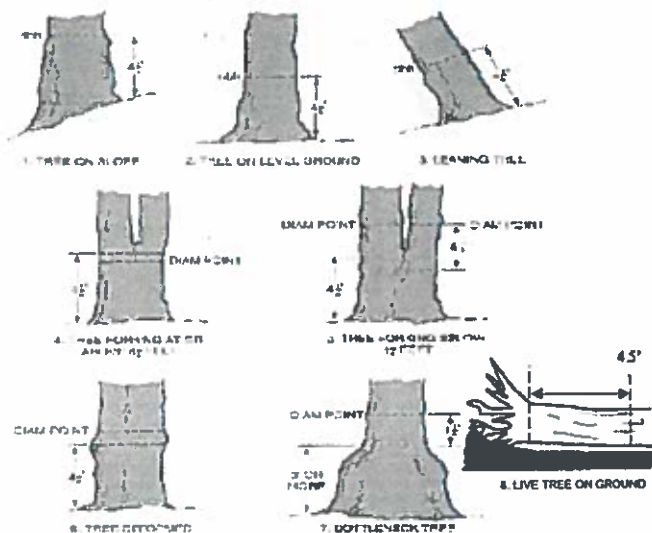
Plot No.: 1097

Page: 3 of 3

globe

[illegible]

DBH Measurement Rules



Woody Stem Deer Browse

Record the number of stems/plants between 0.5-1.0 meters tall that exhibit evidence of this years deer browse.

Record using the tally system from 1 to 10



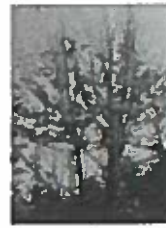
1



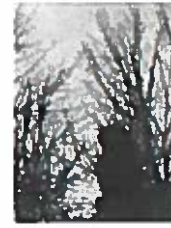
2



3



4



5

ASH CANOPY CONDITION

- 1. Healthy, full canopy:** A healthy ash canopy is normally thinner than many other trees such as maple.
- 2. Thinning canopy:** There aren't as many leaves as there ought to be, but all top branches exposed to sunlight have leaves.
- 3. Dieback:** Canopy is thinning and some top branches exposed to sunlight are dead (have no leaves). Lower branches, not exposed to sunlight, die naturally and are not considered.
- 4. >50% Dieback:** The canopy has less than half of the leaves that should be there and/or half of the top branches are dead.
- 5. Dead canopy:** No leaves remain in the canopy portion of the tree. It still counts as a 5 even if there are epicormic sprouts below the canopy (lowest branch) on the trunk.



A

B

C

D

E

ASH CANOPY BREAKUP CONDITION (for dead trees):

(If an ash receives a score of 5 (dead) under canopy condition it must also receive a breakup condition rank as described below)

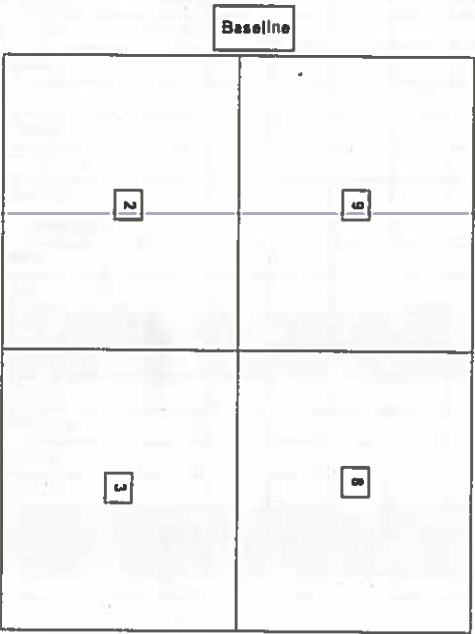
- A:** All main branches contain fine twigs (newly dead).
- B:** Over 50% of main branches have fine twigs.
- C:** Less than 50% of main branches have fine twigs.
- D:** Stem still standing and tertiary main branches present.
- E:** Central stem still standing.

Module	Tree ID	Species	Dead	DBH (cm)	DBH HI	Ash condition	Dead condition	# Ert holes	Epicormic present	Woodpecker holes
	1	None present								
	2									
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									
	11									
	12									
	13									
	14									
	15									
	16									
	17									
	18									
	19									
	20									
	21									
	22									
	23									
	24									
	25									

* If Ash Condition scores 5 (dead) provide breakup score (A-E)
 Count EAB exit holes 1.25m2 x 21.5m
 Woodpecker and epicormic marked present (1) or absent (0)



*** Change intensive module numbers when necessary



Map all ash trees ≥ 10cm in each module using Tree ID number



Tier 1: Early detection/ Rapid response		Presence				GPS
		NE	SE	SW	NW	
Microstegium vimineum	Japanese stillgrass					
Ranunculus ficaria	Lesser Celandine					
Cynanchum lousiae	Black Swallow-wort					
Butomus umbellatus	Flowering Rush					
Tier 2: Assess as Needed						
		# of Plants				comments
		NE	SE	SW	NW	
Acer platanoides	Norway Maple					
Allanthus altissima	Tree of Heaven					
Lonicera japonica	(vine) Japanese Honeysuckle					
Lythrum salicaria	(wetland) Purple Loosestrife					
Aegopodium podagraria	(G-cover) Bishop's Goutweed					
Celastrus orbiculatus	(vine) Asian Bittersweet					
Torilis sp.	Hedgeparsley					
Conium maculatum	(wetland) Poison Hemlock					
Rhamnus cathartica	Common Buckthorn (shrub)					
Berberis thunbergii	Japanese Barberry (shrub)					
Alnus glutinosa	European Alder					
Dipsacus laciniatus	Cut-leaf Teasel					
Elaeagnus umbellata	Autumn Olive (shrub)					
Lonicera maackii	Amur Honeysuckle (shrub)					
Euonymus fortunei	Wintercreeper					
Tier 3: Presence is of Interest						
		# of Plants				comments
		NE	SE	SW	NW	
Convolvulus majalis	(G-cover) Lily of the Valley					
Coronilla varia	(G-cover) Crown Vetch					
Eutherooccus pentaphyllus	Five-leaf Aralia (shrub)					
Pachysandra terminalis	(G-cover) Japanese Pachysandra					
Philadelphus coronarius	Mock Orange (shrub)					
Pulmonaria officinalis	(G-cover) Lungwort					
Rubus phoenicolasius	Wineberry					
Iris pseudacorus	(wetland) Yellow Flag Iris					
Ornithogalum umbellatum	Star of Bethlehem					
Viburnum opulus var. opulus	European Cranberry (shrub)					
Viburnum plicatum	Doublefile Viburnum (shrub)					
Tier 4: Widespread and abundant						
		Presence				comments
		NE	SE	SW	NW	
Alliaria petiolata	Garlic Mustard					
Ligustrum vulgare	Common Privet (shrub)					
L. morrowii, L. tatarica	Bush Honeysuckles (shrub)					
Phalaris arundinacea	Reed Canarygrass					
Phragmites australis	(wetland) Phragmites					
Polygonum cuspidatum	Japanese Knotweed					
Frangula alnus	Glossy Buckthorn (shrub)					
Rosa multiflora	Multiflora Rose (shrub)					
Typha angustifolia, T. x glauca	Cattails (wetland)					
Cirsium arvense	Canada thistle					
Dipsacus fullonum	Common Teasel					
Hesperis matronalis	Dame's Rocket					
Vinca minor	(G-cover) Periwinkle					

Note: For Ground-cover plants record "stem #" but in comment field describe # of colonies and patch size (S,M,L)

4bCM PCAP Invasive species datasheet.xls last revised 6/10/2011 ceh

Natural Resources

Presence
X: yes

of Plants
1: 1-10
2: 11-50
3: >50

of Plants
4: 50-100
5: 100-1,000
6: >1,000

Presence
X: yes

CLEVELAND METROPARKS Plant Community Assessment Program Forest Pest and Pathogens Data Sheet

Project Label: PCAP

Project Name: 02N<2015

Plot No.: 1097

Page: 1 of 1

mod #	Species	voucher#	# shrub clumps	size class (cm) woody stems > 1m										
				1 0-1	2 1-2.5	3 2.5-5	4 5-10	5 10-15	6 15-20	7 20-25	8 25-30	9 30-35	10 35-40	11 >40 (record each tree)
2	<i>Fagus grandifolia</i>													
3	<i>Fagus grandifolia</i>													47.6
4	<i>Fagus grandifolia</i>													
5	<i>Fagus grandifolia</i>													
6	<i>Fagus grandifolia</i>													
7	<i>Fagus grandifolia</i>													52.5
8	<i>Fagus grandifolia</i>													67.4
9	<i>Fagus grandifolia</i>													
10	<i>Fagus grandifolia</i>													
1	<i>Fagus grandifolia</i>													

* IF EVIDENCE OF PEST OR PATHOGEN RECORD TOTAL SPECIES POPULATION IN THE PLOT EVEN THE

Strata	# of stems infected	Severity (H, M, or L)
Tree (size class 3 or above)	110	M
Shrub (size class 2 or below including shrub clumps)	96	H

* Write None Present if no evidence:

Beech (Fungus)

Hemlock (HWA)

Walnut (Tho)

Severity

High = more than 50% of leaf/needle cover exhibiting symptoms

Medium = less than 50% of leaf/needle cover exhibiting symptoms

Low = Only a few leaves or branches are exhibiting symptoms

Class 20 or Below
96 stems
Z class 3
110 stems - All infected
All stems - All infected



Handwritten notes in blue ink, mostly illegible due to fading and bleed-through. Some words like "The" and "and" are visible.

Handwritten notes in blue ink, mostly illegible.

Handwritten notes in blue ink, mostly illegible.

Handwritten notes in blue ink, mostly illegible.

Handwritten notes in blue ink, mostly illegible.

Handwritten notes in blue ink, mostly illegible.

Handwritten notes in blue ink, mostly illegible.

Handwritten notes in blue ink, mostly illegible.

STANDING BIOMASS (required for emergent wetlands) collected in 0.1m dip plots (32x32 cm) from corners 1 and 3 in each intensive module. Required for VIBR-E score calculation. C7=check when collected

Module #	C7	Corner	Corner

CLASSIFICATION

HTT - excellent, F/P and Confidence

Hydrogeomorphic class (WETLANDS ONLY)

<input type="checkbox"/> DEPRESSION	Fit=	Conf=
<input type="checkbox"/> IMPONDMENT	Fit=	Conf=
<input type="checkbox"/> RIVERINE	Fit=	Conf=
<input type="checkbox"/> SLOPE (ground water by drench or on a physical slope)	Fit=	Conf=
<input type="checkbox"/> FRINGING	Fit=	Conf=
<input type="checkbox"/> COASTAL (specify subclass)	Fit=	Conf=
<input type="checkbox"/> BOG (strongly, moderately, weakly ombrotrophic)	Fit=	Conf=

Other EPA VIBR Plant Community Class (WETLANDS ONLY)

<input type="checkbox"/> FOREST	Fit=	Conf=
<input type="checkbox"/> EMERGENT	Fit=	Conf=
<input type="checkbox"/> SHrub	Fit=	Conf=

MICROTOPOGRAPHIC FEATURE COUNTS - Intensive modules only

Plants for microhabitat features. Select one or select two and average the score. NOTE: If mod tabs on a slope automatically gets ranked based on steepness (1-3) to begin + any features present

- 1 feature is absent or functionally absent from the wetland
- 2 feature is present in the wetland in very small amounts or if more common, of low quality
- 3 feature is present in moderate amounts, but not of highest quality, or in small amounts of highest quality
- 4 feature is present in moderate or greater amounts and of highest quality

C.W.D. - count for pieces with minimum 1m length

mod#	center	no. of tussocks depth 3 1x1m	no. of hummocks depth 2 3.1x3.1m	no. macro depressions depth 1 10x10m	C.W.D. (2-12 cm) depth 1 10x10m	C.W.D. (12-10cm) depth 1 10x10m	C.W.D. >40 cm depth 1 10x10m	microhab. interspers. depth 1 10x10m	microhab. SLOPE 10x10m
3		0	0	0	8	2	0	1	1
4		0	0	0	12	1	0	1	1
5		0	0	0	9	0	0	1	1
6		0	0	0	7	1	0	2	1
7		0	0	0	7	0	0	2	1
8		0	0	0	11	2	0	2	1
9		0	0	0					

NOTE: tussock and hummocks are counted in BOTH nested quadrat corners but counts are aggregated.

MCNAB INDICES (degrees) + for up - for down

(FILLED OUT USING GIS PROGRAM - DO NOT FILL OUT IN FIELD)

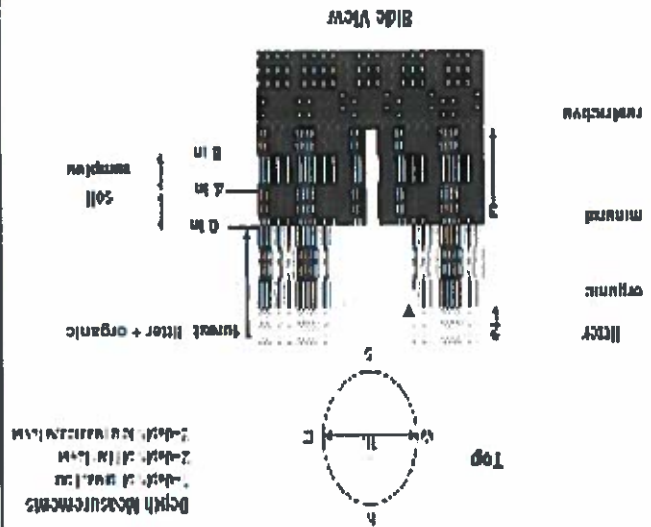
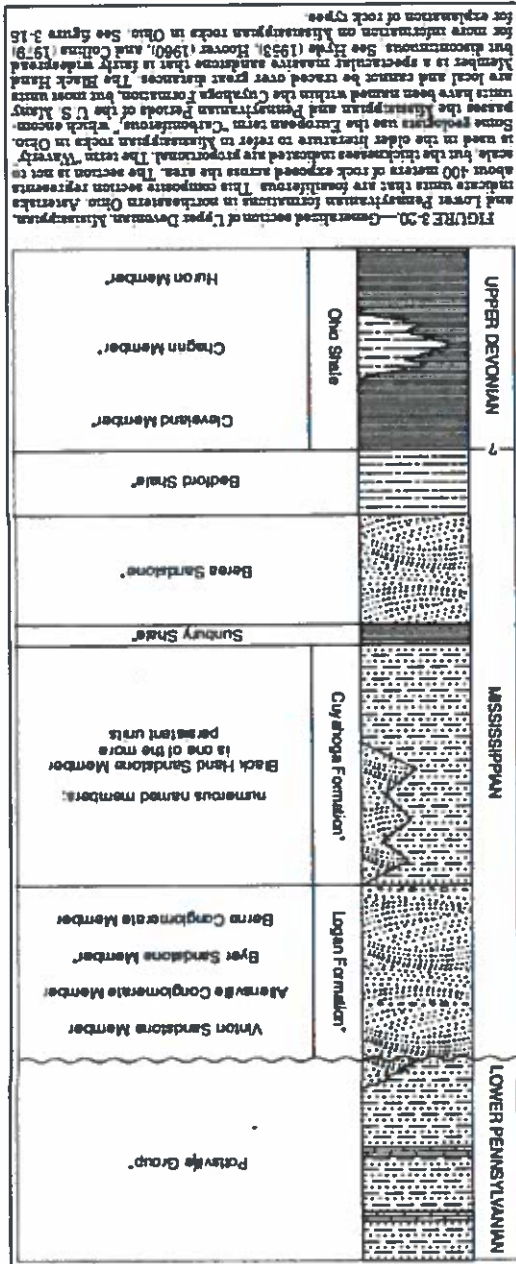
AI aspect	N	NE	E	SE	S	SW	W	NW
45 degrees								
90 degrees								
135 degrees								
180 degrees								
225 degrees								
270 degrees								
315 degrees								

Left is angle of plot to the horizon. TSI is angles formed by local slopes. For TSI measure angle from recorder eye to top of person standing - 10 m away.

* Landform Index (position within landscape)
** Terrain Shape Index (also microtopographic shape)

CROWN COVER (BENSONIEMETER). Make 4 readings per module facing N, S, E, W. Place dot count in corresponding space. (4 dots per grid square)

Module	N	S	E	W
2	0	0	0	0
3	0	0	0	0
8	0	0	0	0
9	0	0	0	0



COVER BY STRATA	
GENERAL FORM	
Tree (generally >5 m)	Tree (overstory), very tall shrubs, liana, epiphyte)
Shrub (generally 0.5 to 5 m)	Tree (sapling), shrub, liana, epiphyte)
Herb (field)	Herb, dwarf-shrub, tree (seedling)
Floating	Floating
Aquatic (submerged)	Submerged

“Very tall shrubs are sometimes included in the tree stratum
“Can also include seedlings of shrubs, i.e. all shrubs <0.5m
“Tree seedlings are often defined as up to 1.4 m height or as <2.5 cm DBH in which case they would span the herb and shrub layers.

Project label: PCAP

Project Name: 22N6205

Plot No.: 1097

SOIL PIT DESCRIPTION: Excavate 20 cm plug with shovel. Describe using Munsell chart, visual exam, texture, and color.

SOIL SAMPLES Standard procedure: collect a soil sample of the top 10 cm of soil from center of each intensive module and composite the sample

Soil pit module # _____ (one per entire plot)

5 cm	matrix color	
	mottle color	
	%mottle	
	oxid roots	Y N
	texture*	
	redox features**	Y N
	hydr. cond.***	I S M D
20 cm	matrix color	
	%mottle	
	oxid roots	Y N
	texture*	
	redox features**	Y N
	hydr. cond.***	I S M D

Soil Collection Method: Munsell (A, B, C)	A
2.3 M.9 centipooled	
Wide Soil Survey Information:	
Soil Series/Type:	
Soil Series Source: Ohio Soil Survey	
Landform type:	
Depth to root layer:	
Parent Material:	
DRAINAGE*	
<input type="checkbox"/> Excessively dr.	<input type="checkbox"/> Somewhat excessively
<input type="checkbox"/> Well drained	<input type="checkbox"/> Moderately well dr.
<input type="checkbox"/> Somewhat poorly dr.	<input type="checkbox"/> Very poorly dr.
<input type="checkbox"/> Impermeable surface	

SOIL DEPTH MEASUREMENT: Measure to the nearest 0.1 cm in center of intensive modules. If >30.5 cm, record as >30

module	1 liter+ organic depth (cm)	2 liter depth (cm)	water depth (cm)	depth set soil (cm)
2	2.7	2.7	0	0
3	2.0	2.0	0	0
8	3.2	3.2	0	0
9	2.6	2.6	0	0

mod2: castings present
no worms observed.
mod3: castings present
no worms observed.
mod8: castings present
no worms observed.
mod9: castings present
no worms observed.

EARTH SURFACE & GROUND COVER		
Underlying Earth Surface*	Ground Cover	percent
Gravel - 100%	percent	percent
limestone	Coarse Woody Debris***	4
Mineral Soil	Fine Woody Debris***	4
Gravel-Cobble*	Litter	80
Boulder**	Duff (Ferm + Humus)	0
Bedrock	Bryophyte-Lichen	1
* Gravel-Cobble = 1/16-10"	Water	2
** Boulder = > 10 in	Bare Soil	2
*** > 5 cm in diameter	Rock/Trail	2
**** < 5 cm in diameter	Other	1

COVER BY STRATA		%
Strata	Height Range (m)	Total Cover (%)
Tree	5.6 - 7	88
Shrub	0.5 - 5.0	73
Herb	0 - 0.5	33
(Floating)*	-	-
(Aquatic)*	-	-

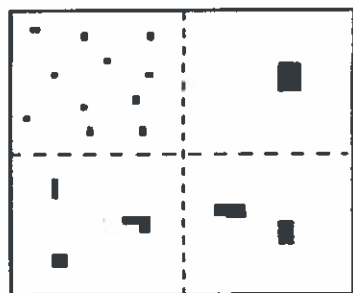
SEE BACK OF PAGE FOR TYPICAL STRATA DESCRIPTIONS. STRATA CAN VARY BY COVER TYPE.	
* rooted and floating or slightly emergent	
** submersed, most plant mass below surface	

TRAIL INFORMATION:	
record type and cover for each	%Cover
Type	
All Purpose	2
Bridle	
Hiking sanctioned	
Boatleg unsanctioned	
Gravel	
Deer	

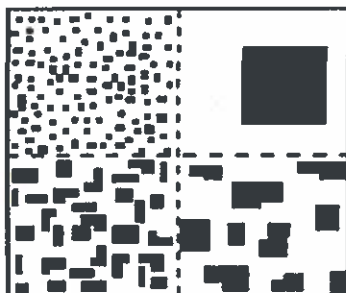
STAND SIZE	
<input type="checkbox"/> >600 x plot size	
<input type="checkbox"/> > 100 x plot size	
<input checked="" type="checkbox"/> 10-100 x plot size	
<input type="checkbox"/> 3-10 x plot size	
<input type="checkbox"/> 1-3 x plot size	
<input type="checkbox"/> < Plot size	

PERCENT MOTTLES (USE CLASS CODES):

Class	Code	Criteria: % of Surface Area Covered
Few	f	< 2
Common	c	2 to < 20
Many	m	≥ 20



2%



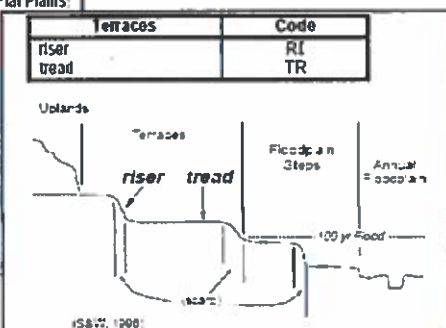
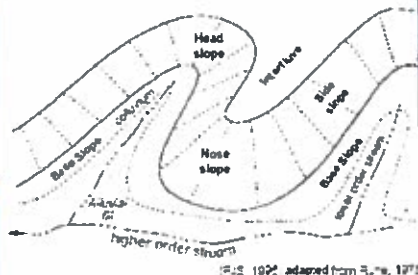
20%

SOIL TEXTURE: Record the code for the soil texture of the 5 cm and 20 cm layers. To estimate texture, collect a soil sample from the appropriate layer and moisten it with water to the consistency of modeling clay/wet newspaper; the sample should be wet enough that all of the particles are saturated but excess water does not freely flow from the sample when squeezed. Attempt to roll the sample into a ball. If the soil will not stay in a ball and has a grainy texture, the texture is either sandy or coarse sandy. If the soil does form a ball, squeeze the sample between your fingers and attempt to form a self-supporting ribbon. Samples which form both a ball and a ribbon should be coded as clayey; samples which form a ball but not a ribbon should be coded as loamy.

- 0= Organic
- 1= Loamy
- 2= Clayey
- 3= Sandy
- 4= Coarse Sand
- 9= Not measured - make plot note

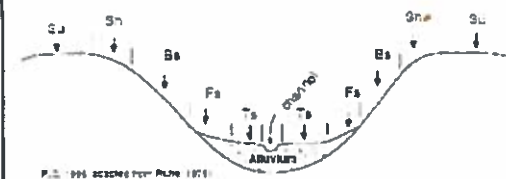
Geomorphic Component - Three-dimensional descriptors of parts of landforms or microfeatures that are best applied to areas. Unique descriptors are available for Hills, Terraces, Mountains, and Flat Plains; e.g., (for Hills) nose slope or NS.

Hills	Code	NASIS
interfluvium	IF	IF
head slope	HS	HS
nose slope	NS	NS
side slope	SS	SS
base slope	BS	BS



Hillslope - Profile Position (Hillslope Position in PDP) - Two-dimensional descriptors of parts of line segments (i.e., slope position) along a transect that runs up and down the slope; e.g., backslope or BS. This is best applied to transects or points, not areas.

Position	Code
summit	SU
shoulder	SH
backslope	BS
footslope	FS
toeslope	TS



HYDROLOGIC REGIME Modified from Grossman et al 1998. (Frequency and duration of flooding.)

UPLAND: Not a wetland. Very rarely flooded.

INTERMITTENTLY/SEASONALLY SATURATED: Dry at least once per year. Surface water is seldom present, but substrate is saturated to surface for extended periods during the growing season.

PERMANENTLY/SEMI-PERMANENTLY SATURATED: Dry less than once per year. Surface water is seldom present, but substrate is saturated to surface for extended periods during the growing season. Equivalent to Cowardin's Saturated modifier.

OCCASIONALLY FLOODED: Surface water can be present for brief periods during growing season, but not in most years. Often characterizes flood-plain upper terraces.

TEMPORARILY FLOODED: Surface water present for brief periods during growing season, but water table usually lies well below soil surface. Often characterizes flood-plain levees and lower terraces. Equivalent to Cowardin's Temporary modifier.

INTERMITTENTLY FLOODED: Substrate is usually exposed, but surface water can be present for variable periods without detectable seasonal periodicity. Inundation is not predictable to a given season and is dependent upon highly localized rain storms. This modifier was developed for use in the arid West for water regimes of Playa lakes, intermittent streams, and dry washes but can be used in other parts of the U.S. where appropriate. This modifier can be applied to both wetland and non-wetland situations. Equivalent to Cowardin's Intermittently Flooded modifier.

SEMI-PERMANENTLY FLOODED (exposed <1/year): Surface water persists throughout the growing season in most years. Land surface is normally saturated when water level drops below soil surface. Includes Cowardin's Intermittently Exposed and Semipermanently Flooded modifiers.

PERMANENTLY FLOODED: Water covers the land surface at all times of the year in all years. Equivalent to Cowardin's "permanently flooded".

UNKNOWN: The hydrologic regime cannot be determined from the available information.