85-18

NELSON LAKE BASELINE STUDY

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INTRODUCTION

For the last ten or twelve years we, in northeastern Illinois, have been burning certain of those plant communities or vegetation types which produce enough graminoid fuel to sustain fire. Mesophytic and dry-mesophytic prairie remnants have received the most attention. The effect of such management has been regarded generally as positive. Woody plant growth is retarded or forestalled, and regular fire has been observed to enrich the prairie in native forbs at the expense of exogenous species. Precious little "hard data", however, exist to testify to the efficacies of controlled burning over the last decade, nor have there been monitoring protocols designed and deployed to record and evaluate dispassionately the fundamental aspects of changing community composition. Very little work, in addition, has been carried out in other communities of the prairie milieu, communities which are not immediately considered as prairie, but nevertheless produce floristic matrices of graminoid fuel. Inasmuch as these communities, marshes, fens, "forests", and bogs, to name a few broad categories, were situated physiographically such that they stood between and among mesic prairie remnants, it would beggar logic to propose that these communities were not themselves under the influence of regular fire.

The character, and hence the effect of fire upon any particular community, was dependent upon the phytomorphology of the graminoid matrix produced by that community. A dense matrix of big bluestem grass, Indian grass, and switch grass, obviously, produces a fire quite different in nature from that which is produced by a matrix of Pennsylvania sedge, poverty oat grass, and leaf litter. Meadow sedge is a heavy fuel, but if ignition is attempted when the leaves are wet it will be to no purpose. Thus, both the frequency and character of the fire varied from community to community, but fire nevertheless was a macroecological factor from which nearly all of the vegetational components of northern Illinois derived their fundamental character.

If, as has been observed, mesic prairies can change fundamentally in composition over a relative short period of time from the deprivation of fire, so also it would seem can its cousins. Our current mind-set, however, is oriented such that we note the trauma which occurs in fire-starved mesic prairies, but fail even to note it in other communities, much less develop understandings of how remnants have changed from their presettlement character to what is manifest today.

In the last few years, Wayne Lampa and I have developed a repeatable technique for monitoring floristic changes in plant communities. It measures a fundamental character of the community--irrespective of community type, records changes, and allows a dispassionate evaluation of the quality of those changes. We have avoided the use of ecological dimensions such as species frequency, dominance, or productivity. Each community has its

own floristic dynamic and inherent species composition and variability, the consistent measurements of which are hampered by seasonal phenology, so it is unwise to qualify floristic composition changes, in and of themselves, as either positive or negative. Some communities are naturally low in phytomass productivity; others are naturally high. Productivity measurements seem to apply most aptly to range management values and do not necessarily address the fundamentals of natural quality in plant communities themselves.

Instead we have chosen to look for denominators which are common to all native plant communities, to measure the degree to which an area supports species which tend to disappear from areas which have suffered from abuse or mismanagement. Basically line transects, composed of numerous evenly spaced quadrats are laid out. The mere species composition of each quadrat is recorded and each quadrat is then evaluated, using the assessment technique described by Swink & Wilhelm (1979). This allows one to index quality across a transect where specific floristic compositon might indeed be quite different, from quadrat to quadrat, in a diverse native system. Natural quality is the fundamental aspect about which we are concerned. If, on the average, the quadrats reflect the presence of species whose fidelity coefficients are set at 4 or 5 or 6, on a scale of 0-10, then this would bespeak a community character which is far more positive than one in which the average plant has a coefficient of only 1 or 2.

This average quality coefficient is of more interest to us than the specific composition or even local population dynamics. Experience has shown us that if natural quality is manifest on a site, if will remain so through swell or swale, low prairie or dry prairie, and from season to season. Table I, for example, illustrates the constancy of natural quality (mean quality coefficient) across a section of Transect 2 at Nelson Lake (quadrats 5-10), while the species compositon varies widely as indexed by Sorensen coefficients of similarity.

Table 1

Mean coefficients of quadrats 5-10 of Transect 2, and their similarity of species composition as indexed by Sorensen coefficients of similarity.

Mean Coef.		5	6	7	8	9	10
4.8	5	1					
5.4	6	.6	1				
4.8	7	.5	.6	1			
5.5	8	.4	.5	.6	1		
4.6	9	.4	.5	.5	.6	1	
4.5	10	.7	.3	.3	.2	.4	1

METHODS

Eight line transects were laid our across various vegetation types at Nelson Lake Fen (see transect summary and map pages). Each transect has been sampled for its vegetation by means of $\frac{1}{4}m^2$ [625 cm^2] quadrats, each 5 paces apart (about 4.5 m). In the wooded transects, 6 and 7, the nearest tree species, 1" DBH or more in diameter, west of the trail was noted, along with its distance from the quadrat; the quadrats were thrown to a distance of about 1 meter west of the trail.

For each quadrat, the Braun-Blanquet cover-abundance indices were estimated for each plant identifiable at the time of sampling. The cover-abundance coefficients will provide some information on the relative abundance of each species along the transect, and later will allow calculations of relative importance values for each species. More importantly, however, the autecological fidelity coefficients, as described by Swink & Wilhelm (1979), were applied, the mean coefficients calculated, and the data plotted to demonstrate graphically the existing synecological quality of vegetation along each transect. In the graphic representations (see Table 2), the mean for each quadrat was averaged with the means from its two neighboring plots. This sequential averaging smooths the curve somewhat and makes actual deviations in quality across the transect more noticeable and their magnitude more obvious.

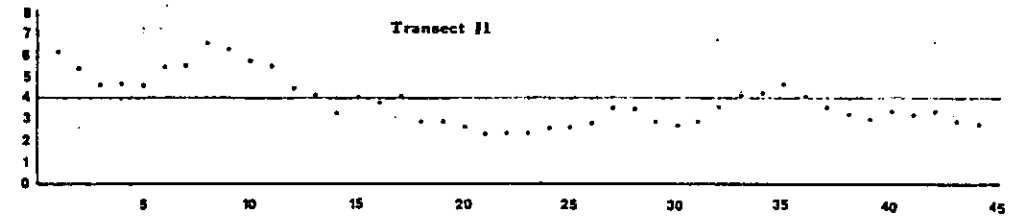
RESULTS

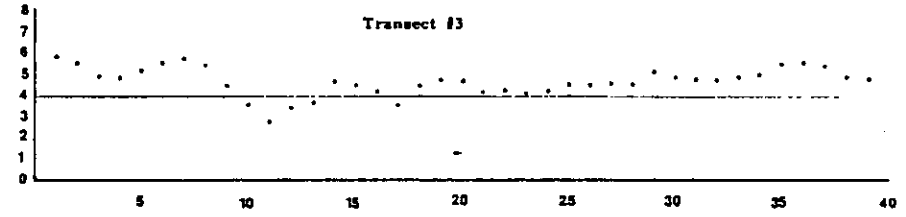
The eight transects were selected in the field by myself, Richard Young (environmental director, Kane County), and Dorothy and Charles Brownold (co-chairmen, Nelson Lake Advocates). Because of varying habitat sizes, fire control logistics, and transect repeatability factors, all of the transects are not the same length, nor can there be an effective four burn/four not burn scheme as outlined in the initial proposal, which see. Rather, two will remain unburned, and six will receive fire more or less regularly, depending upon ambient burn conditions, for each transect, as they relate to the temporal and logistical aspects of getting together fire teams. The Nelson Lake complex ranges in character from open cattail marsh to dry upland brome field. The likelihood that all of six transects will receive fire annually seems to us now rather remote; but over a five-year period there should be an ever-increasing amount of evidence as to the efficacy of prescribed burning on the Nelson Lake systems.

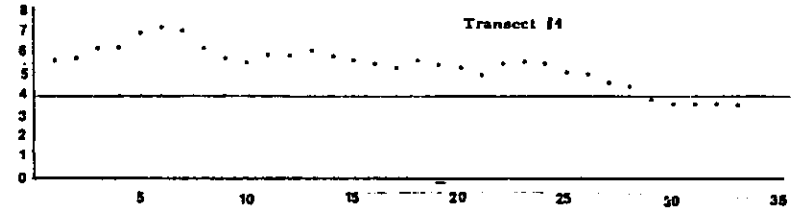
The number of species per quadrat ranged from 0 at one point in the disturbed savanna, to as many as 12 in the high quality prairie/fen, transect #4. The mean quality coefficients for all the quadrats in each transect are as follows: $\overline{\#1} = 3.8 \pm 1.4$; $\overline{\#2} = 4.6 \pm 0.9$; $\overline{\#3} = 4.7 \pm 0.9$; $\overline{\#4}$, quadrats 1-28 $= 5.7 \pm 0.9$, quadrats 1-33 $= 5.3 \pm 1.1$; $\overline{\#5} = 1.5 \pm 0.8$; $\overline{\#6} = 0.9 \pm 0.8$; $\overline{\#7} = 1.8 \pm 0.9$; $\overline{\#8} = -0.6 \pm 0.7$. The quadrat data from which these data were calculated are provided in Appendices 1-8. If the prescribed management protocols are to be regarded as positive, the next few years should show either a stabilization of, or an actual increase in the mean quality datum for each of the areas through which transects have been deployed; it is expected also that the standard deviation will decrease. If, in fact, the measured quality begins to decrease, the management protocols should be re-evaluated.

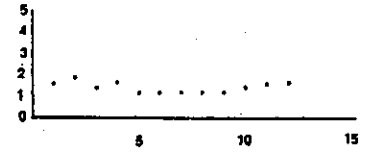
Table 2

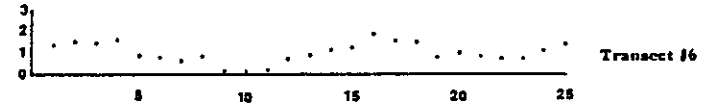
Graphic representations of sequentially averaged mean qualities for all of the quadrats in each of the eight transects. Mean qualities are represented along the "Y" axis; the quadrats are represented along the "X" axis.

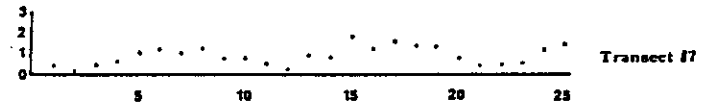


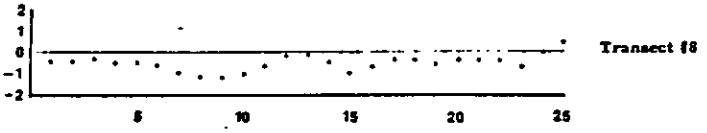












Summary of Nelson Lake Baseline Transects

Transect 1, to remain unburned: sampled 14 June, 1985

Beginning 5 paces east of the north fence corner post, heading south-southwest along the east side of the fencerow; ending, after 44 quadrats, at base of Salix nigra (DBH 8"). Low prairie to marsh.

Transect 2, to receive regular fire: sampled 14 June, 1985

Beginning 15 paces west of the north fence corner post, heading south-southwest toward upper level of visible house; ending, after 42 quadrats, at point were vegetation matrix no longer supports body weight. Low prairie to marsh.

Transect 3, to receive regular fire: sampled 14 June, 1985

Beginning at same quadrat as did transect 2, heading northwest; ending, after 39 quadrats, at end of slough formed from a mined peat area. Low prairie to marsh.

Transect 4, to receive regular fire: sampled 30 July, 1985

Beginning at the west edge of cattails, at large shrub of Physocarpus opulifolius, heading west-northwest; ending, after 33 quadrats at eastern edge of long slough, formed from mined peat area, 60 paces north of the truncated southern end. Prairie/fen to low prairie.

Transect 5, to receive regular fire: sampled 30 July, 1985

Beginning at southwest corner of long slough formed from mined peat area, heading nearly westward through marsh of Phalaris arundinacea; ending, after 12 quadrats, at edge of oak savanna.

Transect 6, to remain unburned: sampled 30 July, 1985

Begining just inside the savanna along the ski trail, the first quadrat opposite the ski trail marker, about ½m off the west side of the trail, heading northeastward; ending, after 25 quadrats, south of the copse of Quercus alba described for Transect 7. Savanna.

Transect 7, to receive regular fire: sampled 30 July, 1985

Sampled as in Transect 6, beginning at copse of Quercus alba, four at 20", 12", 24", 14" DBH. heading north-northwest; ending after 25 quadrats, just 11 paces south of a 40" DBH Quercus macrocarpa. Savanna.

Transect 8, to receive regular fire: sampled 30 July, 1985

Beginning at sharp eastward jog in mowed ski trail, just north of a large specimen of Crataegus crus-galli, heading north-northeast through Bromus inermis; ending, after 25 quadrats, near a 20" DBH tree of Carya ovata.

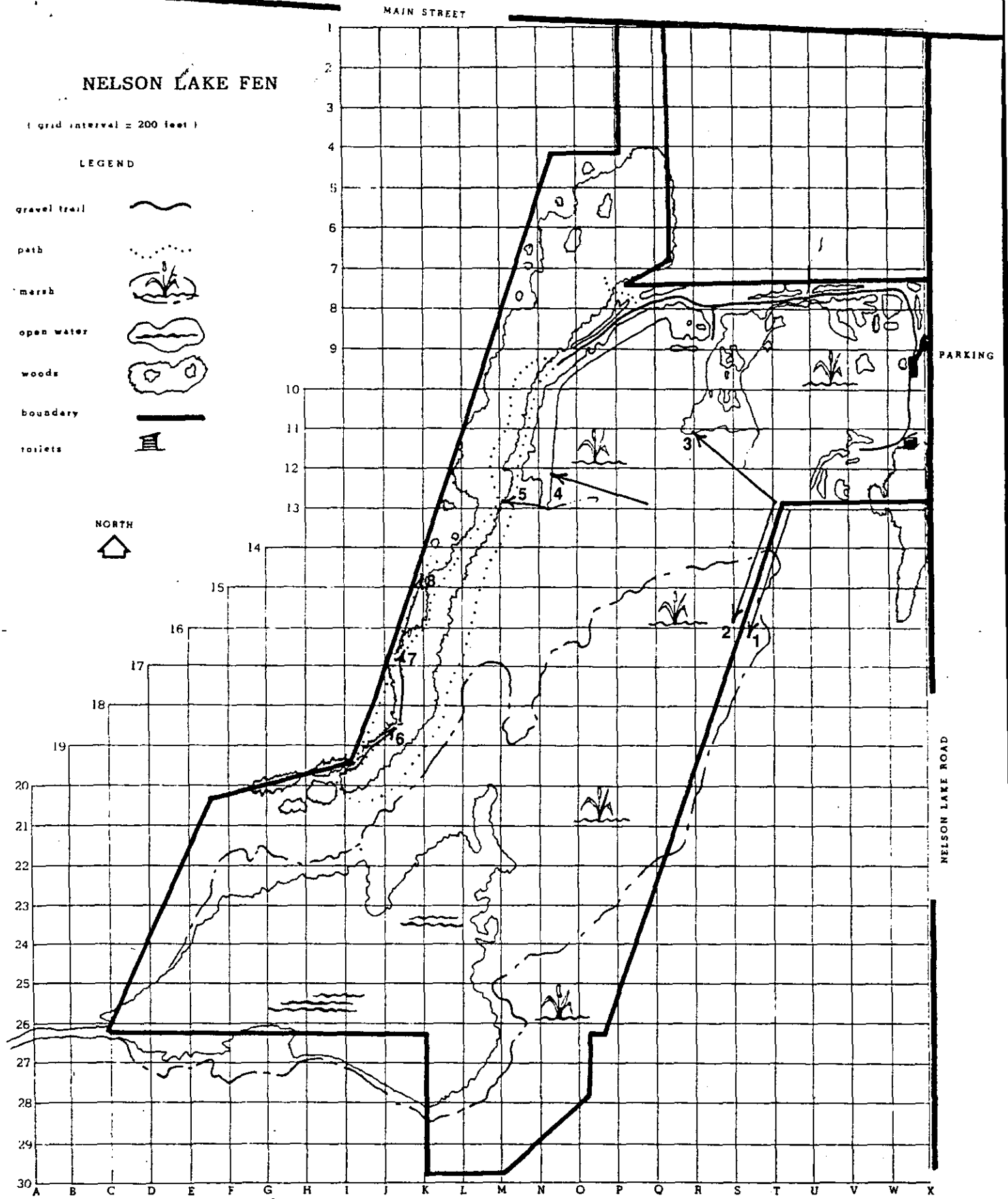
NELSON LAKE FEN

(grid interval = 200 feet)

LEGEND

- gravel trail
- path
- marsh
- open water
- woods
- boundary
- toilets

NORTH



Kane County Environmental Department Patrick McQuilkin 3/12/85

APPENDIX 1

Quadrat field data for Transect #1. Numbers preceding the five letter code are the autecological fidelity coefficients as given by Swink & Wilhelm (1979). The appending numbers are the Braun-Blanquet cover-abundance coefficients.

(1)
3 Calca 1
10 Carla 1
9 Lysth 2
6 Scifl 3
5 Scuep 1
33/5 = 6.6

(2)
3 Calca 3
5 Calpa 3
10 Carla 1
9 Lysth 1
1 Typla 3
28/5 = 5.6

(3)
3 Calca 4
6 Scifl 1
5 Scuep 1
1 Typla 1
15/4 = 3.7

(4)
3 Calca 3
10 Cartr 2
5 scuep 1
1 Typha 2
19/4 = 4.8

(5)
3 Calca 5
9 Lysth 1
12/2 = 6.0

(6)
3 Calca 5
3/1 = 3

(7)
3 Calca 4
10 Carla 1
6 Dryth 3
9 Lysth 1
28/4 = 7.0

(8)
3 Calca 4
10 Garla 1
6 Dryth 1
19/3 = 6.3

(9)
3 Calca 4
10 Carla 1
13/2 = 6.5

(10)
3 Calca 3
10 Carla 2
10 Carro 1
1 Typla 2
24/4 = 6.0

(11)
3 Calca 1
10 Carla 3
1 Typla 3
14/3 = 4.7

(12)
10 Carro 3
1 Typla 4
11/2 = 5.5

(13)
3 Calca 1
5 Caraq 3
1 Typla 3
9/3 = 3.0

(14)
3 Calca 1
5 Polcc 2
6 Sciac 2
1 Typla 3
15/4 = 3.8

(15)
0 Polpn 1
4 Sagla 1
6 Sciac 1
1 Typla 4
11/4 = 2.8

(16)
10 Carla 3
5 Lemmi 1
6 Sciac 1
1 Typla 4
22/4 = 5.5

(17)
5 Lemmi 1
1 Typla 4
6/2 = 3.0

(18)
10 Carla 2
0 Polpn 1
4 Sagla 1
1 Typla 3
15/4 = 3.8

(19)
5 Lemmi 1
0 Polpn 1
1 Typla 3
6/3 = 2.0

(20)
5 Lemmi 1
1 Typla 5
6/2 = 3.0

(21)
5 Polam 2
1 Typla 1
6/2 = 3.0

(22)
1 Typla 5
1/1 = 1.0

(23)
5 Lemmi 1
1 Typla 5
6/2 = 3.0

(24)
5 Lemmi 1
1 Typla 5
6/2 = 3.0

(25)
1 Cypst 1
5 Lemmi 5
0 Polpn 1
1 Typla 1
7/4 = 1.8

(26)
1 Cypst 1
5 Lemmi 4
5 Polam 1
1 Typla 1
12/4 = 3.0

(27)
5 Lemmi 2
5 Polam 4
1 Typla 2
11/3 = 3.7

(28)
5 Lemmi 4
5 Polam 1
1 Typla 1
11/3 = 3.7

(29)
5 Lemmi 1
1 Typla 5
6/2 = 3.0

(30)
5 Lemmi 1
0 Polpn 1
1 Typla 5
6/3 = 2

(31)
5 Lemmi 1
1 Typla 5
6/2 = 3.0

(32)
5 Lemmi 2
5 Polam 3
1 Typla 2
11/3 = 3.7

(33)
5 Lemmi 1
6 Sciac 5
1 Typla 1
12/3 = 4.0

(34)
5 Leeror 1
5 Lemmi 5
4 Sciat 1
14/3 = 4.7

(35)
5 Lemmi 3
5 Polam 1
5 Polcc 2
1 Typla 1
16/4 = 4.0

(36)
5 Lemmi 2
5 Polam 2
5 Polcc 3
15/3 = 5.0

(37)
5 Lemmi 3
5 Polam 2
5 Polcc 2
0 Polpn 1
1 Typla 1
16/5 = 3.2

(38)
5 Leeor 3
0 Polpn 3
5/2 = 2.5

(39)
5 Lemmi 1
5 Polam 1
5 Polcc 4
1 Typla 1
16/4 = 4.0

(40)
5 Leeor 1
0 Polpn 5
5/2 = 2.5

(41)
5 Lemmi 2
5 Polcc 1
1 Typla 4
11/3 = 3.7

(42)
5 Leeor 1
5 Lemmi 5
0 Polpn 2

(43)
5 Lemmi 3
0 Polpn 2
6 Scifl 1
1 Typla 1
12/4 = 3.0

(44)
5 Leeor 1
0 Polpn 4
5/2 = 2.5

APPENDIX 2

Quadrat field data for transect #2. Numbers preceding the five letter code are the autecological fidelity coefficients as given by Swink & Wilhelm (1979). The appending numbers are the Braun-Blanquet cover-abundance coefficients.

(1)
5 Caraq 5
9 Lysth 1
5 Polcc 1
19/3 = 6.3

(2)
3 Calca 5
9 Lysth 2
5 Polcc 1
17/3 = 5.7

(3)
3 Calca 4
9 Lysth 1
1 Typla 1
13/3 = 4.3

(4)
3 Calca 3
10 Carla 1
6 Lycun 1
19/3 = 6.3

(5)
3 Calca 3
7 Camap 1
5 Eupma 1
6 Lycun 1
3 Solgi 3
24/5 = 4.8

(6)
5 Astpf 1
3 Calca 1
7 Camap 1
10 Carla 1
5 Eupma 3
6 Lycun 1
7 Oxyri 1
0 Poapr 1
3 Solgi 3
7 Vione 1
53/10 = 5.3

(7)
5 Eupma 1
5 Galob 2
6 Lycun 1
7 Pedla 1
0 Poapr 2
5 Pycvi 1
3 Solgi 4
7 Vione 2
38/8 = 4.8

(8)
10 Carin 2
10 Carla 1
5 Eleca 1
5 Eupma 1
5 Galob 2
7 Lycun 1
9 Lysqu 1
0 Poapr 1
5 Pycvi 2
3 solgi 2
1 typla 1
60/11 = 5.5

(9)
5 Astpf 1
7 Camap 1
10 Carin 2
5 Galob 1
4 Jundu 1
6 Lycun 1
0 Poapr 1
3 Solgi 3
1 Typla 2
41/9 = 4.6

(10)
3 Calca 1
7 Camap 1
5 galob 2
4 Glyst 1
5 Lycam 1
3 Solgi 2
27/6 = 4.5

(11)
3 Calca 3
5 Galob 2
5 Polam 2
1 Typla 1
14/4 = 3.5

(12)
3 Calca 2
9 Lysth 1
5 Polam 1
5 Polcc 1
6 Sciac 1
1 Typla 3
29/6 = 4.8

(13)
3 Calca 3
5 Polam 1
6 Sciac 3
14/3 = 4.6

(14)
5 Caraq 3
5 Lemmi 1
6 Sciac 3
1 Typla 2
17/4 = 4.3

(15)
5 Caraq 3
5 Lemmi 2
0 Polpn 1
6 Sciac 2
1 Typla 1
17/5 = 3.4

(16)
5 Caraq 1
5 Lemmi 2
1 Typla 4
11/3 = 3.7

(17)
5 Caraq 2
5 Lemmi 2
1 Typla 4
11/3 = 3.7

(18)
5 Lemmi 2
6 Sciac 2
1 Typla 2
12/3 = 4.0

(19)
4 Alisu 1
5 Caraq 1
8 Elein 1
5 Lemmi 3
1 Typla 2
23/5 = 4.6

(20)
3 Bidpo 1
5 Galob 1
5 Lemmi 2
6 Lycun 1
0 Polpn 2
6 Sciac 2
5 Scula 1
30/7 = 4.3

(21)
5 Galob 1
5 Lemmi 4
6 Scula 1
1 Typla 2
17/4 = 4.3

(22)
3 Bidpo 1
5 Caraq 4
5 Lemmi 1
5 Lycam 1
6 Lycun 2
1 Typla 2
25/6 = 4.1

(23)
5 Caraq 5
8 Cicbu 1
8 Galti 1
6 Lycun 1
4 Sagla 1
1 Typla 1
32/6 = 5.3

(24)
5 Caraq 4
5 Galob 1
5 Lemmi 1
4 Sagla 3
19/4 = 4.8

(25)
5 Caraq 5
5 Scuep 1
10/2 = 5.0

(26)
5 Caraq 3
8 Cicbu 1
5 Galob 1
8 Galti 1
4 Sagla 3
30/5 = 6.0

(27)
5 Caraq 1
8 Cicbu 1
5 Lemmi 3
18/3 = 6.0

(28)
5 Caraq 1
8 Cicbu 1
8 Galti 1
5 Lemmi 4
26/4 = 6.5

(29)
5 Caraq 3
8 Galti 1
5 Lemmi 2
4 Sagla 2
22/4 = 5.5

(30)
5 Caraq 2
5 Lemmi 1
1 Typla 2
11/3 = 3.7

(31)
5 Caraq 1
5 Leeor 1
5 Lemmi 4
15/3 = 5.0

(32)
5 Lemmi 5
8 Elein 1
13/2 = 6.5

(33)
5 Lemmi 4
4 Sagla
1 Typla 1
10/3 = 3.3

(34)
8 Cicbu 1
5 Lemmi 2
1 Typla 4
14/3 = 4.7

APPENDIX 2 concluded

(35)
5 Lemmi 1
6 Sciac 2
1 Typla 4
12/3 = 4.0

(36)
5 Lemmi 5
5/1 = 5.0

(37)
5 Lemmi 1
6 Scifl 4
1 Typla 1
12/3 = 4.0

(38)
5 Lemmi 1
6 Scifl 2
1 Typla 3
12/3 = 4.0

(39)
5 Lemmi 2
1 Typla 3
6/2 = 3.0

(40)
5 Lemmi 2
0 Polpn 1
6 Scifl 1
11/3 = 3.7

(41)
5 Lemmi 2
6 Scifl 2
1 Typla 3
12/3 = 4.0

(42)
5 Lemmi 4
1 Typla 1
6/2 = 3.0

APPENDIX 3

Quadrat field data for transect #3. Numbers preceding the five letter code are the autecological fidelity coefficients as given by Swink & Wilhelm (1979). The appending numbers are the Braun-Blanquet cover-abundance coefficients.

(1)
5 Caraq 5
9 Lysth 1
5 Polcc 1
19/3 = 6.3

(2)
5 Caraq 5
5 Polcc 1
6 Scifl 1
16/3 = 5.3

(3)
5 Caraq 5
5 Polcc 1
10/2 = 5.0

(4)
5 Caraq 1
5 Polcc 2
7 Rumor 2
1 Typla 1
18/4 = 4.5

(5)
5 Caraq 5
9 Lysth 2
5 Polcc 2
1 Typla 1
20/4 = 5.0

(6)
3 Calca 4
9 Lysth 1
5 Polcc 2
6 Scifl 2
23/4 = 5.8

(7)
3 Calca 4
6 Dryth 2
9 Lysth 2
5 Polam 1
23/4 = 5.8

(8)
3 Calca 2
6 Dryth 3
7 Rumor 2
6 Scifl 1
22/4 = 5.5

(9)
3 Calca 2
6 Dryth 2
9 Lysth 2
5 Polcc 1
1 Typla 4
24/5 = 4.8

(10)
3 Calca 1
6 Dryth 2
5 Polam 1
0 Polcn 1
1 Typla 3
15/5 = 3.0

(11)
3 Calca 3
5 Polam 1
1 Typla 3
9/3 = 3.0

(12)
3 Calca 3
5 Polam 1
0 Polcn 2
1 Typla 3
9/4 = 2.3

(13)
3 Calca 3
5 Carbu 1
9 Lysth 1
1 Typla 2
18/4 = 4.5

(14)
3 Calca 2
9 Lysth 1
5 Menar 1
4 Sagla 1
1 Typla 1
22/5 = 4.4

(15)
3 Calca 4
5 Carbu 1
8 Latpa 1
9 Lysth 1
1 Typla 2
26/5 = 5.2

(16)
3 Calca 3
5 Caraq 1
5 Galob 1
0 Polpn 1
7 Rumor 1
4 Sagla 1
1 Typla 1
25/7 = 3.6

(17)
3 Calca 1
5 Irivi 3
0 Phaar 1
5 Polcc 1
4 Sagla 1
17/5 = 3.4

(18)
5 Caraq 4
5 Polcc 1
4 Sagla 1
1 Typla 1
15/4 = 3.8

(19)
5 Caraq 2
8 Cicbu 1
7 Rumor 3
4 Sagla 1
7 Siusu 1
31/5 = 6.2

(20)
5 Caraq 4
5 Polam 1
5 Polcc 1
1 Typla 2
16/4 = 4.0

(21)
5 Caraq 2
5 Galob 1
4 Sagla 1
1 Typla 3
15/4 = 3.8

(22)
8 Cicbu 1
5 Galob 1
4 Sagla 2
1 Typla 3
18/4 = 4.5

(23)
3 Calca 3
8 Cicbu 1
5 Galob 1
4 Sagla 2
1 Typla 3
21/5 = 4.2

(24)
3 Calca 1
5 Caraq 2
8 Cicbu 1
5 Lemmi 2
0 Polpn 1
1 Typla 3
22/6 = 3.7

(25)
8 Cicbu 1
5 Lemmi 1
4 Sagla 2
6 Spaeu 3
1 Typla 1
24/5 = 4.8

(26)
8 Galti 1
5 Lemmi 1
6 Sciac 2
6 Spaeu 3
1 Typla 1
26/5 = 5.2

(27)
6 Spaeu 2
1 Typla 3
7/2 = 3.5

(28)
5 Bidce 2
5 Caraq 1
8 Cicbu 1
8 Galti 1
4 Sagla 1
1 Typla 2
31/6 = 5.2

(29)
5 Bidce 1
5 Caraq 2
8 Cicbu 1
5 Leeor 1
7 Siusu 1
1 Typla 4
31/6 = 5.2

(30)
5 Bidce 2
8 Cicbu 2
5 Galob 1
5 Leeor 1
1 Sagla 2
24/5 = 4.8

(31)
5 Caraq 2
8 Cicbu 1
1 Typla 2
14/3 = 4.7

(32)
3 Calca 3
5 Caraq 1
8 Cicbu 1
8 Galti 1
1 Typla 3
25/5 = 5.0

(33)
5 Bidce 2
5 Caraq 4
8 Cicbu 2
1 Typla 2
19/4 = 4.8

(34)
5 Bidce 1
5 Caraq 2
8 Cicbu 2
5 Lemmi 2
1 Typla 2
24/5 = 4.8

(35)
3 Calca 2
5 Caraq 4
8 Cicbu 1
16/3 = 5.3

(36)
5 Caraq 5
8 Cicbu 1
13/2 = 6.5

APPENDIX 3 concluded

(37)
5 Bidce 1
5 Caraq 2
8 Cicbu 2
5 Galob 1
7 Rumor 3
1 Typla 1
31/6 = 5.1

(38)
5 Caraq 4
8 Galti 1
1 Typla 2
14/3 = 4.7

(39)
5 Bidce 1
5 Caraq 4
8 Cicbu 1
1 Typla 1
19/4 = 4.8

APPENDIX 4

Quadrat field data for Transect #4. Numbers preceding the five letter code are the autecological fidelity coefficients as given by Swink & Wilhelm (1979). The appending numbers are the Braun-Blanquet cover-abundance coefficients.

(1)
3 Calca 3
7 Camap 2
10 Carro 2
5 Eupma 1
6 Sciac 1
1 Typla 2
32/6 = 5.3

(2)
3 Calca 2
7 Camap 2
5 Caraq 1
5 Eupma 3
6 Sciac 1
9 Solul 1
7 Vione 1
42/7 = 6.0

(3)
1 Agral 1
10 Astju 1
3 Calca 1
7 Camap 2
5 Helau 1
6 Lobsi 2
7 Pedla 2
6 Sciac 2
7 Solrd 2
10 Solul 2
62/10 = 6.2

(4)
3 Calca 1
7 Camap 4
5 Caraq 1
10 Carin 2
5 Eupma 1
7 Lytal 2
7 Pedla 2
6 Sciac 1
7 Vione 1
57/9 = 6.3

(5)
4 Astno 3
3 Calca 1
7 Camap 3
10 Carin 1
6 Dryth 3
5 Eupma 1
9 Genpr 1
7 Pedla 1
0 Poapr 1
7 Solrd 3
9 Solul 1
7 Vione 1
74/12 = 6.2

(6)
7 Camap 2
10 carin 1
10 Carla 1
10 Genpr 1
7 Muhgl 3
7 Pedla 1
7 Solrd 1
9 Solul 1
7 Vione 1
74/9 = 8.2

(7)
3 Calca 2
7 Camap 1
10 Carin 1
10 Carpr 1
5 Eupma 3
7 Lytal 1
9 Solul 1
7 Vione 1
58/8 = 7.3

(8)
5 Astpf 1
3 Calca 2
7 Camap 2
5 Caraq 1
10 Cirmu 1
5 Eupma 2
7 Muhgl 2
7 Pedla 2
0 Poapr 1
7 Vione 1
56/10 = 5.6

(9)
3 Calca 4
7 Camap 1
5 Caraq 1
3 Carbe 1
5 Eupma 4
7 Pedla 1
7 Vione 1
37/7 = 5.3

(10)
3 Calca 4
10 Carla 1
5 Eupma 1
9 Lysth 1
4 Sagla 1
7 Vione 1
38/6 = 6.3

(11)
5 Astpf 1
3 Bidpo 1
3 Calca 4
10 Carla 1
5 Eupma 1
9 Lysth 1
0 Poapr 2
35/7 = 5.0

(12)
3 Calca 4
7 Camap 1
10 Carla 2
6 Dryth 1
5 Eupma 2
9 Lysth 1
5 Polcc 1
45/7 = 6.4

(13)
3 Calca 3
7 Camap 1
10 Carla 2
6 Cus__ 1
5 Eupma 1
3 Impca 2
5 Lycam 1
6 Lycun 1
9 Lysth 1
54/9 = 6.0

(14)
3 Calca 4
10 Carla 2
6 Dryth 2
5 Eupma 1
3 Impca 2
5 Pycvi 1
5 Scuep 1
7 Vione 1
44/8 = 5.5

(15)
3 Calca 2
10 Carla 3
6 Dryth 1
5 Eupma 3
3 Impca 1
9 Lysth 1
5 Scuep 1
7 Vione 1
48/8 = 6.0

(16)
3 Calca 2
10 Carla 1
6 Dryth 3
5 Eupma 2
3 Impca 1
27/5 = 5.4

(17)
3 Bidpo 1
2 Boecy 2
3 Calca 1
7 Camap 1
5 Carst 2
6 Dryth 2
5 Eupma 1
8 Hypfr 1
4 Phrau 2
43/9 = 4.8

(18)
3 Bidpo 1
2 Boecy 1
3 Calca 4
7 Camap 1
10 Carla 1
6 Dryth 1
3 Impca 1
9 Lysth 1
4 Phrau 1
7 Vione 1
54/10 = 5.4

(19)
7 camap 1
10 Carin 1
10 Carla 1
6 Dryth 4
5 Eupma 2
5 Scuep 1
3 Solgi 2
46/7 = 6.6

(20)
3 Calca 1
5 Carst 1
6 Dryth 2
5 Eupma 1
4 Glyst 1
3 Impca 2
6 Lycun 1
5 Muhme 1
0 Poapr 1
3 Solgi 2
40/10 = 4.0

(21)
3 Calca 1
7 Camap 1
6 Dryth 3
5 Eupma 1
3 Impca 1
9 Lysth 1
5 Muhme 1
7 Pedla 1
0 Poapr 1
3 Solgi 2
7 Vione 1
55/11 = 5.5

(22)
9 Camap 1
10 Carla 2
6 Dryth 2
5 Eupma 1
9 Lysth 1
5 Muhme 1
0 Poapr 1
3 Solgi 2
45/8 = 5.6

(23)
3 Calca 1
10 Carla 3
6 Dryth 2
9 Lysth 1
0 Poapr 1
6 Scuep 1
3 Solgi 3

APPENDIX 4 concluded

7 Vione 1
44/8 = 5.5

(24)
5 Astpf 1
3 Calca 1
10 Carla 2
6 Dryth 2
6 Lobsi 1
0 Poapr 1
7 Vione 1
37/7 = 5.3

(25)
10 Carla 1
6 Dryth 3
5 Eupma 1
6 Lycun 1
0 Poapr 1
7 Pedla 1
3 Solgi 4
7 Vione 1
44/8 = 5.5

(26)
5 Astpf 1
3 Calca 3
6 Dryth 1
3 Solgi 3
17/4 = 4.3

(27)
3 Calca 1
7 Camap 1
10 Carla 1
6 Dryth 4
5 Eupma 1
6 Lycun 1
0 Poapr 1
3 Solgi 1
40/8 = 5.0

(28)
3 Calca 2
10 Carla 1
6 Dryth 2
0 Poapr 1
3 Solgi 1
22/5 = 4.4

(29)
3 Calca 2
6 Dryth 3
5 Eleca 1
0 Poapr 1
3 Solgi 2
17/5 = 3.4

(30)
3 Calca 2
6 Dryth 1
5 Eupma 3
3 Impca 1
5 Lycam 1
0 Poapr 2
3 Solgi 2
25/7 = 3.6

(31)
7 Camap 1
6 Dryth 2
5 Eupma 2
0 Poapr 2
3 Solgi 2
2 Urtpr 1
23/6 = 3.8

(32)
3 Calca 1
6 Dryth 3
4 Glyst 1
5 Muhme 3
0 Poapr 1
3 Solgi 1
21/6 = 3.5

(33)
6 Dryth 2
6 Lycun 2
0 Poapr 2
Solgi 1
2 Urtpr 1
17/5 = 3.4

APPENDIX 5

Quadrat field data for Transect #5. Numbers preceding the five letter code are the autecological fidelity coefficients as given by Swink & Wilhelm (1979). The appending numbers are the Braun-Blanquet cover-abundance coefficients.

(1)
5 Carst 2
5 Lycam 1
5 Muhme 1
0 Phaar 2
0 Poapr 1
5 Scuep 1
3 Solgi 2
23/7 = 3.2

(2)
0 Phaar 5
0/1 = 0.0

(3)
5 Carst 1
0 Phaar 4
3 Solgi 2
8/3 = 2.6

(4)
0 Phaar 5
3 Solgi 1
3/2 = 1.5

(5)
0 Phaar 5
2 Urtpr 2
2/2 = 1.0

(6)
0 Phaar 5
2 Urtpr 2
2/2 = 1.0

(7)
3 Impca 3
0 Phaar 3
2 Urtpr 1
5/3 = 1.7

(8)
0 Phaar 5
2 Urtpr 1
2/2 = 1.0

(9)
0 Phaar 3
2 Urtpr 3
2/2 = 1.0

(10)
0 Ambtr 1
3 Impca 1
0 Phaar 1
3 Solgi 3
6/4 = 1.5

(11)
3 Impca 1
0 Phaar 5
3/2 = 1.5

(12)
3 Astsi 2
0 Cirqu 1
3 Impca 2
0 Phaar 2
2 ruboc 2
8/5 = 1.6

APPENDIX 6

Quadrat field data for Transect #6. Numbers preceding the five letter code are the autecological fidelity coefficients as given be Swink & Wilhelm (1979). The appending numbers are the Braun-Blanquet cover-abundance coefficients. Each quadrat is described in relation to the nearest tree which was 1" or greater in DBH; for example "½ to 2" Pruse" indicates that the quadrat was about ½ pace from a sapling of wild black cherry about 2" DBH.

(1)
At 3" Pruse
1 Rhura 5
2 Sangr 1
3/2 = 1.5

(2)
1 to 2" Cramo
2 Agrgr 2
0 geuca 1
1 Rhura 2
3/3 = 1.0

(3)
½ to 2" Pruse
2 Agrgr 2
2 Sangr 2
4/2 = 2.0

(4)
At 1" Carov
0 Cryca 1
0 Geuca 1
1 Parin 1
5 Smita 4
6/4 = 1.5

(5)
At 1" Cra__
0 Cirqu 2
0 Cryca 2
-2 Lonma 2
-3 Rhaca 1
-5/4 = -1.3

(6)
1 to 9" Quema
0 Cryca 1
1 Pruse 1
-3 Rosmu 1
2 Sangr 2
0/4 = 0.0

(7)
½ to 1" Cramo
2 Agrgr 2
0 Cryca 2
0 Geuca 2
2 Parqu 1
2 Sangr 2
6/5 = 1.2

(8)
½ to 9" Quema
0 Cryca 2
1 Pruse 1
1/2 = 0.5

(9)
1½ to 5" Crapu
0 Cryca 1
0 Geuca 1
2 Sangr 3
2/3 = 0.7

(10)
2 to 1" Cramo
0 Cryca 2
0 Geuca 1
-3 Rosmu 1
-3/3 = -1.0

(11)
½ to 4" Pruse
0 Cirqu 2
1 Xanam 2
1/2 = 0.5

(12)
1 to 10" Queru
0 Cirqu 1
1 Corra 1
1 Pruse 4
2/3 = 0.7

(13)
2 to 4" Quema
0 Cryca 2
2 Sangr 1
1 Xanam 1
3/3 = 1.0

(14)
1 to Tilam
coppice 2-6"
0 Cryca 2
1 Pruse 1
2 Sangr 1
3/3 = 1.0

(15)
1½ to Cracr
coppice 3-5"
0 Cryca 1
3 Polca 1
3/2 = 1.5

(16)
½ to 3" Quema
0 Cryca 1
0 Geuca 1
3 Polca 4
2 Sangr 2
5/4 = 1.3

(17)
½ to 6" Tilam
7' Pruse
5 Podpe 3
3 Polca 2
1 Xanam 1
9/3 = 3.0

(18)
3 to 7" Tilam
0 Cryca 1
1 Parin 1
1/2 = 0.5

(19)
At 1" Tilam
0 Cryca 1
1 Pruse 1
2 Sangr 2
3/3 = 1.0

(20)
1 to 10" Pruse
0 Cirqu 1
1 Parin 3
2 Sangr 2
3/3 = 1.0

(21)
1½ to hollow
26" Queve
0 Cryca 3
2 Sangr 2
2/2 = 1.0

(22)
1 to 6" Pruse
0 Cirqu 2
0 Cryca 2
2 Sangr 2
2/3 = 0.7

(23)
3 to 7" Pruse
0 Cirqu 1
0 Cryca 2
2 Sangr 2
2/3 = 0.7

(24)
1 to 4" Pruse
0 Cirqu 2
2 Sangr 2
2/2 = 1.0

(25)
1 to 24" Quema
0 Cryca 2
3 Polca 1
2 Sangr 2
5/3 = 1.7

APPENDIX 7

Quadrat field data for Transect #7. Numbers preceding the five letter code are the autecological fidelity coefficients as given by Swink & Wilhelm (1979). The appending numbers are the Braun-Blanquet cover-abundance coefficients. Each quadrat is described in relation to the nearest tree which was 1" or greater in DBH; for example, "½ to 2" Pruse" indicates that the quadrat was about ½ pace from a sapling of wild black cherry about 2" DBH.

(1)
½ to 5" Pruse
0 Cirqu 2
0 Cryca 1
2 Smira 4
2/3 = 0.7

(2)
At 1" Pruse
0 Cirqu 2
0Cryca 1
0/0 = 0.0

(3)
At 6" Pruse
0 Cirqu 2
0/0 = 0.0

(4)
At 17" Carov
0 Cirqu 2
3 Polca 2
3/2 = 1.5

(5)
½ to 8" Pruse
0 Cryca 3
1 Rhura 2
1/2 = 0.5

(6)
1 to 4" Pruse
2 Sangr 4
2/1 = 2.0

(7)
1 to 1" Pruse
0 Cirqu 2
2 Sangr 2
4 Vitri 1
6/3 = 2.0

(8)
1 to 20" Quema
0 Cirqu 2
0 Cryca 2
0/0 = 0.0

(9)
½ to 2" Pruse
0 Cryca 1
1 Parin 2
4 Vitri 1
5/3 = 1.7

(10)
At 4" Pruse
0 Cirqu 1
0 Cryca 2
1 Pruse 1
2 Sangr 2
3/4 = 0.8

(11)
At 1" Pruse
0 Cirqu 1
0 Cryca 2
0 Geuca 2
0/0 = 0.0

(12)
2½ to 3" Pruse
0 Cirqu 1
0 Cryca 2
2 Sangr 1
2/3 = 0.7

(13)
2½ to 4" Pruse
0 Cirqu 4
0 Cryca 1
0/0 = 0.0

(14)
At 1" Pruse
0 Cirqu 5
2 Parqu 1
4 Quema 1
6/3 = 2.0

(15)
1 to 1" Cramo
0 Cirqu 1
0 Cryca 1
0 Geuca 1
1 Parin 2
1/4 = 0.3

(16)
2 to 10" Celoc
0 Cirqu 1
0 Cryca 4
3 Polca 1
3/3 = 1.0

(17)
2 to 2" Pruse
-
0/0 = 0.0

(18)
At 4" Pruse
0 Cirqu 2
2 Parqu 1
3 Polca 1
2 Sangr 1
7/4 = 1.8

(19)
½ to 8' Pruse
0 Cirqu 4
4 Quema 1
4/2 = 2.0

(20)
½ to 5" Pruse
0 Cirqu 3
0 Cryca 1
0/0 = 0.0

(21)
3 to 12" Pruse
0 Cirqu 1
1 Parin 3
1/2 = 0.5

(22)
At 7" Pruse
0 Cirqu 1
0 Cryca 1
1 Rhura 2
1/3 = 0.3

(23)
At 1" Pruse
0 Cirqu 2
0 Cryca 1
1 Parin 1
1 Rhura 2
2/4 = 0.5

(24)
½ to 26" Quema
-3 Arcmi 2
1 Parin 1
0 Cryca 1
-2/3 = -0.6

(25)
1 to 7" Pruse
0 Cirqu 1
1 Corra 4
5 Pilpu 1
3 Polca 1
1 Pruse 1
2 Sangr 1
12/6 = 2.0

APPENDIX 8

Quadrat field data for Transect #8. Numbers preceding the five letter code are the autecological fidelity coefficients as given by Swink & Wilhelm (1979). The appending numbers are the Braun-Blanquet cover-abundance coefficients.

(1)
-1 Broin 5
-1/1 = -1.0

(2)
1 Achmi 1
-1 Broin 5
0/2 = 0.0

(3)
-1 Broin 5
0 Tarof 1
-1/2 = -0.5

(4)
-1 Broin 5
0 Poapr 1
-1/2 = -0.5

(5)
-1 Broin 5
0 Poapr 1
-1/2 = -0.5

(6)
-1 Broin 5
0 Poapr 1
-1/2 = -0.5

(7)
-1 Broin 5
-1/1 = -1.0

(8)
-2 Agrre 1
-1 Broin 5
-3/2 = -1.5

(9)
-1 Broin 5
-1/1 = -1.0

(10)
-1 Broin 5
0 Poapr 1
-1/2 = -0.5

(11)
-1 Broin 5
0 Poapr 1
-1/2 = -0.5

(12)
1 Agral 1
-1 broin 5
0 Poapr 1
0/3 = 0.0

(13)
-1 Broin 4
0 Poapr 1
3 Solgi 2
2/3 = 0.6

(14)
-1 Broin 5
0 Poapr 2
-1/2 = -0.5

(15)
-1 Broin 5
0 Poapr 2
-1/2 = -0.5

(16)
-1 Broin 5
0 Poapr 2
-1/2 = -0.5

(17)
-1 Broin 5
0 Poapr 1
0 Tarof 1
-1/3 = -0.3

(18)
2 Agrgr 4
-1 Broin 3
0 Poapr 1
1/3 = 0.3

(19)
-1 Broin 5
0 Poapr 2
-1/2 = -0.5

(20)
-1 Broin 5
0 Poapr 2
-1/2 = -0.5

(21)
-1 Broin 3
0 Poapr 3
3 Solgi 3
2/3 = 0.7

(22)
-1 Broin 5
0 Poapr 1
-1/2 = -0.5

(23)
-1 Broin 5
0 Poapr 1
-1/2 = -0.5

(24)
-1 Broin 3
0 Poapr 1
-3 Rosmu 1
3 Solgi 3
-1/4 = -0.3

(25)
-1 Broin 4
0 Poapr 1
3 Solgi 2
2/3 = 0.7

LAND PRESERVATION, INC. / NELSON LAKE ADVOCATES

85-18

1141 WOODLAND AVENUE
BATAVIA, ILLINOIS 60510
312-879-2991

September 11, 1985

Carl N. Becker
Natural Heritage Section Manager
Division of Forest Resources and
Natural Heritage
Illinois Department of Conservation
Lincoln Tower Plaza
524 S. Second Street
Springfield, Ill. 62706

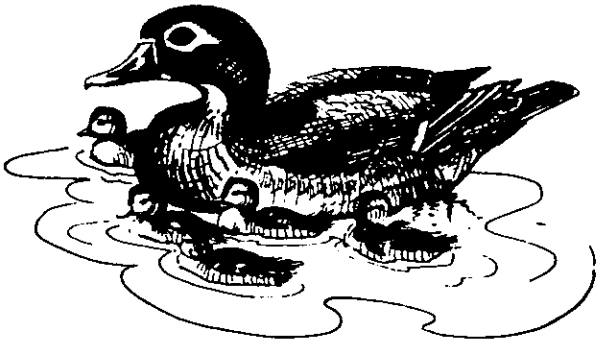
Dear Carl,

Gerould Wilhelm informed me today that he sent you the final report on the "baseline Data" project at Nelson Lake Marsh.

Enclosed is the invoice covering the charges for the work. If you need any additional information please contact me.

Sincerely,

Charles Brownold
President, Land Preservation, Inc.



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LAND PRESERVATION, INC. / NELSON LAKE ADVOCATES

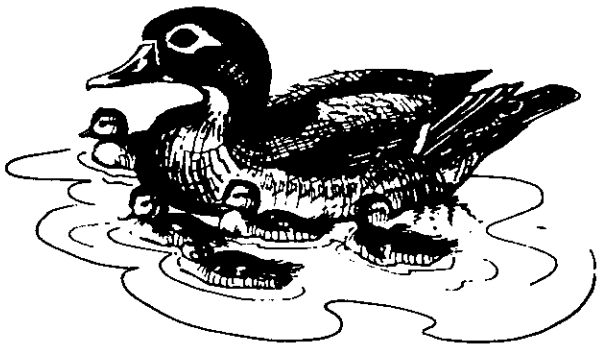
1141 WOODLAND AVENUE
BATAVIA, ILLINOIS 60510
312-879-2991
Sept. 11, 1985

INVOICE TO: State of Illinois
Department of Conservation
Natural Heritage Section
Lincoln Tower Plaza
524 S. Second Street
Springfield, Ill. 62706

FROM: Land Preservation, Inc.

SERVICE: Establishment of baseline data for the purpose of evaluating long-term effects of prescribed burning on a northern Illinois wetland/prairie ecosystem as per the proposal of April 18, 1985.

CHARGES:		
	Transect supplies	$ 25.00
	Transportation	$ 25.00
	Field days, 3 at $100/day	$300.00
	Per diem,3 days at $50/day	$150.00
	Data Assimilation,2 days at $100/day	$200.00
	Report preparation,3 days at $100/day	$300.00
	TOTAL	$ 1000.00



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