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SARATOGA_NHP
NATURAL_RESOURCE_BASELINE_INVENTORY
YEAR # 1
ANNUAL_REVIEW_AND_SUMMARY
1987

PATRICK_LYNCH
RESOURCE_MANAGEMENT_SPECIALIST

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INTRODUCTION/OBJECTIVES

THIS REPORT IS A SUMMARY AND REVIEW OF THE FIRST YEARS' PROGRESS FOR THE NATURAL RESOURCE BASELINE INVENTORY PROGRAM.

THIS PROJECT, AS WELL AS THE PARKS WATER RESOURCE BASELINE INVENTORY PROGRAM ARE PARK BASE FUNDED THROUGH THE ENTRANCE FEE PROGRAM WITH PARTIAL ASSISTANCE IN FY 87 THROUGH THE REGIONAL SCIENCE OFFICE.

ALL WORK IS GENERATED AND IMPLEMENTED BY PARK RESOURCE MANAGEMENT STAFF.

AS MENTIONED IN THE WORKPLAN FOR THE SARATOGA NHP NATURAL RESOURCE BASELINE INVENTORY, THE MAJOR GOAL OF THIS PROGRAM IS THE "ACCUMULATION OF SCIENTIFIC DATA ON THE (PARK) MAMMALS, REPTILES, AMPHIBIANS, BIRDS, PLANTS, FISH AND CERTAIN ECTOPARASITES."

SPECIFIC OBJECTIVES OF THIS PARK PROGRAM ARE;

1. DOCUMENT THE PARKS' NATURAL RESOURCE SPECIES, SPECIES ABUNDANCE, AND HABITAT AFFINITIES FOR THE PURPOSE OF MAINTAINING A WILDLIFE HABITAT DATA BASE TO BE UTILIZED FOR PRESENT AND FUTURE RESOURCE MANAGEMENT NEEDS.

2. DOCUMENT ANY SPECIES OF ECTOPARASITE THAT IS A KNOWN VECTOR FOR LYME DISEASE.

3. TO COMPILE A PARK NATURAL HISTORY COLLECTION THAT INCLUDES SPECIMENS OF SPECIFIC MAMMALS, HERPETOFAUNA, FISH AND PLANT SPECIES.

4. COMPLY WITH NPS 12 POINT DIRECTIVE OF DEVELOPING USABLE NATURAL RESOURCE DATA BASES AND RESOURCE INVENTORIES.

5. ASSIST STATE UNIVERSITY RESEARCHERS IN THE ATTAINMENT OF THEIR OBJECTIVE OF "DEFINING THE DISTRIBUTION AND ABUNDANCE OF SMALL MAMMALS IN VARIOUS VEGETATION COMMUNITIES AND INFESTATION RATES OF LYME DISEASE VECTORS AND HOSTS."

POSITIONS, EQUIPMENT AND MATERIALS

TO CONDUCT THE EXTENSIVE FIELD AND MUSEUM WORK ASSOCIATED WITH THIS FIRST YEARS PROJECT, ONE SEASONAL BIOLOGICAL TECHNICIAN (GS-404-05) WAS HIRED FOR THE SUMMER FIELD SEASON AND CERTAIN SUPPLIES AND EQUIPMENT WERE PURCHASED FOR THE TASK. (SEE APPENDIX "A" FOR A COMPLETE LISTING OF FINANCIAL TRACKING)

A SCIENTIFIC COLLECTORS LICENSE HAS BEEN ISSUED TO THE PARK (AT NO COST) BY THE NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION FOR THE COLLECTION OF LIVE AND DEAD NON-ENDANGERED FLORA AND FAUNA.

SUMMARY

THIS PROGRAM OF NATURAL RESOURCE BASELINE DATA ACQUISITION IS THE INTEGRAL FIRST STEP IN THE IDENTIFICATION OF RESOURCE ISSUES AND SUBSEQUENT RESOURCE MONITORING IN THE YEARS TO COME. THE FIRST YEARS EFFORTS MET ALL THE EXPRESSED GOALS AND OBJECTIVES BUT WITH ANY NEW RESEARCH EFFORT, FLAWS IN PROCEDURES AND WITH SOME EQUIPMENT BECAME EVIDENT. FOR EXAMPLE, AT LEAST HALF (150) OF THE SMALL MAMMAL "MUSEUM SPECIAL" TRAPS BROKE DOWN DURING USE IN THE FIELD. ALSO, PROCEDURES FOR LIVE TRAPPING, MARKING AND RELEASING ANIMALS WERE MODIFIED TO ADAPT TO LOCAL CONDITIONS. IN OTHER WORDS, EXPERIMENTING WITH TECHNIQUE UNTIL WE FELT COMFORTABLE WITH OUR EFFORTS.

TIME AND PERSONNEL CONSTRAINTS ALSO PLAYED A KEY ROLE IN WHAT WAS ACCOMPLISHED. FOR INSTANCE, DUE TO SCHEDULING CONFLICTS, MIST NETTING FOR BAT SPECIES WAS ONLY ATTEMPTED 6 EVENINGS WITH NEGATIVE RESULTS. THIS WAS VERY DISAPPOINTING SINCE THIS PARK ECOSYSTEM OFFERS POTENTIAL HABITAT FOR SUMMERING INDIANA BATS.

HERPETOFAUNA (OR REPTILE AND AMPHIBIAN) COLLECTIONS WENT AS WELL AS COULD BE EXPECTED IN THE PARK. SINCE EARLY SPRING IS ONE OF THE BEST TIMES TO COLLECT BREEDING SPECIES, CONCENTRATIONS OF EFFORT WERE ORGANIZED DURING THIS TIME FRAME (SEASON).

THE VEGETATION PLANT COLLECTION WENT EXTREMELY WELL THIS PAST YEAR. UNDER THE GUIDANCE OF DR. STALTER (ST. JOHNS UNIVERSITY, PLANT ECOLOGIST), INDIVIDUAL COLLECTIONS EXCEEDED 300 DIFFERENT SPECIMENS.

AVIAN BIRD LISTS WERE COMPILED USING THE COUNTY WIDE CHRISTMAS BIRD COUNT. COMBINED WITH EXISTING PARK BIRD DATA TO BE SYNTHESIZED IN THE FUTURE, THIS DATA SET IS IN GOOD SHAPE AND WILL GET BETTER.

LOOKING AT THE PARK ECOSYSTEM AFTER A YEARS WORTH OF INTIMATE INTERACTION, IT IS MY OPINION THAT THE NATURAL SYSTEMS AND ORGANIZATIONS OF THIS PARK (AND SURROUNDING LANDS) ARE IN SOUND ENVIRONMENTAL HEALTH! THE PARK OFFERS SPECIES DIVERSITY AND ABUNDANCE IN A MANNER CONSISTENT WITH A HEALTHY, DYNAMIC, INTERACTIVE SYSTEM INDIGENOUS TO THE UPPER HUDSON VALLEY, ADIRONDACK FOOTHILL REGION (WITHOUT EXCESSIVE DEGRADATION BY MAN).

MORE STUDY IS GRAVELY NEEDED TO SUPPORT THIS HYPOTHESIS IN A DEFENSIBLE MANNER. FOR INSTANCE, RELATIVE ABUNDANCE DATA NEEDS TO BE COMPILED FOR CERTAIN VEGETATION TYPES, MAMMALS, AND HERPETOFAUNA TO GIVE THIS PARK THE NATURAL RESOURCE BASELINE TO BE USED AS THE "MEASURING" STICK FOR FUTURE RESOURCE MANAGEMENT.

TO CONCLUDE THIS SECTION OF THE REPORT, SARATOGA IS POSSIBLY IN THE ENVIABLE POSITION OF HAVING BASELINE DATA GATHERED AT A TIME WHEN THE ECOSYSTEM IS IN "GOOD, DYNAMIC" WORKING ORDER, WHICH IS THE BEST CONDITIONS FOR ANALYZING FUTURE RESOURCE TRENDS AND ENVIRONMENTAL TRANSGRESSIONS.

FUTURE PROGRAM DIRECTION

THE LEVEL OF FUNDING MADE AVAILABLE IN FISCAL YEAR '88 WILL DETERMINE THE DIRECTION OF EFFORT NEEDED TO SUPPORT THE STATED HYPOTHESIS. THIS PROGRAM (ALONG WITH THE WATER RESOURCE BASELINE PROJECT) HAS BEEN PRESENTED AS A THREE YEAR PROGRAM.

THE ULTIMATE OBJECTIVE IS TO HAVE THESE SEPERATE DATA SETS ENTERED INTO A PARK GIS DATA MANAGEMENT SYSTEM THAT CAN BE OVERLAYED AND ANALYZED WITH DIGITAL PARK SOIL, TOPOGRAPHIC, AND HISTORICAL BASE MAPS. THIS TYPE OF DATA MANAGEMENT SERVICE WOULD PROVIDE THE PARK MANAGER WITH THE STATE OF THE ART VEHICLE TO BEST MONITOR THE NATURAL RESOURCES INTO THE NEXT CENTURY. FOR EXAMPLE, WITH A WORKING GIS IN THE PARK, A RESOURCE MANAGER COULD REPEAT THESE BASELINE OBSERVATIONS ON A CYCLIC BASIS (5, 10 YEARS ETC.) USING THIS CURRENT PROGRAM AS A GUIDE. THIS REPEATED DATA COULD THEN BE EASILY ENTERED INTO THE GIS AND ANALYSIS OF ENVIRONMENTAL VARIANCE COULD EASILY BE DETECTED AND SUBSEQUENTLY ACTED UPON (IF DESIRED).

IN FISCAL YEAR '88, THE GOAL IS TO CONTINUE OPERATIONS THAT HAVE STARTED WITH NO DRAMATIC SHIFT IN EMPHASIS. THE MAMMAL TRAPPING WHICH WAS DONE THROUGH LIVE AND SNAP TRAPPING IN 4 SEPERATE VEG. COVER TYPE ZONES WILL NOT CHANGE EXCEPT FOR SHIFTING THE "MIXED" PINE FOREST TYPE TO THE AREA ON THE TOUR ROAD BEFORE THE BRITISH WOODS.

COLLECTIONS OF FISH WILL BE PHASED INTO THE PROGRAM AS THE TIME AND BUDGET PERMIT.

THE PLANT COLLECTIONS ASPECT WILL BE UPGRADED TO INCLUDE A DILINEATION AND MAPPING OF ANY NOXIOUS ALIEN VEG COLONIES.

ALSO, AN EXTENSIVE RESEARCH EFFORT TO INVESTIGATE THE ROLE OF THE SHRUBBY DOGWOOD SPECIES (CORNUS RACEMOSA) WILL BE UNDERTAKEN BY RESEARCHERS FROM SUNY (ESF). BOTH THE ALIEN VEG PROJECT AND THE DOGWOOD STUDY WILL BE PROJECT FUNDED BY THE REGIONAL SCIENCE OFFICE.

INTENSIFIED LEVELS OF DATA INTERPRETATION WILL START IN FY 88 WITH A STRONGER EMPHASIS ON TARGETING SMALL MAMMAL HABITAT AFFINITIES AND ASSOCIATIONS WITH SIMILAR COVER TYPES. ALONG WITH THIS WILL COME RELATIVE DENSITY VALUES FOR THESE INTEGRAL MEMBERS OF THE FOOD CHAIN.

ALL LEVELS OF ACTIVITY WILL BE BASED UPON HOW MUCH FUNDING IS FORTHCOMING TO THIS OPERATION THROUGH THE ENTRANCE FEE PROGRAM.

APPENDIX "A"

SARA ECOLOGICAL BASELINE INVENTORY COSTS/PURCHASES

1. OKI-DATA PARALLEL PRINTER	\$548.01
2. TOMAHAWK LIVE TRAPS (VARIOUS SIZES)30 TRAPS	\$1057.00
3. PLANT ECOLOGIST (HERBARIUM COLLECTION)	\$500.00
4. SHERMAN SMALL MAMMAL (FOLDING TRAPS)130 TRAPS	\$753.00
5. SWIFT BINOCULARS	\$135.00
6. 250 MUSEUM SPECIAL MAMMAL TRAPS	\$835.00
7. RAT TRAPS (204)	\$122.40
8. PIT FALL TRAP BUCKETS (100)	\$22.67
9. CUMULATIVE TRAP BAITG	\$98.00
10. SPECIMEN PREPERATION SUPPLIES	\$467.55
TOTAL	\$4538.63

SARA WATER RESOURCE BASELINE INVENTORY COSTS/PURCHASES

1. LAB SERVICES (C.T.MALE LABS)	\$1620.11
2. IN PARK LAB EQUIPMENT	\$788.38
3. EQUIPMENT PACKS/SUPPLIES	\$319.00
4. BOAT, OARS, P.F.D.'S	\$595.16
TOTAL	\$3322.65

BIOLOGICAL TECH. SALARY GS401-05

TOTAL	\$3772.00
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<u>TOTAL 180 ACCOUNT EXPENDITURES</u>	\$11,633.28
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Check:
Fixed
FHM
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APPENDIX "B"

SPECIMENS CAPTURED IN FY 1987
MAMMALS

- ✓✓ VIRGINIA OPOSSUM (DIDELPHIS VIRGINIANA)
- ✓✓ MASKED SHREW (SOREX CINEREUS)
- ✓✓ SHORT TAILED SHREW (BLARINA BREVICAUDA)
- ✓✓ EASTERN MOLE (SCALOPUS AQUATICUS)
- ✓✓ STAR NOSED MOLE (CONDYLURA CRISTATA)
- ✓✓ EASTERN COTTONTAIL (SYLVILAGUS FLORIDANUS)
- ✓✓ EASTERN CHIPMUNK (TAMIAS STRIATUS)
- ✓✓ WOODCHUCK (MARMOTA MONAX)
- ✓✓ GRAY SQUIRREL (SCIRIUS CAROLINENSIS)
- ✓✓ RED SQUIRREL (TAMIASCIURUS HUDSONICUS)
- ✓✓ DEER MOUSE (PEROMYSCUS MANICULATUS)
- ✓✓ WHITE FOOTED MOUSE (PEROMYSCUS LEUCOPUS)
- ✓✓ MEADOW VOLE (MICROTUS PENNSYLVANICUS)
- ✓✓ MUSKRAT (ONDATRA ZIBETHICUS)
- ✓✓ NORWAY RAT (RATTUS NORVEGICUS)
- ✓✓ SHORT TAIL WEASEL (MUSTELA ERMINEA)
- ✓✓ HOUSE MOUSE (MUS MUSCULUS)
- ✓✓ MEADOW JUMPING MOUSE (ZAPUS HUDSONIUS)
- ✓✓ WOODLAND JUMPING MOUSE (NAPAEZAPUS INSIGNIS)
- ✓✓ RACCOON (PROCYON LOTOR)
- ✓✓ LONG TAIL WEASEL (MUSTELA FRENATA)
- ✓✓ STRIPED SKUNK (MEPHITIS MEPHITIS)
- ✓✓ SMOKY SHREW (SOREX FUMEUS)

SIGHTED MAMMALS IN OR ADJACENT TO THE PARK (1987)

- ✓✓ WHITE TAILED DEER (ODOCOILEUS VIRGINIANUS)
- ✓✓ PORCUPINE (ERITHIZON DORSATUM)
- ✓✓ BEAVER (CASTOR CANADENSIS)
- ✓✓ FLYING SQUIRREL (? PROBABLY, GLAUCOMYS VOLANS)
- ✓✓ COYOTE (CANIS LATRANS)
- ✓✓ BLACK BEAR (URSUS AMERICANUS)
- ✓✓ RED FOX (VULPES VULPES)
- ✓✓ MINK (MUSTELA VISON)
- ✓✓ SNOWSHOE HARE (LEPUS AMERICANUS)
- ✓✓ BIG BROWN BAT (EPTESICUS FUSCUS)
- ✓✓ LITTLE BROWN MYOTIS (MYOTIS LUCIFIGUS)

APPENDIX "C"

SPECIMENS CAPTURED IN 1987

AMPHIBIANS AND REPTILES

- ✓ SPOTTED SALAMANDER (AMBYSTOMA MACULATUM)
- ✓ RED EFT / RED SPOTTED NEWT (NOTOPHTHALMUS V. VIRIDESCENS)
- ✓ REDBACK SALAMANDER (PLETHODON CINEREUS)
- ✓ NORTHERN TWO LINED SALAMANDER (EURYCEA B. BISLINEATA)
- ✓ AMERICAN TOAD (BUFO AMERICANUS)
- ✓ BULLFROG (RANA CATESBEIANA)
- ✓ GREEN FROG (RANA CLAMITANS MELANOTA)
- ✓ WOOD FROG (RANA SYLVATICA)
- ✓ NORTHERN LEOPARD FROG (RANA PIPIENS)
- ✓ WOOD TURTLE (CLEMMYS INSCULPTA)
- ✓ SNAPPING TURTLE (CHELYDRA S. SERPENTINA)
- ✓ EASTERN BOX TURTLE (TERRAPENE C. CAROLINA)
- ✓ EASTERN PAINTED TURTLE (CHRYSEMYS P. PICTA)
- ✓ NORTHERN BROWN SNAKE (STORERIA D. DEKAYI)
- ✓ EASTERN GARTER SNAKE (THAMNOPHIS S. SIRTALIS)
- ✓ EASTERN MILK SNAKE (LAMPROPELTIS T. TRIANGULUM)
- ✓ NORTHERN RED BELLY SNAKE (STORERIA O. OCCIPITOMACULATA)

SPECIMENS CAPTURED IN 1987

ARTHROPODS (ECTOPARASITES)

- ✓ UNKNOWN TICKS (ORDER ACARINA)
- ✓ UNKNOWN MITES (ORDER ACARINA)
- ✓ UNKNOWN FLEAS (ORDER SIPHONAPTERA)

APPENDIX "D"

PLANTS '87

* Need to
Add
1- Added

Added to
NPSpecies
6-14-02
ENN

327
14
341 PLANTS

* 15

14 ADDED

528
14
542

327
14

✓ = 48

* = 3

51 ✓

Record#	FAMILY	NUMBER SPECIES
1	Aceraceae	* 173 Glechenia hederaceae — ITIS can't find * ✓
2	Aceraceae	✓ 360 Acer negundo X
3	Aceraceae	✓ 219 Acer pennsylvanicum X
4	Aceraceae	✓ 196 Acer saccharinum X
5	Anacardiaceae	✓ 63 Rhus glabra ✓
6	Anacardiaceae	✓ 64 Rhus typhina ✓
7	Anacardiaceae	✓ 380 Rhus typhina ✓
8	Apiaceae	✓ 31 Cicuta maculata } X
9	Apiaceae	✓ 247 Cicuta maculata } X
10	Apiaceae	✓ 246 Daucus carota X
11	Apiaceae	* 156 Pastinaca palustris — * ✓
12	Apiaceae	✓ 162 Umbelliferae X
13	Apocynaceae	✓ 48 Apocynum cannabinum } X
14	Apocynaceae	✓ 153 Apocynum cannabinum } X
15	Araceae	✓ 125 Symplocarpus foetidus X
16	Araceae	✓ 348 Arisaema sp. X
17	Araceae	✓ 221 Arum sp. X
18	Araliaceae	✓ 50 Aralia nudicaulis X
19	Araliaceae	✓ 223 Sagittaria latifolia X
20	Aristolochiaceae	✓ 313 Asarum canadense X
21	Asclepiadaceae	✓ 317 Asclepias syriaca X
22	Asclepiadaceae	✓ 303 Asclepias tuberosa X
23	Asteraceae	✓ 1 Achillea millefolium } X
24	Asteraceae	✓ 263 Achillea millefolium } X
25	Asteraceae	✓ 262 Antennaria neglecta X
26	Asteraceae	✓ 132 Antennaria sp. X
27	Asteraceae	✓ 346 Aster cordifolius X
28	Asteraceae	✓ 259 Aster ericoides X
29	Asteraceae	✓ 343 Aster laevis X
30	Asteraceae	✓ 344 Aster novae-angliae X
31	Asteraceae	✓ 347 Aster puniceus X
32	Asteraceae	✓ 345 Aster sagittifolius X
33	Asteraceae	✓ 146 Aster vimineus X
34	Asteraceae	✓ 287 Bidens comosa X
35	Asteraceae	✓ 319 Centaurea maculosa X
36	Asteraceae	✓ 261 Chrysanthemum leucanthemum X
37	Asteraceae	✓ 172 Cichorium intybus } X
38	Asteraceae	✓ 342 Cichorium intybus } X
39	Asteraceae	✓ 320 Cirsium punilum X
40	Asteraceae	✓ 290 Coreopsis lanceolata X
41	Asteraceae	✓ 30 Erigeron philadelphicus X
42	Asteraceae	✓ 908 Eupatorium hyssopifolium X
43	Asteraceae	✓ 318 Eupatorium maculatum X
44	Asteraceae	✓ 260 Eupatorium perfoliatum } X
45	Asteraceae	✓ 205 Eupatorium perfoliatum } X
46	Asteraceae	✓ 184 Eupatorium sp. X
47	Asteraceae	✓ 143 Gnaphalium obtusifolium X
48	Asteraceae	✓ 195 Helianthus mollis X
49	Asteraceae	✓ 82 Hieracium aeneum X
50	Asteraceae	✓ 304 Hieracium aurantiacum X
51	Asteraceae	✓ 297 Hieracium floribundum X
52	Asteraceae	✓ 88 Hieracium pilosella X
53	Asteraceae	✓ 85 Hieracium sp. } X
54	Asteraceae	✓ 159 Hieracium sp. } X
55	Asteraceae	* 177 Hieracaria matricarioides ? — * ylatricaria matricarioides ✓
56	Asteraceae	✓ 281 Rudbeckia hirta X
57	Asteraceae	✓ 298 Senecio smallii X
58	Asteraceae	✓ 296 Solidago altissima X
59	Asteraceae	✓ 194 Solidago graminifolia X

- 51 Asteraceae ✓ 293 Solidago nemoralis X
- 52 Asteraceae ✓ 295 Solidago rugosa X
- 63 Asteraceae ✓ 304 Sonchus oleraceus X
- 64 Asteraceae ✓ 357 Tragopogon dubius X
- 65 Asteraceae ✓ 281 Tragopogon pratensis X
- 66 Asteraceae ✓ 289 Tussillago farfara X
- 67 Balsaminaceae ✓ 302 Impatiens capensis X
- 68 Berberidaceae ✓ 361 Berberis sp. X
- 69 Berberidaceae ✓ 222 Podophyllum peltatum X
- 70 Betulaceae ✓ 359 Betula lutea X
- 71 Betulaceae ✓ 357 Betula populifolia X
- 72 Betulaceae ✓ 102 Carpinus caroliniana X
- 73 Betulaceae ✓ 370 Ostrya virginiana X
- 74 Bignoniaceae ✓ 140 Catalpa bignonioides X
- 75 Boraginaceae ✓ { 140 Echium vulgare } X
- 76 Boraginaceae ✓ { 325 Echium vulgare } X
- 77 Brassicaceae ✓ 157 Alliaria officinalis X
- 78 Brassicaceae ✓ 265 Barbarea vulgaris X
- 79 Brassicaceae ✓ 284 Brassica hirta X
- 80 Brassicaceae ✓ 258 Dentaria diphylla X
- 81 Brassicaceae ✓ 189 Lepidium campestre X
- 82 Brassicaceae { 51 Mustard }
- 83 Brassicaceae { 71 Mustard }
- 84 Brassicaceae { 136 Mustard }
- 85 Brassicaceae ✓ Δ { 127 Mustard } X
- 86 Brassicaceae { 183 Mustard }
- 87 Brassicaceae { 190 Mustard }
- 88 Brassicaceae { 198 Mustard }
- 89 Brassicaceae * { 183 Mustard } X
- 90 Brassicaceae ✓ 213 Raphanus sp. X
- 91 Brassicaceae ✓ 200 Lepidium virginicum X
- 92 Calycanthaceae ✓ 355 Calycanthus fertilis X
- 93 Campanulaceae ✓ 333 Campanula rapunculoides X
- 94 Campanulaceae ✓ 310 Lobelia cardinalis X
- 95 Campanulaceae ✓ 212 Specularia perfoliata X
- 96 Caprifoliaceae { 39 Lonicera fragrantissima } X
- 97 Caprifoliaceae ✓ { 369 Lonicera fragrantissima } X
- 98 Caprifoliaceae { 170 Sambucus canadensis }
- 99 Caprifoliaceae ✓ { 368 Sambucus canadensis } X
- 100 Caprifoliaceae ✓ 167 Viburnum lentago X
- 101 Caprifoliaceae ✓ 353 Viburnum recognitum X
- 102 Caryophyllaceae ✓ 188 Arenaria sp. X
- 103 Caryophyllaceae ✓ 240 Arenaria lateriflora X
- 104 Caryophyllaceae ✓ 241 Arenaria serpyllifolia X
- 105 Caryophyllaceae ✓ 239 Cerastium vulgatum X
- 106 Caryophyllaceae { 73 Dianthus armeria } X
- 107 Caryophyllaceae Δ { 311 Dianthus armeria } X
- 108 Caryophyllaceae ✓ 238 Lychnis alba X
- 109 Caryophyllaceae ✓ 242 Saponaria officinalis X
- 110 Caryophyllaceae ✓ 243 Stellaria graminia X
- 111 Caryophyllaceae ✓ 157 Stellaria sp. X
- 112 Caryophyllaceae Δ 81 Arenaria sp. X
- 113 Celastraceae ✓ 191 Celastrus orbiculatus X
- 114 Chenopodiaceae ✓ 204 Chenopodium album X
- 115 Cornaceae ✓ 367 Cornus racemosa X
- 116 Cupressaceae ✓ 902 Juniperus virginiana X
- 117 Cyperaceae ✓ 46 Carex pennsylvanica X
- 118 Cyperaceae { 16 Carex sp. }
- 119 Cyperaceae { 16 Carex sp. }
- 120 Cyperaceae { 26 Carex sp. }
- 121 Cyperaceae ✓ { 27 Carex sp. }
- 122 Cyperaceae { 28 Carex sp. }
- 123 Cyperaceae { 28 Carex sp. }
- 124 Cyperaceae { 29 Carex sp. }
- 125 Cyperaceae { 31 Carex sp. }

Brassica

Δ = Double

$$\begin{array}{r}
 \checkmark = 46 \\
 * = 1 \\
 \hline
 47 \\
 \Delta = 18 \\
 \hline
 65
 \end{array}$$

127	Cyperaceae	35	Carex sp.	
128	Cyperaceae	38	Carex sp.	
129	Cyperaceae	51	Carex sp.	
130	Cyperaceae	56	Carex sp.	
131	Cyperaceae	68	Carex sp.	
132	Cyperaceae	78	Carex sp.	
133	Cyperaceae	84	Carex sp.	
134	Cyperaceae	86	Carex sp.	
135	Cyperaceae	87	Carex sp.	
136	Cyperaceae	91	Carex sp.	
137	Cyperaceae	92	Carex sp.	
138	Cyperaceae	93	Carex sp.	
139	Cyperaceae	94	Carex sp.	✓
140	Cyperaceae	95	Carex sp.	
141	Cyperaceae	109	Carex sp.	
142	Cyperaceae	114	Carex sp.	
143	Cyperaceae	115	Carex sp.	
144	Cyperaceae	121	Carex sp.	
145	Cyperaceae	122	Carex sp.	
146	Cyperaceae	166	Carex sp.	
147	Cyperaceae	168	Carex sp.	
148	Cyperaceae	169	Carex sp.	
149	Cyperaceae	193	Carex sp.	
150	Cyperaceae	206	Carex sp.	
151	Cyperaceae	209	Carex sp.	
152	Cyperaceae	210	Carex sp.	
153	Cyperaceae	220	Carex sp.	
154	Cyperaceae	* 10	Carex sp. #1	✓
155	Cyperaceae	20	Eleocharis sp.	
156	Cyperaceae	✓ { 56	Eleocharis sp.	X
157	Cyperaceae	✓ { 174	Eleocharis sp.	
158	Cyperaceae	✓ { 18	Scirpus sp.	
159	Cyperaceae	✓ { 21	Scirpus sp.	X
160	Cyperaceae	✓ { 207	Scirpus sp.	
161	Equisetaceae	✓ { 37	Equisetum arvense	X
162	Equisetaceae	✓ { 410	Equisetum arvense	
163	Equisetaceae	✓ { 40	Equisetum hyemale	X
164	Equisetaceae	✓ { 402	Equisetum hyemale	
165	Ericaceae	✓ { 123	Vaccinium angustifolium	X
166	Ericaceae	✓ { 124	Vaccinium vacillans	✓
167	Ericaceae	✓ { 358	Vaccinium vacillans	
168	Euphorbiaceae	✓ 186	Euphorbia sp.	X
169	Fabaceae	✓ 57	Apios americana	✓
170	Fabaceae	✓ 47	Desmodium sp.	X
171	Fabaceae	✓ 372	Gleditsia triacanthos	X
172	Fabaceae	✓ 910	Lathyrus latifolius	X
173	Fabaceae	✓ 45	Lespedeza capitata	✓
174	Fabaceae	✓ 280	Lotus corniculatus	X
175	Fabaceae	✓ 253	Melilotus alba	X
176	Fabaceae	✓ { 42	Melilotus officinalis	
177	Fabaceae	✓ { 282	Melilotus officinalis	X
178	Fabaceae	✓ 341	Phaseolus polystachios	✓
179	Fabaceae	✓ 371	Robinia pseudoacacia	X
180	Fabaceae	✓ 55	Robinia sp.	✓
181	Fabaceae	✓ 282	Trifolium agrarium	✓
182	Fabaceae	✓ 905	Trifolium arvense	✓
183	Fabaceae	✓ { 17	Trifolium sp.	
184	Fabaceae	✓ { 23	Trifolium sp.	
185	Fabaceae	✓ { 23	Trifolium sp.	X
186	Fabaceae	✓ { 24	Trifolium sp.	
187	Fabaceae	✓ { 42	Trifolium sp.	
188	Fabaceae	✓ 340	Vicia cracca	X
189	Fabaceae	✓ { 67	Vicia sp.	
190	Fabaceae	✓ { 72	Vicia sp.	✓
191	Fabaceae	✓ { 20	Vicia sp.	

✓ = 23

* = 1

Δ = 41

65 ✓

191
127

64

65

193	Fagaceae	✓ 352 Fagus grandifolia	✓
194	Fagaceae	✓ 378 Quercus bicolor	✓
195	Fagaceae	✓ 377 Quercus velutina	✓
196	Geraniaceae	✓ 85 Geranium sp.	✓
197	Hamamelidaceae	✓ { 100 Hamamelis virginiana } X	
198	Hamamelidaceae	✓ { 384 Hamamelis virginiana } X	
199	Rumicaceae	✓ 233 Cannabis sativa	✓
200	Hypericaceae	✓ 54 Hypericum perforatum	✓
201	Iridaceae	✓ 44 Iris cristata	✓
202	Iridaceae	✓ 323 Iris versicolor	✓
203	Iridaceae	✓ 321 Sisyrinchium mucronatum	✓
204	Iridaceae	✓ 11 Sisyrinchium sp.	✓
205	Iridaceae	✓ { 104 Sisyrinchium sp. } X	
206	Iridaceae	✓ { 322 Sisyrinchium sp. } X	
207	Juncaceae	✓ 13 Juncus sp.	✓
208	Juncaceae	✓ 33 Juncus sp.	✓
209	Juncaceae	✓ 152 Juncus sp.	✓
210	Juncaceae	✓ 154 Juncus sp.	✓
211	Juncaceae	✓ 155 Juncus sp.	✓
212	Juncaceae	✓ 158 Juncus sp.	✓
213	Juncaceae	✓ 175 Juncus sp.	✓
214	Juncaceae	✓ 35 Luzula multiflora	✓
215	Labiatae	✓ 906 Thymus serpyllum	✓
216	Lamiaceae	✓ 337 Glecoma hederaceae	✓
217	Lamiaceae	✓ 41 Lamium apennicum	✓
218	Lamiaceae	✓ 315 Leonurus cardiaca	✓
219	Lamiaceae	✓ 254 Lycopus americanus	✓
220	Lamiaceae	✓ 256 Mentha arvensis	✓
221	Lamiaceae	✓ 338 Mentha piperita	✓
222	Lamiaceae	✓ 138 Mint	✓
223	Lamiaceae	✓ 339 Monarda fistulosa	✓
224	Lamiaceae	✓ 19 Prunella vulgaris	✓
225	Lamiaceae	✓ 144 Pycnanthemum sp.	✓
226	Lamiaceae	✓ 253 Pycnanthemum tenuifolium	✓
227	Lamiaceae	✓ 336 Satureja vulgaris	✓
228	Lamiaceae	✓ 148 Prunella vulgaris	✓
229	Lauraceae	✓ 379 Sassafras albidum	✓
230	Liliaceae	✓ { 66 Allium sp. } X	
231	Liliaceae	✓ { 195 Allium sp. } X	
232	Liliaceae	✓ 171 Asparagus officinale	✓
233	Liliaceae	✓ 177 Convallaria majalis	✓
234	Liliaceae	✓ 265 Erythronium americanum	✓
235	Liliaceae	✓ 301 Hemerocallis fulva	✓
236	Liliaceae	✓ 65 Liliaceae	✓
237	Liliaceae	✓ 300 Lilium canadense	✓
238	Liliaceae	✓ 105 Maianthemum canadense	✓
239	Liliaceae	✓ { 106 Medeola virginiana } X	
240	Liliaceae	✓ { 251 Medeola virginiana } X	
241	Liliaceae	✓ 250 Smilacina racemosa	✓
242	Liliaceae	✓ 306 Trillium erectum	✓
243	Liliaceae	✓ 120 Urtularia sessilifolia	✓
244	Campanulaceae	✓ 909 Lobelia spicata	✓
245	Lycopodiaceae	✓ 400 ?	✓
246	Lycopodiaceae	✓ 397 Lycopodium clavatum	✓
247	Lycopodiaceae	✓ 398 Lycopodium complanatum	✓
248	Lycopodiaceae	✓ 394 Lycopodium tristachyum	✓
249	Lythraceae	✓ 316 Lythrum salicaria	✓
250	Moraceae	✓ 375 Morus alba	✓
251	Myricaceae	✓ 49 Myrica asplenifolia	✓
252	Oleaceae	✓ 352 Fraxinus tomentosa	✓
253	Onagraceae	✓ 267 Oenothera biennis	✓
254	Onagraceae	✓ 214 Oenothera sp.	✓
255	OphioGLOSSACEAE	✓ 119 Botrychium	✓
256	Orchidaceae	✓ 305 Cypripedium acaule	✓
257	Orobanchaceae	✓ 246 Solifagus virginiana	✓

$$1 = 52$$

$$* = 1$$

$$53$$

$$\Delta = 12$$

$$165 \checkmark$$

$$257$$

$$193$$

$$64$$

237	Osmundaceae	✓358 Osmunda claytoniana	X
240	Onagraceae	✓279 Onalis stricta	X
261	Papaveraceae	✓230 Sanguinaria canadensis	X
262	Pinaceae	✓900 Pinus strobus	X
263	Pinaceae	✓901 Tsuga canadensis	X
264	Plantaginaceae	✓70 Plantago lanceolata	X
265	Plantaginaceae	✓127 Plantago lanceolata	X
266	Plantaginaceae	✓126 Plantago major	X
267	Plantaginaceae	✓131 Plantago rugelii	X
268	Poaceae	✓194 Agropyron repens	X
269	Poaceae	✓61 Agrostis stolonifera	X
270	Poaceae	✓5 Anthoxanthum odoratum	X
271	Poaceae	✓25 Anthoxanthum odoratum	X
272	Poaceae	✓111 Brachyelytrum erectum	X
273	Poaceae	✓58 Bromus inermis	X
274	Poaceae	✓176 Bromus japonicus	X
275	Poaceae	✓62 Dactylis glomerata	X
276	Poaceae	✓14 Danthonia spicata	X
277	Poaceae	✓179 Elymus villosus	X
278	Poaceae	✓4 Festuca elatior	X
279	Poaceae	✓163 Festuca rubra	X
280	Poaceae	✓96 Glyceria grandis	X
281	Poaceae	*✓151 Glyceria septentrionalis, G. fluidans	✓
282	Poaceae	✓6 Glyceria striata	X
283	Poaceae	*211 Grass unknown	✓
284	Poaceae	✓7 Holcus lanatus	X
285	Poaceae	✓135 Lolium multiflorum	X
286	Poaceae	✓116 Panicum clandestinum	X
287	Poaceae	✓208 Panicum clandestinum	X
288	Poaceae	✓8 Panicum lanuginosum var. septentrionale	X
289	Poaceae	✓159 Panicum lanuginosum var. tennesseense	X
290	Poaceae	✓118 Panicum oligosanthos	X
291	Poaceae	✓12 Phalaris arundinacea	X
292	Poaceae	✓260 Phalaris arundinacea	X
293	Poaceae	✓9 Phleum pratense	X
294	Poaceae	✓129 Poa annua	X
295	Poaceae	✓164 Poa compressa	X
296	Poaceae	✓160 Poa palustris	X
297	Poaceae	✓165 Poa palustris	X
298	Poaceae	✓79 Poa trivialis	X
299	Polygalaceae	✓307 Polygalaceae	X
300	Polygonaceae	✓101 Convolvulus sepium	X
301	Polygonaceae	*133 Fagopyrum aviculare*	IT IS CAN'T FIND ✓
302	Polygonaceae	✓20 Fagopyrum esculentum	X
303	Polygonaceae	✓373 Polygonum cuspidatum	X
304	Polygonaceae	✓308 Polygonum sagittatum	X
305	Polygonaceae	✓314 Rumex acetosella	X
306	Polygonaceae	✓53 Rumex crispus	X
307	Polypodiaceae	✓392 Adiantum pedatum	X
308	Polypodiaceae	✓391 Asplenium trichomanes	X
309	Polypodiaceae	✓386 Athyrium filix-femina	X
310	Polypodiaceae	✓117 Dennstaedtia punctilobula	X
311	Polypodiaceae	✓389 Onoclea sensibilis	X
312	Polypodiaceae	✓393 Polypodium vulgare	X
313	Polypodiaceae	✓294 Polystichum acrostichoides	X
314	Polypodium	✓395 Pteridium aquilinum	X
315	Polypodium	✓385 Thelypteris noveboracensis	X
316	Polypodium	✓390 Thelypteris palustris	✓
317	Fontederiaceae	✓326 Fontederia cordata	X
318	Primulaceae	✓277 Lysimachia nummularia	✓
319	Primulaceae	✓97 Lysimachia quadrifolia	✓
320	Primulaceae	✓275 Lysimachia quadrifolia	✓
321	Primulaceae	✓185 Lysimachia sp.	✓
322	Primulaceae	✓276 Lysimachia terrestris	✓
323	Primulaceae	✓112 Potentilla canadensis	✓

✓ = 57

* = 3

60

Δ = 5

65 ✓

323

259

64

(65)

325	Veronica	✓ 224 Veronica maritima	✓
326	Pyrolaceae	* 98 Pyrola sp. ???	✓
327	Ranunculaceae	✓ 225 Anemone canadensis	✓
328	Ranunculaceae	✓ 227 Anemone pulsatilla	✓
329	Ranunculaceae	✓ 228 Anemone thalictroides	✓
330	Ranunculaceae	✓ 312 Aquilegia canadensis	✓
331	Ranunculaceae	✓ 233 Galium palustre	✓
332	Ranunculaceae	✓ 182 Clematis sp.	✓
333	Ranunculaceae	✓ 223 Hepatica americana	✓
334	Ranunculaceae	✓ 322 Hepatica americana	✓
335	Ranunculaceae	✓ 192 Ranunculaceae	✓
336	Ranunculaceae	✓ 148 Ranunculus abortivus	✓
337	Ranunculaceae	✓ 269 Ranunculus acris	✓
338	Ranunculaceae	✓ 264 Ranunculus fascicularis	✓
339	Ranunculaceae	✓ 88 Ranunculus sp.	✓
340	Ranunculaceae	✓ 99 Ranunculus sp.	✓
341	Ranunculaceae	✓ 215 Ranunculus sp.	✓
342	Ranunculaceae	✓ 110 Sanicula canadensis	✓
343	Ranunculaceae	✓ 229 Thalictrum polygamum	✓
344	Rhamnaceae	✓ 391 Rhamnus cathartica	✓
345	Rhamnaceae	✓ 102 Rhamnus sp.	✓
346	Rosaceae	✓ 274 Potentilla recta	✓
347	Rosaceae	✓ 74 Malus sp.	✓
348	Rosaceae	✓ 150 Agrimonia sp.	✓
349	Rosaceae	✓ 270 Agrimonia sp.	✓
350	Rosaceae	* 76 Crataegis	✓
351	Rosaceae	✓ 218 Crataegis sp.	✓
352	Rosaceae	✓ 363 Crataegis sp.	✓
353	Rosaceae	✓ 226 Fragaria vesca	✓
354	Rosaceae	✓ 235 Fragaria virginiana	✓
355	Rosaceae	✓ 80 Geum canadense	✓
356	Rosaceae	✓ 234 Geum canadense	✓
357	Rosaceae	✓ 271 Geum strictum	✓
358	Rosaceae	✓ 75 Potentilla anserina	✓
359	Rosaceae	✓ 273 Potentilla canadensis	✓
360	Rosaceae	✓ 52 Potentilla recta	✓
361	Rosaceae	✓ 272 Potentilla simplex	✓
362	Rosaceae	✓ 265 Prunus serotina	✓
363	Rosaceae	✓ 366 Prunus virginiana	✓
364	Rosaceae	✓ 354 Pyrus malus	✓
365	Rosaceae	✓ 130 Rosa virginiana	✓
366	Rosaceae	✓ 77 Rubus hispidus	✓
367	Rosaceae	✓ 134 Rubus occidentalis	✓
368	Rosaceae	✓ 330 Rubus odoratus	✓
369	Rosaceae	✓ 199 Rubus sp.	✓
370	Rubiaceae	✓ 367 Cephalanthus occidentalis	✓
371	Rubiaceae	✓ 244 Galium mollugo	✓
372	Rubiaceae	✓ 89 Galium sp.	✓
373	Rubiaceae	✓ 107 Galium sp.	✓
374	Rubiaceae	✓ 202 Galium sp.	✓
375	Rubiaceae	✓ 286 Galium verum	✓
376	Rubiaceae	* 3 Galium yellow	✓
377	Rubiaceae	✓ 103 Mitchella repens	✓
378	Scrophulariaceae	✓ 907 Verbascum thapsus	✓
379	Typhaceae	✓ 903 Typha angustifolia	✓
380	Typhaceae	✓ 345 Typha latifolia	✓
381	Rhamnaceae	✓ Rhamnus alnifolia	✓
382	Anacardiaceae	✓ Rhus toxicodendron	✓
383	Saxifragaceae	✓ Hydrangea sp.	✓
384	Rosaceae	✓ Spiraea latifolia	✓
385	Rosaceae	✓ Spiraea tomentosa	✓
386	Osmundaceae	✓ Osmunda cinnamomea	✓
387	Lycopodiaceae	✓ Lycopodium lucidulum	✓
388	Lycopodiaceae	✓ Lycopodium obscurum	✓
389	Charitaceae	* Eurychorda	✓

✓ = 51

* = 4

55

Δ = 10

65 ✓

389

325

64

65

391	Salaginaceae	* Selaginella apoda	Selaginella apoda ✓
392	Vitaceae	✓ Vitis	X
393	Vitaceae	✓ Parthenocissus quinquefolia	X
394	Fabaceae	✓ Ampelocera bracteata	X
395	Asteraceae	✓ Aster undulatus	X
396	Asteraceae	✓ Antennaria racemosa	X
397	Asteraceae	* Erigeron canadensis	✓
398	Scrophulariaceae	✓ Linaria vulgaris	X
399	Scrophulariaceae	✓ Veronica officinalis	X
400	Geraniaceae	✓ Geranium pratense	X
401	Geraniaceae	✓ Geranium molle	X
402	Araceae	✓ Arisaema triphyllum	X
403	Pyrolaceae	✓ Pyrola elliptica	X
404	Labiatae	✓ Lycopodium virginiana	X
405	Violaceae	✓ Viola papilionacea	X
406	Rubiaceae	✓ Galium boreale	X
407	Rubiaceae	✓ Galium asprellum	X
408	Liliaceae	✓ Streptopus amplexifolius	X
409	Asteraceae	✓ Taraxacum officinale	X
410	Balsaminaceae	✓ Impatiens pallida	X
411	Asteraceae	✓ Aster lowianus	X
412	Asteraceae	✓ Amelanchier alnifolia	X
413	Asteraceae	✓ Cirsium vulgare	X
414	Ranunculaceae	✓ Anemone virginiana	X
415	Polygalaceae	✓ Polygala verticillata	X
416	Ranunculaceae	✓ Ranunculus septentrionalis	X
417	Rosaceae	✓ Rosa carolina	X
418	Fabaceae	✓ Trifolium hybridum	X
419	Commelinaceae	✓ Commelina communis	X
420	Oleaceae	✓ Fraxinus americana	X
421	Juglandaceae	✓ Carya ovata	X
422	Juglandaceae	✓ Carya cordiformis	X
423	Juglandaceae	✓ Juglans cinerea	X
424	Rosaceae	✓ Prunus pennsylvanica	X
425	Aceraceae	✓ 0 Acer saccharum	X
426	Aceraceae	✓ Acer rubrum	X
427	Fagaceae	✓ Quercus rubra	X
428	Fagaceae	✓ Quercus alba	X
429	Betulaceae	✓ Corylus americana	X
430	Betulaceae	✓ Betula papyrifera	X
431	Salicaceae	✓ Salix nigra	X
432	Salicaceae	✓ Populus tremuloides	X
433	Salicaceae	✓ Populus grandidentata	X
434	Tiliaceae	✓ Tilia americana	X
435	Ulmaceae	✓ Ulmus americana	X
436	Ulmaceae	✓ Ulmus rubra	X
437	Caprifoliaceae	✓ Viburnum acerifolium	X
438	Rosaceae	✓ Amelanchier arborea	X
439	Betulaceae	✓ Betula lenta	X
440	Betulaceae	✓ Betula nigra	X
441	Rutaceae	✓ Zanthoxylum americanum	Zanthoxylum
442	Betulaceae	✓ Alnus rugosa	X

1 = 50

* = 2

52 ✓

442

391

51

52

APPENDIX "E"

BIRD SIGHTINGS - 1987
FROM COUNTY CHRISTMAS BIRD SURVEY

- | | |
|------------------------------|--------------------------------------|
| ✓1. COMMON LOON | ✓2. HORNED GREBE |
| ✓3. PIED-BILLED GREBE | ✓4. RED-NECKED GREBE |
| ✓5. CANADA GOOSE | ✓6. BRANT |
| ✓7. AMERICAN BLACK DUCK | ✓8. MALLARD |
| ✓9. WOOD DUCK | ✓10. GREEN-WINGED TEAL |
| ✓11. WHITE-WINGED SCOTER | ✓12. BLACK SCOTER |
| ✓13. CANVASBACK | ✓14. RING-NECKED DUCK |
| ✓15. LESSER SCAUP | ✓16. GREATER SCAUP |
| ✓17. COMMON GOLDENEYE | ✓18. BUFFLEHEAD |
| ✓19. RUDDY DUCK | ✓20. COMMON MERGANSER |
| ✓21. RED-BREASTED MERGANSER | ✓22. HOODED MERGANSER |
| ✓23. AMERICAN COOT | ✓24. HERRING GULL |
| ✓25. RING BILLED GULL | ✓26. GREATER BLACK BACKED GULL |
| ✓27. BONAPARTES GULL | ✓28. GREAT BLUE HERON |
| ✓29. GREEN BACKED HERON | ✓30. KILLDEER |
| ✓31. RUFFED GROUSE | ✓32. RING-NECKED PHEASANT |
| ✓33. SHARP SHINNED HAWK | ✓34. COOPERS HAWK |
| ✓35. GOSHAWK | ✓36. NORTHERN HARRIER |
| ✓37. RED-TAILED HAWK | ✓38. ROUGH-LEGGED HAWK |
| ✓39. BROAD WINGED HAWK | ✓40. BALD EAGLE |
| ✓41. OSPREY | ✓42. TURKEY VULTURE |
| ✓43. AMERICAN KESTREL | ✓44. SNOWY OWL |
| ✓45. MOURNING DOVE | ✓46. ROCK DOVE |
| ✓47. COMMON NIGHTHAWK | ✓48. BELTED KINGFISHER |
| ✓49. PILEATED WOODPECKER | ✓50. COMMON FLICKER |
| ✓51. RED-BELLIED WOODPECKER | ✓52. YELLOW-BELLIED SAPSUCKER |
| ✓53. DOWNY WOODPECKER | ✓54. HAIRY WOODPECKER |
| ✓55. EASTERN KINGBIRD | ✓56. GREAT CRESTED FLYCATCHER |
| ✓57. EASTERN PHOEBE | ✓58. EASTERN PEWEE |
| ✓59. LEAST FLYCATCHER | ✓60. YELLOW BELLIED FLYCATCHER |
| ✓61. BARN SWALLOW | ✓62. TREE SWALLOW |
| ✓63. BANK SWALLOW | ✓64. ROUGH WINGED SWALLOW |
| ✓65. FISH CROW | ✓66. AMERICAN CROW |
| ✓67. NORTHERN RAVEN | ✓68. BLUE JAY |
| ✓69. BLACK CAPPED CHICKADEE | ✓70. TUFTED TITMOUSE |
| ✓71. WHITE BREASTED NUTHATCH | ✓72. RED-BREASTED NUTHATCH |
| ✓73. BROWN CREEPER | ✓74. HOUSE WREN |
| ✓75. RUBY CROWNED KINGLET | ✓76. GOLDEN CROWNED KINGLET |
| ✓77. GRAY CATBIRD | ✓78. NORTHERN MOCKINGBIRD |
| ✓79. EASTERN BLUEBIRD | ✓80. AMERICAN ROBIN |
| ✓81. SWAINSONS THRUSH | ✓82. VEERY |
| ✓83. WOOD THRUSH | ✓84. CEDAR WAXWING |
| ✓85. RED-EYED VIREO | ✓86. WARBLING VIREO |
| ✓87. PHILADELPHIA VIREO | ✓88. YELLOW THROATED VIREO |
| ✓89. SOLITARY VIREO | ✓90. BLACK-THROATED GREEN
WARBLER |

- | | |
|--|---------------------------------|
| ✓91. BLACK AND WHITE WARBLER | ✓92. BLACKPOLL WARBLER |
| ✓93. MAGNOLIA WARBLER | ✓94. YELLOW RUMPED WARBLER |
| ✓95. CANADA WARBLER | ✓96. CHESTNUT SIDED WARBLER |
| ✓97. BLACKBURNIAN WARBLER | ✓98. AMERICAN REDSTART |
| ✓99. PINE WARBLER | ✓100. PRAIRIE WARBLER |
| ✓101. BLUE WINGED WARBLER | ✓102. YELLOW WARBLER |
| ✓103. NASHVILLE WARBLER | ✓104. COMMON YELLOWTHROAT |
| ✓105. LOUISIANA WATERTHRUSH | ✓106. OVENBIRD |
| ✓107. RED WINGED BLACKBIRD | ✓108. BROWN HEADED COWBIRD |
| ✓109. COMMON GRACKLE | ✓110. BOBOLOINK |
| ✓111. EASTERN MEADOWLARK | ✓112. EUROPEAN STARLING |
| ✓113. NORTHERN ORIOLE <i>Icterus galbula</i> | ✓114. SCARLET TANANGER |
| ✓115. HOUSE SPARROW | ✓116. DARK-EYED JUNCO |
| ✓117. NORTHERN CARDINAL | ✓118. COMMON REDPOLL |
| ✓119. HOUSE FINCH | ✓120. PURPLE FINCH |
| ✓121. EVENING GROSBEAK | ✓122. AMERICAN GOLDFINCH |
| ✓123. PINE SISKIN | ✓124. INDIGO BUNTING |
| ✓125. ROSE-BREASTED GROSBEAK | ✓126. RUFOUS-SIDED TOWHEE |
| ✓127. WHITE-THROATED SPARROW | ✓128. CHIPPING SPARROW |
| ✓129. FIELD SPARROW | ✓130. SWAMP SPARROW |
| ✓131. SONG SPARROW | ✓132. AMERICAN TREE SPARROW |
| ✓133. CHIMNEY SWIFT | ✓134. RUBY-THROATED HUMMINGBIRD |
| ✓135. GADWALL | ✓136. NORTHERN SHRIKE |
| ✓137. TURKEY | ✓138. GREAT HORNED OWL |
| ✓139. BARRED OWL | ✓140. AMERICAN WOODCOCK |
| ✓141. BLACK-THROATED BLUE WARBLER | |

OTHERS IN PARK BUT NOT SIGHTED IN 1987

- | | |
|-------------------------|----------------------------|
| ✓-SCREECH OWL | ✓- GREATER YELLOWLEGS |
| ✓-PINE GROSBEAK | ✓- FOX SPARROW |
| ✓-BLUE-GRAY GNATCATCHER | ✓- <u>RING NECKED DUCK</u> |
| ✓-WHITE CROWNED SPARROW | ✓- SNOW BUNTING |

*Already
on list
as being
seen (#14)*

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APPENDIX "D"

PLANTS '87

Record#	FAMILY	NUMBER SPECIES
1	Aceraceae	173 Glechenia lederaceae
2	Aceraceae	360 Acer negundo
3	Aceraceae	219 Acer pennsylvanicum
4	Aceraceae	196 Acer saccharinum
5	Anacardiaceae	63 Rhus glabra
6	Anacardiaceae	64 Rhus typhina
7	Anacardiaceae	380 Rhus typhina
8	Apiaceae	31 Cicuta maculata
9	Apiaceae	247 Cicuta maculata
10	Apiaceae	246 Daucus carota
11	Apiaceae	156 Pastinaca palustris
12	Apiaceae	162 Umbelliferae
13	Apocynaceae	48 Apocynum cannabinum
14	Apocynaceae	153 Apocynum cannabinum
15	Aracaceae	125 Symplocarpus foetidus
16	Araceae	348 Arisaema sp.
17	Araceae	221 Arum sp.
18	Araliaceae	50 Aralia nudicaulis
19	Araliaceae	223 Sagittaria latifolia
20	Aristolochiaceae	313 Asarum canadense
21	Asclepiadaceae	317 Asclepias syriaca
22	Asclepiadaceae	303 Asclepias tuberosa
23	Asteraceae	1 Achillea millefolium
24	Asteraceae	263 Achillea millefolium
25	Asteraceae	262 Antennaria neglecta
26	Asteraceae	132 Antennaria sp.
27	Asteraceae	346 Aster cordifolius
28	Asteraceae	259 Aster ericoides
29	Asteraceae	343 Aster laevis
30	Asteraceae	344 Aster novae-angliae
31	Asteraceae	347 Aster puniceus
32	Asteraceae	345 Aster sagittifolius
33	Asteraceae	146 Aster vimineus
34	Asteraceae	287 Bidens comosa
35	Asteraceae	319 Centaurea maculosa
36	Asteraceae	261 Chrysanthemum leucanthemum
37	Asteraceae	172 Cichorium intybus
38	Asteraceae	342 Cichorium intybus
39	Asteraceae	320 Cirsium punilum
40	Asteraceae	290 Coreopsis lanceolata
41	Asteraceae	30 Erigeron philadelphus
42	Asteraceae	908 Eupatorium hyssopifolius
43	Asteraceae	318 Eupatorium maculatum
44	Asteraceae	260 Eupatorium perfoliatum
45	Asteraceae	205 Eupatorium perfoliatum
46	Asteraceae	184 Eupatorium sp.
47	Asteraceae	143 Gnaphalium obtusifolium
48	Asteraceae	295 Helianthus mollis
49	Asteraceae	82 Hieracium asperifolium
50	Asteraceae	334 Hieracium asperifolium
51	Asteraceae	297 Hieracium floribundum
52	Asteraceae	55 Hieracium pilosella
53	Asteraceae	57 Hieracium sp.
54	Asteraceae	159 Hieracium sp.
55	Asteraceae	157 Hieracium matricarioides
56	Asteraceae	282 Rudbeckia hirta
57	Asteraceae	298 Senecio similis
58	Asteraceae	296 Solidago altissima
59	Asteraceae	294 Solidago canadensis

51	Asteraceae	295 Solidago nemoralis
52	Asteraceae	295 Solidago rugosa
53	Asteraceae	904 Sonchus oleraceus
54	Asteraceae	57 Tragopogon dubius
55	Asteraceae	291 Tragopogon pratensis
56	Asteraceae	289 Tussillago farfara
57	Balsaminaceae	302 Impatiens capensis
58	Berberidaceae	361 Berberis sp.
59	Berberidaceae	222 Podophyllum peltatum
70	Betulaceae	359 Betula lutea
71	Betulaceae	357 Betula populifolia
72	Betulaceae	102 Carpinus caroliniana
73	Betulaceae	370 Ostrya virginiana
74	Bignoniaceae	140 Catalpa bignonioides
75	Boraginaceae	140 Echium vulgare
76	Boraginaceae	325 Echium vulgare
77	Brassicaceae	157 Alliaria officinalis
78	Brassicaceae	285 Barbarea vulgaris
79	Brassicaceae	284 Brassica hirta
80	Brassicaceae	258 Dentaria diphylla
81	Brassicaceae	189 Lepidium campestre
82	Brassicaceae	51 Mustard
83	Brassicaceae	71 Mustard
84	Brassicaceae	136 Mustard
85	Brassicaceae	137 Mustard
86	Brassicaceae	183 Mustard
87	Brassicaceae	190 Mustard
88	Brassicaceae	198 Mustard
89	Brassicaceae	183 Mustard 'a'
90	Brassicaceae	213 Raphanus sp.
91	Brassicaceae	200 Lepidium virginicum
92	Calycanthaceae	355 Calycanthus fertilis
93	Campanulaceae	333 Campanula rapunculoides
94	Campanulaceae	310 Lobelia cardinalis
95	Campanulaceae	212 Specularia perfoliata
96	Caprifoliaceae	39 Lonicera fragrantissima
97	Caprifoliaceae	369 Lonicera fragrantissima
98	Caprifoliaceae	170 Sambucus canadensis
99	Caprifoliaceae	368 Sambucus canadensis
100	Caprifoliaceae	167 Viburnum lentago
101	Caprifoliaceae	353 Viburnum recognitum
102	Caryophyllaceae	188 Arenaria sp.
103	Caryophyllaceae	240 Arenaria lateriflora
104	Caryophyllaceae	241 Arenaria serpyllifolia
105	Caryophyllaceae	239 Cerastium vulgatum
106	Caryophyllaceae	73 Dianthus armeria
107	Caryophyllaceae	311 Dianthus armeria
108	Caryophyllaceae	238 Lychnis alba
109	Caryophyllaceae	242 Saponaria officinalis
110	Caryophyllaceae	243 Stellaria graminia
111	Caryophyllaceae	157 Stellaria sp.
112	Caryophyllaceae	81 Arenaria sp.
113	Celastraceae	191 Celastrus orbiculatus
114	Chenopodiaceae	204 Chenopodium album
115	Cornaceae	367 Cornus racemosa
116	Cupressaceae	902 Juniperus virginiana
117	Cyperaceae	46 Carex pennsylvanica
118	Cyperaceae	16 Carex sp.
119	Cyperaceae	16 Carex sp.
120	Cyperaceae	25 Carex sp.
121	Cyperaceae	27 Carex sp.
122	Cyperaceae	28 Carex sp.
123	Cyperaceae	28 Carex sp.
124	Cyperaceae	29 Carex sp.

127	Cyperaceae	85	Carex sp.
128	Cyperaceae	88	Carex sp.
129	Cyperaceae	51	Carex sp.
130	Cyperaceae	80	Carex sp.
131	Cyperaceae	83	Carex sp.
132	Cyperaceae	78	Carex sp.
133	Cyperaceae	84	Carex sp.
134	Cyperaceae	86	Carex sp.
135	Cyperaceae	87	Carex sp.
136	Cyperaceae	91	Carex sp.
137	Cyperaceae	92	Carex sp.
138	Cyperaceae	93	Carex sp.
139	Cyperaceae	94	Carex sp.
140	Cyperaceae	95	Carex sp.
141	Cyperaceae	109	Carex sp.
142	Cyperaceae	114	Carex sp.
143	Cyperaceae	115	Carex sp.
144	Cyperaceae	121	Carex sp.
145	Cyperaceae	122	Carex sp.
146	Cyperaceae	166	Carex sp.
147	Cyperaceae	168	Carex sp.
148	Cyperaceae	160	Carex sp.
149	Cyperaceae	193	Carex sp.
150	Cyperaceae	206	Carex sp.
151	Cyperaceae	209	Carex sp.
152	Cyperaceae	210	Carex sp.
153	Cyperaceae	220	Carex sp.
154	Cyperaceae	10	Carex sp. #1
155	Cyperaceae	20	Eleocharis sp.
156	Cyperaceae	56	Eleocharis sp.
157	Cyperaceae	174	Eleocharis sp.
158	Cyperaceae	18	Scirpus sp.
159	Cyperaceae	21	Scirpus sp.
160	Cyperaceae	207	Scirpus sp.
161	Equisetaceae	37	Equisetum arvense
162	Equisetaceae	410	Equisetum arvense
163	Equisetaceae	40	Equisetum hyemale
164	Equisetaceae	402	Equisetum hyemale
165	Ericaceae	123	Vaccinium angustifolium
166	Ericaceae	124	Vaccinium vacillans
167	Ericaceae	358	Vaccinium vacillans
168	Euphorbiaceae	186	Euphorbia sp.
169	Fabaceae	57	Apios americana
170	Fabaceae	47	Desmodium sp.
171	Fabaceae	372	Gleditsia triacanthos
172	Fabaceae	910	Lathyrus latifolius
173	Fabaceae	45	Lespedeza capitata
174	Fabaceae	280	Lotus corniculatus
175	Fabaceae	255	Melilotus alba
176	Fabaceae	42	Melilotus officinalis
177	Fabaceae	282	Melilotus officinalis
178	Fabaceae	341	Phaseolus polystachios
179	Fabaceae	371	Robinia pseudoacacia
180	Fabaceae	58	Robinia sp.
181	Fabaceae	282	Trifolium agrarium
182	Fabaceae	905	Trifolium arvense
183	Fabaceae	17	Trifolium sp.
184	Fabaceae	23	Trifolium sp.
185	Fabaceae	23	Trifolium sp.
186	Fabaceae	24	Trifolium sp.
187	Fabaceae	43	Trifolium sp.
188	Fabaceae	340	Vicia cracca
189	Fabaceae	67	Vicia sp.
190	Fabaceae	72	Vicia sp.

183	Fagaceae	352 Fagus grandifolia
194	Fagaceae	378 Quercus bicolor
195	Fagaceae	377 Quercus velutina
196	Geraniaceae	85 Geranium sp.
197	Hamamelidaceae	100 Hamamelis virginiana
198	Hamamelidaceae	384 Hamamelis virginiana
199	Humulaceae	233 Cannabis sativa
200	Hypericaceae	54 Hypericum perforatum
201	Iridaceae	44 Iris cristata
202	Iridaceae	323 Iris versicolor
203	Iridaceae	321 Sisyrinchium mucronatum
204	Iridaceae	11 Sisyrinchium sp.
205	Iridaceae	104 Sisyrinchium sp.
206	Iridaceae	322 Sisyrinchium sp.
207	Juncaceae	13 Juncus sp.
208	Juncaceae	33 Juncus sp.
209	Juncaceae	152 Juncus sp.
210	Juncaceae	154 Juncus sp.
211	Juncaceae	155 Juncus sp.
212	Juncaceae	158 Juncus sp.
213	Juncaceae	175 Juncus sp.
214	Juncaceae	35 Luzula multiflora
215	Labiatae	906 Thymus serpyllum
216	Lamiaceae	337 Glecoma hederaceae
217	Lamiaceae	41 Lamium alexicariae
218	Lamiaceae	315 Leonurus cardiaca
219	Lamiaceae	254 Lycopus americanus
220	Lamiaceae	256 Mentha arvensis
221	Lamiaceae	338 Mentha piperita
222	Lamiaceae	138 Mint
223	Lamiaceae	339 Monarda fistulosa
224	Lamiaceae	19 Prunella vulgaris
225	Lamiaceae	144 Pycnanthemum sp.
226	Lamiaceae	253 Pycnanthemum tenuifolium
227	Lamiaceae	336 Satureja vulgaris
228	Lamiaceae	148 Prunella vulgaris
229	Lauraceae	379 Sassafras albidum
230	Liliaceae	66 Allium sp.
231	Liliaceae	195 Allium sp.
232	Liliaceae	171 Asparagus officinalis
233	Liliaceae	177 Convallaria majalis
234	Liliaceae	265 Erythronium americanum
235	Liliaceae	301 Hemerocallis fulva
236	Liliaceae	65 Liliaceae
237	Liliaceae	300 Lilium canadense
238	Liliaceae	105 Maianthemum canadense
239	Liliaceae	106 Medeola virginiana
240	Liliaceae	251 Medeola virginiana
241	Liliaceae	250 Smilacina racemosa
242	Liliaceae	306 Trillium erectum
243	Liliaceae	120 Utricularia sessilifolia
244	Campanulaceae	909 Lobelia spicata
245	Lycopodiaceae	400 ?
246	Lycopodiaceae	397 Lycopodium clavatum
247	Lycopodiaceae	398 Lycopodium complanatum
248	Lycopodiaceae	396 Lycopodium tristachyum
249	Lythraceae	316 Lythrum salicaria
250	Moraceae	375 Morus alba
251	Myricaceae	49 Myrica asplenifolia
252	Oleaceae	352 Fraxinus tomentosa
253	Onagraceae	267 Oenothera biennis
254	Onagraceae	214 Oenothera sp.
255	Ophioglossaceae	119 Botrychium
256	Orchidaceae	305 Cypripedium acaule

229	Osmundaceae	388	Osmunda claytoniana
260	Oxalidaceae	278	Oxalis stricta
261	Papaveraceae	230	Sanguinaria canadensis
262	Pinaceae	900	Pinus strobus
263	Pinaceae	901	Tsuga canadensis
264	Plantaginaceae	70	Plantago lanceolata
265	Plantaginaceae	127	Plantago lanceolata
266	Plantaginaceae	126	Plantago major
267	Plantaginaceae	131	Plantago rugelii
268	Poaceae	194	Agropyron repens
269	Poaceae	61	Agrostis stolonifera
270	Poaceae	5	Anthoxanthum odoratum
271	Poaceae	25	Anthoxanthum odoratum
272	Poaceae	111	Brachelytrum erectum
273	Poaceae	58	Bromus inermis
274	Poaceae	176	Bromus japonicus
275	Poaceae	62	Dactylis glomerata
276	Poaceae	14	Danthonia spicata
277	Poaceae	179	Elymus villosus
278	Poaceae	4	Festuca elatior
279	Poaceae	163	Festuca rubra
280	Poaceae	96	Glyceria grandis
281	Poaceae	161	Glyceria septentrionalis, G. fluidans
282	Poaceae	6	Glyceria striata
283	Poaceae	211	Grass unknown
284	Poaceae	7	Holcus lanatus
285	Poaceae	135	Lolium multiflorum
286	Poaceae	116	Panicum clandestinum
287	Poaceae	208	Panicum clandestinum
288	Poaceae	8	Panicum lanuginosum var. septentrionale
289	Poaceae	159	Panicum lanuginosum var. tennesseense
290	Poaceae	118	Panicum oligosanthos
291	Poaceae	12	Phalaris arundinacea
292	Poaceae	260	Phalaris arundinacea
293	Poaceae	9	Phleum pratense
294	Poaceae	129	Poa annua
295	Poaceae	164	Poa compressa
296	Poaceae	160	Poa palustris
297	Poaceae	165	Poa palustris
298	Poaceae	79	Poa trivialis
299	Polygalaceae	307	Polygalaceae
300	Polygonaceae	101	Convolvulus sepium
301	Polygonaceae	133	Fagopyrum aviculare
302	Polygonaceae	20	Fagopyrum esculentum
303	Polygonaceae	373	Polygonum cuspidatum
304	Polygonaceae	308	Polygonum sagittatum
305	Polygonaceae	314	Rumex acetosella
306	Polygonaceae	53	Rumex crispus
307	Polypodiaceae	392	Adiantum pedatum
308	Polypodiaceae	391	Asplenium trichomanes
309	Polypodiaceae	386	Athyrium filix-femina
310	Polypodiaceae	117	Dennstaedtia punctilobula
311	Polypodiaceae	389	Onoclea sensibilis
312	Polypodiaceae	393	Polypodium vulgare
313	Polypodiaceae	394	Polystichum acrostichoides
314	Polypodium	395	Pteridium aquilinum
315	Polypodium	385	Thelypteris noveboracensis
316	Polypodium	390	Thelypteris palustris
317	Pontederiaceae	326	Pontederia cordata
318	Primulaceae	277	Lysimachia nummularia
319	Primulaceae	97	Lysimachia quadrifolia
320	Primulaceae	275	Lysimachia quadrifolia
321	Primulaceae	165	Lysimachia sp.
322	Primulaceae	276	Lysimachia terrestris

326	Pyrolaceae	224 Pyrola sp.
327	Ranunculaceae	225 Anemone canadensis
328	Ranunculaceae	227 Anemone quinquefolia
329	Ranunculaceae	228 Anemone thalictroides
330	Ranunculaceae	312 Aquilegia canadensis
331	Ranunculaceae	283 Galium palustre
332	Ranunculaceae	182 Clematis sp.
333	Ranunculaceae	228 Hepatica americana
334	Ranunculaceae	331 Hepatica americana
335	Ranunculaceae	192 Ranunculaceae
336	Ranunculaceae	248 Ranunculus abortivus
337	Ranunculaceae	269 Ranunculus acris
338	Ranunculaceae	264 Ranunculus fascicularis
339	Ranunculaceae	68 Ranunculus sp.
340	Ranunculaceae	99 Ranunculus sp.
341	Ranunculaceae	215 Ranunculus sp.
342	Ranunculaceae	110 Sanicula canadensis
343	Ranunculaceae	229 Thalictrum polygamum
344	Rhamnaceae	381 Rhamnus cathartica
345	Rhamnaceae	103 Rhamnus sp.
346	Rosaceae	274 Potentilla recta
347	Rosaceae	74 Malus sp.
348	Rosaceae	150 Agrimonia sp.
349	Rosaceae	270 Agrimonia sp.
350	Rosaceae	76 Crataegis
351	Rosaceae	218 Crataegis sp.
352	Rosaceae	363 Crataegis sp.
353	Rosaceae	236 Fragaria vesca
354	Rosaceae	235 Fragaria virginiana
355	Rosaceae	80 Geum canadense
356	Rosaceae	234 Geum canadense
357	Rosaceae	271 Geum strictum
358	Rosaceae	75 Potentilla anserina
359	Rosaceae	273 Potentilla canadensis
360	Rosaceae	52 Potentilla recta
361	Rosaceae	272 Potentilla simplex
362	Rosaceae	365 Prunus serotina
363	Rosaceae	366 Prunus virginiana
364	Rosaceae	354 Pyrus malus
365	Rosaceae	130 Rosa virginiana
366	Rosaceae	77 Rubus hispidus
367	Rosaceae	134 Rubus occidentalis
368	Rosaceae	330 Rubus odoratus
369	Rosaceae	199 Rubus sp.
370	Rubiaceae	367 Cephalanthus occidentalis
371	Rubiaceae	244 Galium mollugo
372	Rubiaceae	89 Galium sp.
373	Rubiaceae	107 Galium sp.
374	Rubiaceae	202 Galium sp.
375	Rubiaceae	286 Galium verum
376	Rubiaceae	3 Galium yellow
377	Rubiaceae	108 Mitchella repens
378	Scrophulariaceae	907 Verbascum thapsus
379	Typhaceae	903 Typha angustifolia
380	Typhaceae	345 Typha latifolia
381	Rhamnaceae	Rhamnus alnifolia
382	Anacardiaceae	Rhus toxicodendron
383	Saxifragaceae	Hydrangea sp.
384	Rosaceae	Spiraea latifolia
385	Rosaceae	Spiraea tomentosa
386	Osmundaceae	Osmunda cinnamomea
387	Lycopodiaceae	Lycopodium lucidulum
388	Lycopodiaceae	Lycopodium obscurum

391	Salicaceae	Salix glauca
392	Vitaceae	Vitis
393	Vitaceae	Parthenocissus quinquefolia
394	Fabaceae	Amphicarpa bracteata
395	Asteraceae	Aster undulatus
396	Asteraceae	Sanctaura pauciflora
397	Asteraceae	Erigeron canadensis
398	Scrophulariaceae	Linaria vulgaris
399	Scrophulariaceae	Veronica officinalis
400	Geraniaceae	Geranium pratense
401	Geraniaceae	Geranium molle
402	Araceae	Arisaema triphyllum
403	Pyrolaceae	Pyrola elliptica
404	Labiatae	Lycopus virginiana
405	Violaceae	Viola papilionacea
406	Rubiaceae	Galium boreale
407	Rubiaceae	Galium asprellum
408	Liliaceae	Streptopus amplexifolius
409	Asteraceae	Taraxacum officinale
410	Balsaminaceae	Impatiens pallida
411	Asteraceae	Aster longicaulis
412	Asteraceae	Ambrosia artemisiifolia
413	Asteraceae	Cirsium vulgare
414	Ranunculaceae	Anemone virginiana
415	Polygalaceae	Polygala verticillata
416	Ranunculaceae	Ranunculus septentrionalis
417	Rosaceae	Rosa carolina
418	Fabaceae	Trifolium hybridum
419	Commelinaceae	Commelina communis
420	Oleaceae	Fraxinus americana
421	Juglandaceae	Carya ovata
422	Juglandaceae	Carya cordiformis
423	Juglandaceae	Juglans cinerea
424	Rosaceae	Prunus pennsylvanica
425	Aceraceae	0 Acer saccharum
426	Aceraceae	Acer rubrum
427	Fagaceae	Quercus rubra
428	Fagaceae	Quercus alba
429	Betulaceae	Corylus americana
430	Betulaceae	Betula papyrifera
431	Salicaceae	Salix nigra
432	Salicaceae	Populus tremuloides
433	Salicaceae	Populus grandidentata
434	Tiliaceae	Tilia americana
435	Ulmaceae	Ulmus americana
436	Ulmaceae	Ulmus rubra
437	Caprifoliaceae	Viburnum acerifolium
438	Rosaceae	Amelanchier arborea
439	Betulaceae	Betula lenta
440	Betulaceae	Betula nigra
441	Rutaceae	Xanthoxylum americanum
442	Betulaceae	Alnus rugosa

APPENDIX "E"

BIRD SIGHTINGS - 1987
FROM COUNTY CHRISTMAS BIRD SURVEY

- | | |
|-----------------------------|-------------------------------------|
| 1. COMMON LOON | 2. HORNED GREBE |
| 3. PIED-BILLED GREBE | 4. RED-NECKED GREBE |
| 5. CANADA GOOSE | 6. BRANT |
| 7. AMERICAN BLACK DUCK | 8. MALLARD |
| 9. WOOD DUCK | 10. GREEN-WINGED TEAL |
| 11. WHITE-WINGED SCOTER | 12. BLACK SCOTER |
| 13. CANVASBACK | 14. RING-NECKED DUCK |
| 15. LESSER SCAUP | 16. GREATER SCAUP |
| 17. COMMON GOLDENEYE | 18. BUFFLEHEAD |
| 19. RUDDY DUCK | 20. COMMON MERGANSER |
| 21. RED-BREASTED MERGANSER | 22. HOODED MERGANSER |
| 23. AMERICAN COOT | 24. HERRING GULL |
| 25. RING BILLED GULL | 26. GREATER BLACK BACKED GULL |
| 27. BONAPARTES GULL | 28. GREAT BLUE HERON |
| 29. GREEN BACKED HERON | 30. KILLDEER |
| 31. RUFFED GROUSE | 32. RING-NECKED PHEASANT |
| 33. SHARP SHINNED HAWK | 34. COOPERS HAWK |
| 35. GOSHAWK | 36. NORTHERN HARRIER |
| 37. RED-TAILED HAWK | 38. ROUGH-LEGGED HAWK |
| 39. BROAD WINGED HAWK | 40. BALD EAGLE |
| 41. OSPREY | 42. TURKEY VULTURE |
| 43. AMERICAN KESTREL | 44. SNOWY OWL |
| 45. MOURNING DOVE | 46. ROCK DOVE |
| 47. COMMON NIGHTHAWK | 48. BELTED KINGFISHER |
| 49. PILEATED WOODPECKER | 50. COMMON FLICKER |
| 51. RED-BELLIED WOODPECKER | 52. YELLOW-BELLIED SAPSUCKER |
| 53. DOWNY WOODPECKER | 54. HAIRY WOODPECKER |
| 55. EASTERN KINGBIRD | 56. GREAT CRESTED FLYCATCHER |
| 57. EASTERN PHOEBE | 58. EASTERN PEWEE |
| 59. LEAST FLYCATCHER | 60. YELLOW BELLIED FLYCATCHER |
| 61. BARN SWALLOW | 62. TREE SWALLOW |
| 63. BANK SWALLOW | 64. ROUGH WINGED SWALLOW |
| 65. FISH CROW | 66. AMERICAN CROW |
| 67. NORTHERN RAVEN | 68. BLUE JAY |
| 69. BLACK CAPPED CHICKADEE | 70. TUFTED TITMOUSE |
| 71. WHITE BREASTED NUTHATCH | 72. RED-BREASTED NUTHATCH |
| 73. BROWN CREEPER | 74. HOUSE WREN |
| 75. RUBY CROWNED KINGLET | 76. GOLDEN CROWNED KINGLET |
| 77. GRAY CATBIRD | 78. NORTHERN MOCKINGBIRD |
| 79. EASTERN BLUEBIRD | 80. AMERICAN ROBIN |
| 81. SWAINSONS THRUSH | 82. VEERY |
| 83. WOOD THRUSH | 84. CEDAR WAXWING |
| 85. RED-EYED VIREO | 86. WARBLING VIREO |
| 87. PHILADELPHIA VIREO | 88. YELLOW THROATED VIREO |
| 89. SOLITARY VIREO | 90. BLACK-THROATED GREEN
WARBLER |

91. BLACK AND WHITE WARBLER
 93. MAGNOLIA WARBLER
 95. CANADA WARBLER
 97. BLACKBURNIAN WARBLER
 99. PINE WARBLER
 101. BLUE WINGED WARBLER
 103. NASHVILLE WARBLER
 105. LOUISIANA WATERTHRUSH
 107. RED WINGED BLACKBIRD
 109. COMMON GRACKLE
 111. EASTERN MEADOWLARK
 113. NORTHERN ORIOLE
 115. HOUSE SPARROW
 117. NORTHERN CARDINAL
 119. HOUSE FINCH
 121. EVENING GROSBEAK
 123. PINE SISKIN
 125. ROSE-BREASTED GROSBEAK
 127. WHITE-THROATED SPARROW
 129. FIELD SPARROW
 131. SONG SPARROW
 133. CHIMNEY SWIFT
 135. GADWALL
 137. TURKEY
 139. BARRED OWL
 141. BLACK-THROATED BLUE WARBLER

92. BLACKPOLL WARBLER
 94. YELLOW RUMPED WARBLER
 96. CHESTNUT SIDED WARBLER
 98. AMERICAN REDSTART
 100. PRAIRIE WARBLER
 102. YELLOW WARBLER
 104. COMMON YELLOWTHROAT
 106. OVENBIRD
 108. BROWN HEADED COWBIRD
 110. BOBOLOINK
 112. EUROPEAN STARLING
 114. SCARLET TANANGER
 116. DARK-EYED JUNCO
 118. COMMON REDPOLL
 120. PURPLE FINCH
 122. AMERICAN GOLDFINCH
 124. INDIGO BUNTING
 126. RUFOUS-SIDED TOWHEE
 128. CHIPPING SPARROW
 130. SWAMP SPARROW
 132. AMERICAN TREE SPARROW
 134. RUBY-THROATED HUMMINGBIRD
 136. NORTHERN SHRIKE
 138. GREAT HORNED OWL
 140. AMERICAN WOODCOCK

OTHERS IN PARK BUT NOT SIGHTED IN 1987

-SCREECH OWL
 -PINE GROSBEAK
 -BLUE-GRAY GNATCATCHER
 -WHITE CROWNED SPARROW

- GREATER YELLOWLEGS
 - FOX SPARROW
 - RING NECKED DUCK
 - SNOW BUNTING

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