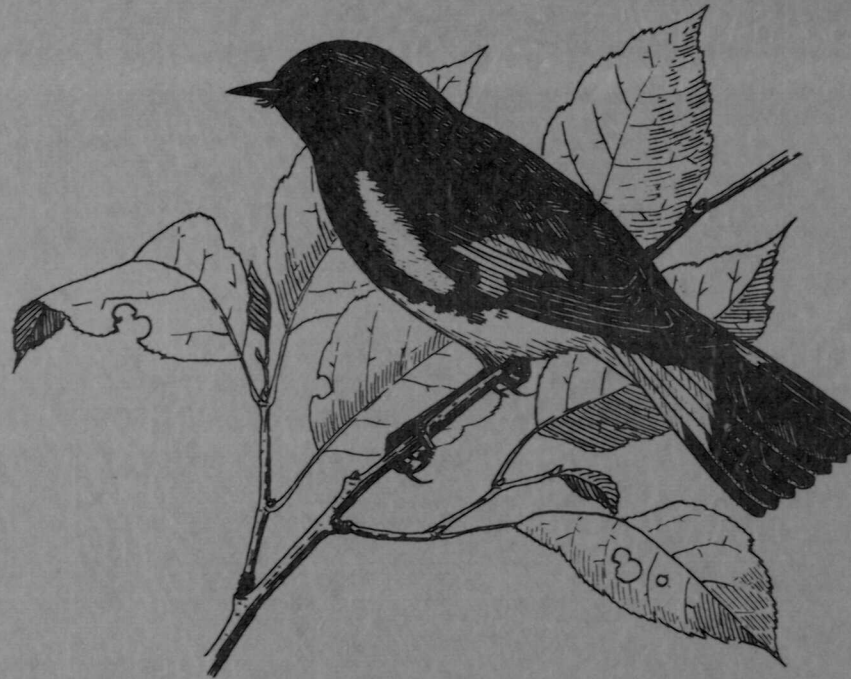


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The REDSTART

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JANUARY, 1988



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The Brooks Bird Club, Inc.

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Named in honor of A.B. Brooks, Naturalist

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Contents

Page

The 1987 Foray	3
Area Survey 1987 Foray —A. R. Buckelew Jr.	3
The 1987 Foray Bird List —Judy Ward	4
The 1987 Foray Singing Male Census —Virginia Johnson	15
Breeding Bird Records for the 1987 Foray —Harriet Hooker	19
The 1987 Foray Breeding Bird Surveys —Ralph K. Bell	20
Vascular Flora of the 1987 Foray —William N. Grafton	24
Ferns at the 1987 Foray —Ann H. Pyle	39
Invertebrate and Aquatic Life 1987 Foray —Lynn Barnhart	40
Spider Fauna 1987 Foray —Paula E. Cushing	42
1987 Foray Participants	43
Field Notes —James D. Phillips	45
Banding News Ralph Bell	47
Book Reviews	48
Errata	49
Index for Volume 54	51

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Area Survey 1987 Foray

Albert R. Buckelew Jr.

The 48th annual Brooks Bird Club Foray area included all of Mercer County, southwestern Monroe County and southern Summers County. Also included in the area was a small part of Raleigh County to include Flat Top Lake. We stayed at Concord State College in Athens from June 4 through 13. The Foray area included Camp Creek State Forest, Pipestem State Park, Bluestone State Park and Bluestone Lake, Brush Creek Preserve, Athens Lake, and the highlands of East River Mountain, Peters Mountain, Flat Top Mountain and Black Oak Mountain. Elevation ranges from 1270 ft. above sea level along the New River near Meadow Creek to over 4000 ft. on East River Mountain. Athens is at 2600 ft. The area is an eroded plateau through which the New and Bluestone Rivers and their tributaries have cut deep V-shaped valleys. Most of the New River in the area now forms the man-made Bluestone Lake.

Mercer County had 328 farms in 1974 and a total farm area of 54,421 acres. Summers County had 297 farms and a total farm area of 45,360 acres. Most of the farms are used for raising beef cattle or sheep. Most of the area is forested. The population of Mercer County in 1980 was 73,942.

In winter the average temperatures at Bluestone Lake and Flat Top are 34 and 30 degrees F, respectively. The average daily minimum temperature is 24 degrees at Bluestone Lake and 21 at Flat Top. The lowest temperature, -21 degrees, occurred at Flat Top on January 24, 1963. In summer the average temperature is 72 degrees at Bluestone Lake and 66 degrees at Flat Top. The weather during Foray was cool in the low fifties in the mornings and warm in the high seventies most days. The lowest recorded temperature was 46 degrees F in the early morning June 11, and the highest recorded temperature was 82 degrees recorded at noon on Sunday and at 6:00 p.m. on Tuesday June 9. It rained Tuesday afternoon and was cloudy the last two days, otherwise the skies were clear.

References

Soil Survey of Mercer and Summers Counties West Virginia, 1984. Kelley N. Sponaugle, et al., Soil conservation Service, U.S. Dept. of Agriculture.
Mercer County: The First 150 Years, August 31, 1987 Supplement to the Bluefield Daily Telegraph.

The 1987 Foray Bird List

Judy Ward

The information for the 1987 Foray Bird List came from two Singing Male Census Plots, referred to as study areas in this report, and described elsewhere in **The Redstart**. Another source was the Breeding Bird Survey, which consisted of one official 25 mile-50 stop route and 12 shortened versions of the same having 20 stops or less. These surveys were run by two teams. A report on these surveys can also be found in **The Redstart**. A third source of information was the comment cards, contained in a file box and kept in our meeting room. Everyone was invited to write their observations on the cards. I sincerely want to thank everyone who helped with the Bird List in any way.

The abundance terms used are those devised by George Hall and Chandler Robbins and can be found in **West Virginia Birds**.

The Raleigh Co. Foray, held in 1975, covered close to 25% of our 1987 Foray area. I found the abundance of the various species at these two forays to be quite similar. Comparisons are made only where there was a significant difference between the two areas.

Included below is a list of birds found at the Raleigh Co. Foray but not the Athens Foray, and a list of the birds found in 1987 but not the Raleigh Co. Foray.

Athens 1987

Canada Goose
Northern Harrier
Ring-necked Pheasant
Wild Turkey
Great Horned Owl
Chuck-will's-widow
Veery
Loggerhead Shrike
Blue-winged Warbler
Brewster's Warbler
Blackburnian Warbler
Pine Warbler
Blackpoll Warbler
Dark-eyed Junco
House Finch

Raleigh Co. 1975

Pied-billed Grebe
Ring-necked Duck
Com. Merganser
Ring-billed Gull
Horned Lark
Brown Creeper
Swainson's Thrush
Summer Tanager
Henslow's Sparrow
White-throated Sparrow
Bobolink

1. Great Blue Heron - Only one report. One was seen standing in the Bluestone River at Bramwell, June 9, on the Breeding Bird Survey.

2. Green-backed Heron - The A. Pyle, D. Nemanich team found two of one of their B.B.S. runs. Six other reports were received. A Heron was seen along Indian Creek in Monroe Co.; along Brush Creek in Princeton; out in a farm area in Mercer Co.; in Farn Creek near the Mercer/Summers Co. line; another seen on a mud flat at Crumps Bottom. L. Wilson watched one make regular trips from the river to the mountain side in Bluestone S.P. but he was unable to find the nest.

3. Canada Goose - Ten adults were seen on the New River. M. Kiff, K. Bush A pair of adults were observed with two young at Crumps Bottom (T. Fox). Two adults were on a pond near Princeton. (J. Phillips).

4. Wood Duck - An adult and eleven young put on quite a show for forty-one participants of the Foray in Brush Creek Nature Preserve. Other reports included a Wood Duck on Brush Cr. in Princeton (J. Phillips), four young of one brood and two



Mash Fork in Camp Creek State Forest. All photographs by A.R. Buckelew Jr.

young of an earlier brood on Indian Cr. (N. Laitsch et al.), and four found near Matoaka (BBS).

5. Mallard - A male and two females were seen on the New River below Hinton. Another pair plus an adult female and four young were found on Athens Lake. Two males were seen on a road near Hatcher and two more on a pond near Princeton.

6. Black Vulture - One was observed from Lick Cr. Road by A. Pyle, et al. On June 7th, one was seen soaring with four Turkey Vultures at Bluestone Lake (R. Bell et al.).

7. Turkey Vulture - A. Eddy reported seeing several large flocks in Mercer Co. J. Phillips saw them daily over Bluestone Canyon in Pipestem State Park. And there were four with the Black Vulture over Bluestone Lake.

8. Northern Harrier - Two were observed over Peterstown on June 8th (R. Bell, T. Fox, J. Ward, L. Wilson).

9. Sharp-shinned Hawk - J. Phillips observed one chasing a House Sparrow along Rt. 20, north of Athens. Another was seen being chased by Kingbirds near Matoaka (D&C Conrad, M&B Kiff).

10. Cooper's Hawk - E. Ilgenfritz, D. Nemanich and E. Smith saw one fly across the road near Pettry on June 6.

11. Red-shouldered Hawk - An adult and a nest with two young were seen at Ray and Janice Bell's in Spanishburg on June 8 by 41 BBC members visiting there. J. Phillips reported one at Pipestem Knob. R. Bell listed five or six during the Foray.

12. Broad-winged Hawk - Two were seen over the Nature Center at Pipestem S.P. (J. Phillips). A pair was observed at Bluestone S.P. by Conrads, Kiffs, Burtts, and L. Wilson. One was seen at Crumps Bottom (J. Buckelew). One was also noted on Rt. 20/1 at Island Creek (A. Eddy, N. Laitsch).

13. Red-tailed Hawk - J. Phillips reports one adult seen over the Nature Center and one immature seen along the Bluestone River in Pipestem S.P. Two were seen at Crumps Bottom (A. Eddy, G. Hurley, N. Laitsch). Others were reported at Athens Lake and Peterstown.

14. American Kestrel - B. Kiff reports one hunting in a field near Matoaka. Another was seen at Pipestem S.P., and on June 11, one was seen being chased by a small bird at the head of Tom's Run (M. Ash, J. Buckelew, T. Fox).

15. Ring-necked Pheasant - D. Pattison reported hearing one on the W. Shrewsbury farm, three miles west of Kegley, on June 7. Whether it was a wild bird or an escape could not be determined.

16. Ruffed Grouse - A female with five young was observed in Pipestem S.P., and a single in the Bluestem Canyon (J. Phillips). One was spotted along the road near Elgood (E. Ilgenfritz, D. Nemanich, E. Smith). A female with at least three young was seen along a road 1½ miles south of Pettry. "In its confusion, one chick flew onto the hood of the car," commented D. & M. Morton. They also spotted one along Rt. 9, 1.2 miles east of the campus.

17. Wild Turkey - Four different reports came of seeing them in Pipestem S.P., the largest number being four birds reported by J. Phillips. Five were found on four stops of the morning BBS runs. M. Ash observed a hen with at least four young at Camp Cr. S.P. M. Dotson saw a male on Lick Cr. Rd.

18. Northern Bobwhite - Three different sightings were listed near Pettry. A. Eddy noted one near her study area at Lerona.

19. Killdeer - Most people considered them fairly common. Seventeen were recorded on the BBS. One was listed as a visitor on L. Barnhart's study area.

20. American Woodcock - We were all treated to a fly over at the campfire held at Pipestem S.P. on June 8.

21. Rock Dove - Fairly common in larger towns.

22. Mourning Dove - Fairly common. Seventy-four were found on 56 BBS stops. They are well distributed in locations with proper habitat.

23. Black-billed Cuckoo - Uncommon. Only one recorded on the BBS. Few reports. One each at Athens Lake, Pipestem S.P., and Lost Cr. Rd.

24. Yellow-billed Cuckoo - Uncommon to fairly common. Reports of sightings came from Athens Lake, Crumps Bottom, Pipestem S.P. and Matoaka. Twelve were recorded on the morning Breeding Bird Surveys.

25. Eastern Screech-Owl - Anne Eddy told of a young bird found on her study area by B. Bullard on June 5. Later in the day, the bird was found ill on the ground, below the roost tree. It died shortly thereafter. L. Barnhart, J. Brady, M. Ash and J. Schramm went owling. They had three sightings along Island Cr. Rd.; one gray phase and two red phase. They also covered Bent Mt. Rd. and had a combined total of 13 Screech-Owls in two evenings.

26. Great Horned Owl - J. Phillips heard two on the J. Meyer farm near Princeton. Two were also heard on Island Cr. Rd. (L. Barnhart, et al.). One was heard on the BBS.

27. Barred Owl - A juvenile bird was seen near Long Br. Lake in Pipestem S.P. (J. Phillips). A pair was heard at the sharp turn on Bent Mt. Rd., and another pair was heard and one was seen bill snapping and sitting right above a Screech-Owl in a tree along Island Cr. Rd. (L. Barnhart, et al.).

28. Common Nighthawk - Several people reported seeing and hearing them in Princeton.

29. Chuck-will's-widow. A. Eddy and M. Dotson listed one as a visitor on Anne's study area.

30. Whip-poor-will - R. Bell reported one heard on a BBS run.

31. Chimney Swift - Common in larger towns, uncommon elsewhere. We found 26 on 13 BBS stops.

32. Ruby-throated Hummingbird - Uncommon. Listed as a visitor on L. Barnhart's study area. Only one was found on the BBS. They were reported on the New R. near Hinton, at Crumps Bottom, Peterstown, Matoaka, Pipestem S.P., at the Brush Cr. Preserve, and along roads and at feeders.

33. Belted Kingfisher - Uncommon. Several people reported seeing one at Athens Lake. Other observations came from Crumps Bottom, Pipestem S.P. and Peterstown. A nest was found by T. Fox and J. Ward on a small stream three miles west of Kegley.

34. Red-bellied Woodpecker - Uncommon. The BBS listed three. A. Eddy had one on her study area. One was reported on campus.

35. Downy Woodpecker - Uncommon. A nest with young was found at the Mercer Co. Anglers Club (N. Laitsch). Another was found at Crumps Bottom by M. (Ash, et al. A. Eddy's study area yielded one. Twenty-seven listed on the BBS.

36. Hairy Woodpecker - Uncommon. Four found on the BBS. K. Bush observed one at Pipestem S.P. L. Barnhart listed one on his study area.

37. Northern Flicker - Uncommon. J. Phillips saw them daily at Pipestem S.P. and Princeton. A pair was seen at a nest site near Kegley (J. Ward). The BBS listed 19.

38. Pileated Woodpecker - Uncommon. A + bird on A. Eddy's study area. The BBS had 13. Other sightings were in Athens, at Pipestem and Brush Cr. Preserve.

39. Eastern Wood-Pewee - Fairly common. Eighty-one recorded on 73 BBS stops. A. Eddy's study area yielded 1.5 birds on territory, and L. Barnhart listed it as a + bird on his. This species was uncommon at the Raleigh Co. Foray.

40. Acadian Flycatcher - Uncommon to fairly common. Fifty-three listed on the BBS. A + bird on A. Eddy's study area. Most observers considered them fairly common in proper habitat. More common than the Raleigh Co. Foray.

41. Willow Flycatcher - Uncommon. D. Nemanich reports four singing males and J. Phillips reports a nest at Athens Lake. Nine were found on the BBS. One was listed between Athens and Gardner, on Rt. 7/5. (M. Dotson et al.). Other reports included: a pair at Matoaka, singles near Bluewell and Shawnee Lake, and N. Laitsch and A. Eddy found one in a very small boggy area near Princeton.



Oak-Maple-Hemlock Singing Male Census Plot.

42. Least Flycatcher - Rare. Two males were singing in opposition along the Bluestone R. on Rt. 10/7. Another was heard from Bent Mt. Rd. (A. Eddy, N. Laitsch).

43. Eastern Phoebe - Uncommon. The BBS recorded 29. Four nests were found: two at Camp Cr. (J. Buckelew), one at the Nature Center, and one along the Bluestone R. at Pipestem S.P. (J. Phillips).

44. Great Crested Flycatcher - Fairly common. 57 recorded on the morning BBS runs. They were listed on both study areas. The Mortons told of an adult feeding two young near the stream in Camp Cr. State Forest. Two were observed along Rt. 7/5 between Athens and Gardner. Other reports were from Brush Cr., Peterstown and Pipestem S.P.

45. Eastern Kingbird - Uncommon. The BBS listed 14. Sightings came from several locations including the campus, Athens Lake, Matoaka, the New R., and the Pettry -Elgood area.

46. Purple Martin - Uncommon. Three were seen between Princeton and Bluefield (J. Phillips). Four were seen at the tower on Flat Top Mt. (A. Eddy, G. Hurley, N. Laitsch). Outside the Foray area but worth mentioning; J. & S. Robbins saw six at a Martin box near Rt. 3 and 12, - one mile outside the Foray boundary.

47. Tree Swallow - Uncommon. Only one recorded on the BBS. A nest with young was found on the H. Phillips farm near Lerona by L. Wilson. Another nest was found at Crumps Bottom (T. Fox et al.). A pair was observed near Greenville (A. Eddy et al.). Others were seen along the Bluestone and New Rivers (E. Reichelderfer).

48. Northern Rough-winged Swallow - Uncommon. A colony was found on the face of a high, rock cliff along Rt. 10/7 near Matoaka. Thirty or more birds were seen flying into crevices in the rocks (M. Kiff et al.). Fifteen were recorded on ten BBS stops. R. Bell thought this species occurred in fair numbers, considering its requirements.

49. Barn Swallow - Uncommon to fairly common. The BBS lists 50 birds on 18 stops. Most people considered them not as common as expected.

50. Blue Jay - Fairly common. They were reported on both study areas. 47 on the BBS runs. Well distributed.

51. American Crow - Common. The second most abundant bird with 291 recorded on the BBS at 63.5% of the stops.

52. Common Raven - Uncommon. R. Bell, et al. noted three on East R. Mt. Two were seen in the Bluestone Canyon at Pipestem S.P. (J. Phillips). Another was heard at Brush Cr. Preserve.

53. Black-capped Chickadee - Rare. Only one reported, as a + bird on A. Eddy's study area. A. Eddy, J. Schramm.

54. Carolina Chickadee - Uncommon. The BBS listed 34. They were found on both study areas. The dominant chickadee in the Foray area.

55. Tufted Titmouse - Common. The ninth most common bird on the BBS. Both study areas recorded them.

56. White-breasted Nuthatch - Uncommon. They were found on both study areas. The BBS lists 33. According to Ralph Bell, "It is a quiet time of the year for this species, and therefore hard to estimate their numbers."

57. Carolina Wren - Fairly common. The BBS recorded 57 on the morning runs. Listed as a + bird on A. Eddy's study area. Well distributed.

58. House Wren - Fairly common to common. 74 were recorded on the BBS.

59. Blue-gray Gnatcatcher - Fairly common to common. The BBS noted 73. A territorial male was listed on A. Eddy's study area. "A lot of good habitat for them" according to Nevada Laitsch, They were a lot more common here than at the Raleigh Co. Foray.

60. Eastern Bluebird - Uncommon. They were observed at Matoaka, Pipestem S.P., Bent Mt. Rd., and Rt. 26/3 near the intersection with Lick Cr. Rd. Twenty-two were listed on the BBS. They were more common in Raleigh Co.

61. Veery - Rare. The only report is of one singing on East R. Mt. (D. Nemanich, et al.).
62. Wood Thrush - Common. Two-Hundred were recorded on The BBS placing, them seventh in the most abundant species category.
63. American Robin - Common. Number three in abundance with 236 recorded on the BBS.
64. Gray Catbird - Fairly common. Ninety were found on the BBS. The Conrads and Kiffs observed seven near Matoaka.
65. Northern Mockingbird - Uncommon. Only seven on the BBS. R. Bell reported one on campus. Other reports came from Matoaka and Peterstown where they are more common.
66. Brown Thrasher - Uncommon. M. Kiff noted two pairs at Bluestone S.P. Twenty-six listed on the BBS. They were found to be less common than in Raleigh Co. where they were "fairly common."
67. Cedar Waxwing. Uncommon. The BBS recorded 23. N. Laitsch considered them to be well distributed throughout the Foray area. A nest was found at Crumps Bottom (J. Buckelew), and another was found at the Nature Center at Pipestem S.P. (J. Phillips). They were a good deal more common in Raleigh Co.
68. Loggerhead Shrike - Rare. On June 10, two pairs were found approximately one mile apart on Minnie Dunn Rd., north of Peterstown by K. & M. Finnegan, G. & J. Findley, C. & I. Pierce, L. Wilson. The next day, a group of 12 people watched the Shrike with a scope (K. Bush et al.).
69. European Starling - Common. The 10th most common species with 143 reported at 42 stops on the BBS. Starlings were listed as very common in Raleigh Co.
70. White-eyed Vireo - Uncommon. "Well distributed but not common," according to A. Eddy, N. Laitsch. The BBS listed 31. J. Phillips observed them in Princeton, Crumps Bottom, two at Pipestem S.P. and two at Athens Lake.
71. Solitary Vireo - Uncommon. Three were recorded on the BBS. Observations included: one on campus (the Conrads); one at Camp Cr. (D. Nemanich, et al.); near the lake at Pipestem S.P. (E. Grafton, J. Schramm); one near L. Barnhart's study area; one at Pinnacle Rock, (Kiffs); and one with a partial territory on A. Eddy's study area near Lerona.
72. Yellow-throated Vireo - Uncommon. The BBS listed 31. They were heard singing in opposition along Rt. 7 at the Bluestone R. (A. Eddy). They were also heard near Pinnacle Rock, at Bramwell and also on campus.
73. Warbling Vireo - Uncommon. Only one reported on the BBS. Another was heard singing along a stream three miles west of Kegley (R. Bell et al.). T. Fox et al. heard two at Crumps Bottom. They were also heard and seen along the Bluestone and New Rivers (E. Reichelderfer), near Matoaka, (C. & D. Conrad), and in Bluestone S.P., (O. Johnson, et al.).
74. Red-eyed Vireo - Very common. The Breeding Bird Survey's most abundant species with 6.8% of the total birds - 297 listed. The second most widely distributed. 10.5 territorial males on the study areas.
75. Blue-winged Warbler - Rare. J. Phillips reported one near Tom's Run and another along the Bluestone R. in Pipestem S.P. One was listed at Crumps Bottom. (M. Ash, J. Buckelew, T. Fox).
76. Golden-winged Warbler - Uncommon. The BBS recorded 16. Locations include: three at Athens Lake, (K. Bush), two at Pipestem S.P., others at Bramwell and Bluewell (J. Phillips), and two on Rt. 7/5 between Athens and Gardner (M. Dotson). They were listed at fairly common at the Raleigh Co. Foray.
77. Brewster's Warbler - Rare. One was sighted at Pipestem S.P. in the general area of Lake View Tr. The bird was observed on three days. It had the appearance of a Blue-winged Warbler with a white breast. The song was that of a Golden-winged,



Oak-Hemlock-Tuliptree Singing Male Census Plot.

sometimes with an extra note (M. Berdine, K. Bush, E. Hutton, E. Reichelderfer, B. Smith).

78. Northern Parula - Uncommon. Twelve were found on the BBS. They were reported to be along the Bluestone R. in Pipestem S.P., at Bluestone S.P., Crumps Bottom, and Brush Cr. Preserve. T. Fox considered them fairly common in proper habitat.

79. Yellow Warbler - Fairly common. The BBS listed 56 on the morning runs.

80. Chestnut-sided Warbler - Fairly common in higher elevations - above 2500 ft. Twenty-four recorded on the BBS.

81. Black-throated Blue Warbler - Rare. One adult male was seen and a full song heard at Camp Cr. S.F., located about 1/2 mile up from the fenced road (J. Schramm, L. Barnhart, B. Hogan, J. Brady, S. Rinehart, L. Mullens, J. Graffious, N. Eddy).

82. Black-throated Green Warbler - Uncommon. J. Buckelew reported five heard at Camp Cr. Other reports came from Brush Cr. and the tram at Pipestem.

83. Blackburnian Warbler - Rare. Only one observation. The Pyle - Nemanich - Pfalzgraf team found one on a BBS route. No location was given.

84. Yellow-throated Warbler - Uncommon. Five were recorded on the BBS, including one near Bramwell (J. Phillips). They were found to be fairly common along the New R. at Crumps Bottom (T. Fox).

85. Pine Warbler - Rare. One was noted on Lick Cr. Rd. (E. Ilgenfritz, et al.). Another was found two miles east of Athens in some pines. (D. Nemanich).

86. Prairie Warbler - Uncommon. The BBS listed four. They were found at Athens Lake, Pipestem S.P., and Rt. 7/5 between Athens and Gardner and generally in open fields with brush and pines. A. Eddy, N. Laitsch.

87. Blackpoll Warbler - Rare. E. Oliver and Yvonne Johnson reported hearing and seeing one at their home near Lerona on June 5, probably a late migrant.

88. Cerulean Warbler - Uncommon. Observations came from Pipestem S.P., Crumps Bottom, Camp Cr., near Elgood, along Rt. 1 near Spanishburg, and at least two at Pinnacle Rock. Four were found on the BBS runs.

89. Black-and-White Warbler - Uncommon to fairly common. A territorial male was listed on L. Barnhart's study area. Thirty-five were recorded on The BBS. Several people commented on hearing two or three a day.

90. American Redstart - Uncommon to fairly common. Twenty-seven were counted on the BBS runs. Redstarts were listed in the Nimitz area (M. Kiff), Pipe stem S.P. (E. Hutton), and along the Bluestone and New R. (E. Reichelderfer).

91. Worm-eating Warbler - Uncommon. R. Bell, et al., found one singing along Brush Cr. on June 9. They were also found in Pipestem and Camp Cr. S.F. J. Buckelew observed a Worm-eating Warbler feeding a juvenile Redstart at Crumps Bottom. The BBS listed 15.

92. Ovenbird - Fairly common. The most common Warbler on the morning BBS runs with 69 recorded. The Study areas listed 16.5.

93. Louisiana Waterthrush - Uncommon. Only six found on the BBS. Several reports were received of young out of the nest. "The peak of singing is past which may account for our low numbers," comments R. Bell.

94. Kentucky Warbler - Uncommon. E. Reichelderfer spotted a nesting pair along the trail to the tower in Pipestem S.P. The Breeding Bird Survey recorded 26. Well distributed throughout the Foray area.

95. Common Yellow-throat - Uncommon. Twenty-six were listed on the BBS. Reports come from Rt. 7/5 out of Athens, Athens Lake, Princeton and Crumps Bottom. Most observers thought them uncommon. They were fairly common at the Raleigh Co. Foray.

96. Hooded Warbler - Fairly common with 38 recorded on the BBS routes. A. Eddy lists five on her study area. Common in Pipestem S.P. (J. Phillips). One was noted singing in the woods below the dorm by R. Bell.

97. Yellow-breasted Chat - Fairly common. The second most common warbler on the BBS with a listing of 66. More common here than at the Raleigh Co. Foray. J. Phillips reported a nest with three young at Athens Lake.

98. Scarlet Tanager - Fairly common to common. Well distributed and common in mature woods. Five were recorded on the Study Areas. The eleventh most abundant species on The BBS with 112 birds.

99. Northern Cardinal - Common. The eighth most abundant species, present at 47.8% of the BBS stops. One-Hundred Sixty-five were listed.

100. Rose-breasted Grosbeak - Uncommon. Only four were found on the BBS. D. Nemanich reported four singing males on East R. Mt., where a pair was also seen. Other sightings were on Lick Cr., Bluewell, and Falls Cr. Trail in Brush Cr. Preserve.

101. Indigo Bunting - Common. It was the fourth most abundant bird on the BBS with 233 listed and the third most widely distributed. However, many observers felt they were not as common as in other parts of the state.

102. Rufous-sided Towhee - Common. It was the BBS fifth most abundant and fourth most widely distributed species with 214 listed.

103. Chipping Sparrow - Fairly common. The BBS recorded 104 placing this species twelfth in abundance. The Chipping Sparrow was nearly twice as common at the Raleigh Co. Foray.

104. Field Sparrow - Fairly common with 56 listed on the BBS. Most people felt this species was not as common as expected. This was a common bird in Raleigh Co.

105. Vesper Sparrow - Rare. On June 6, O. Johnson and H. Phillips found one in an orchard grass meadow on Browns Ridge near Lerona. A. Eddy, G. Hurley and N. Laitsch observed one at the tower on Flat Top Mt.

106. Savannah Sparrow - Uncommon. Three were found on the BBS at one stop. The only other report is of one seen and heard, north of Athens on Rt. 20 (E. Ilgenfritz, D. Nemanich, R. Pfalzgraf, A. Pyle).

107. Grasshopper Sparrow - Uncommon. Only three were recorded on the BBS. A single bird was seen and heard south of Pettry Nemanich, et al.). A. Eddy and N. Laitsch reported finding only one for the whole week, and it was at a higher elevation. A group of us went out to the Hershel Phillips farm on June 7 and found two pairs and one young out of the nest.

108. Song Sparrow - Common. It was sixth in abundance on the BBS with 204 recorded and fifth in distribution.

109. Dark-eyed Junco - Uncommon. All reports came from East River Mt., above 3000 ft. elevation. On June 8, a male was found holding territory. The highest count was of four birds by D. Nemanich.

110. Red-winged Blackbird - Fairly common. 70 listed on 32 BBS stops. Stu Robbins told of seeing a good many on the ponds near the railroad yards in Princeton. This species was not as common as at the Raleigh Co. Foray, where it placed ninth most abundant.

111. Eastern Meadowlark - Uncommon to fairly common in proper habitat. Again, not as common as in Raleigh Co.

112. Common Grackle - Fairly common. They were listed as visitors on both study areas. Eighty-five were found on 28 stops of the BBS. J. Buckelew observed many at Crumps Bottom.

113. Brown-headed Cowbird - Fairly common. Forty-seven were recorded on 34 stops of the Breeding Bird Survey. L. Barnhart had one as a visitor on his study area.

114. Orchard Oriole - Uncommon to fairly common. N. Laitsch reports finding them in at least ten locations. Other observations came from Lick Cr., Crumps Bottom, Peterstown, Matoaka, Athens Lake, and Bluestone S.P.

115. Northern Oriole - Uncommon. A fair was seen building a nest in a Cottonwood tree three miles west of Kegley (R. Bell). Two families were seen at Crumps Bottom (J.



Wild Turkey chick found at Camp Creek State Forest.

Buckelew). Sightings included one on campus, one near Pinnacle Rock, two at Matoaka and Peterstown. Two were listed on the BBS.

116. House Finch - Uncommon. Eight found on the BBS. They were commonly seen on campus and in Bramwell but seldom noted in the country. This bird was not present at the Raleigh Co. Foray.

117. American Goldfinch - Fairly common. Seventy-six were listed on the BBS routes. Well distributed. L. Wilson considered them "scarce" as compared to other areas in the state.

118. House Sparrow - Fairly common. The BBS recorded 43 on 25 stops. "About normal in towns," according to L. Wilson. They were a lot more common at the Raleigh Co. Foray.

Thank you to everyone listed below who used the comment cards. Your contributions are a great help and much appreciated.

Matt Ash, Lynn Barnhart, Ralph Bell, Mike Berdine, Jean Brady, Jay Buckelew, Beth & Jim Bullard, Ben & Dorothy Burt, Kyle Bush, Carolyn, Dorothy & Helen Conrad, Mary Ann Dotson, Anne & Nancy Eddy, Tom Fox, Jay Graffious, Bob Hogan, George Hurley, Gene Hutton, Ed Ilgenfritz, Oliver Johnson, Virginia Johnson, Ben & Maxine Kiff, Nevada Laitsch, Don & Marilyn Morton, Loretta Mullens, Don Nemanich, Don & Joan Pattison, Reba Pfalzgraf, Jim Phillips, Hershel Phillips, Annd Pyle, Esther Reichelderfer, Sandy Rinehart, Stuart Robbins, Jack Rogers, John Schramm, Bill Smith, Ed Smith, Leon P. Wilson, Mike & Kathleen Finnegan, and Emily Grafton.

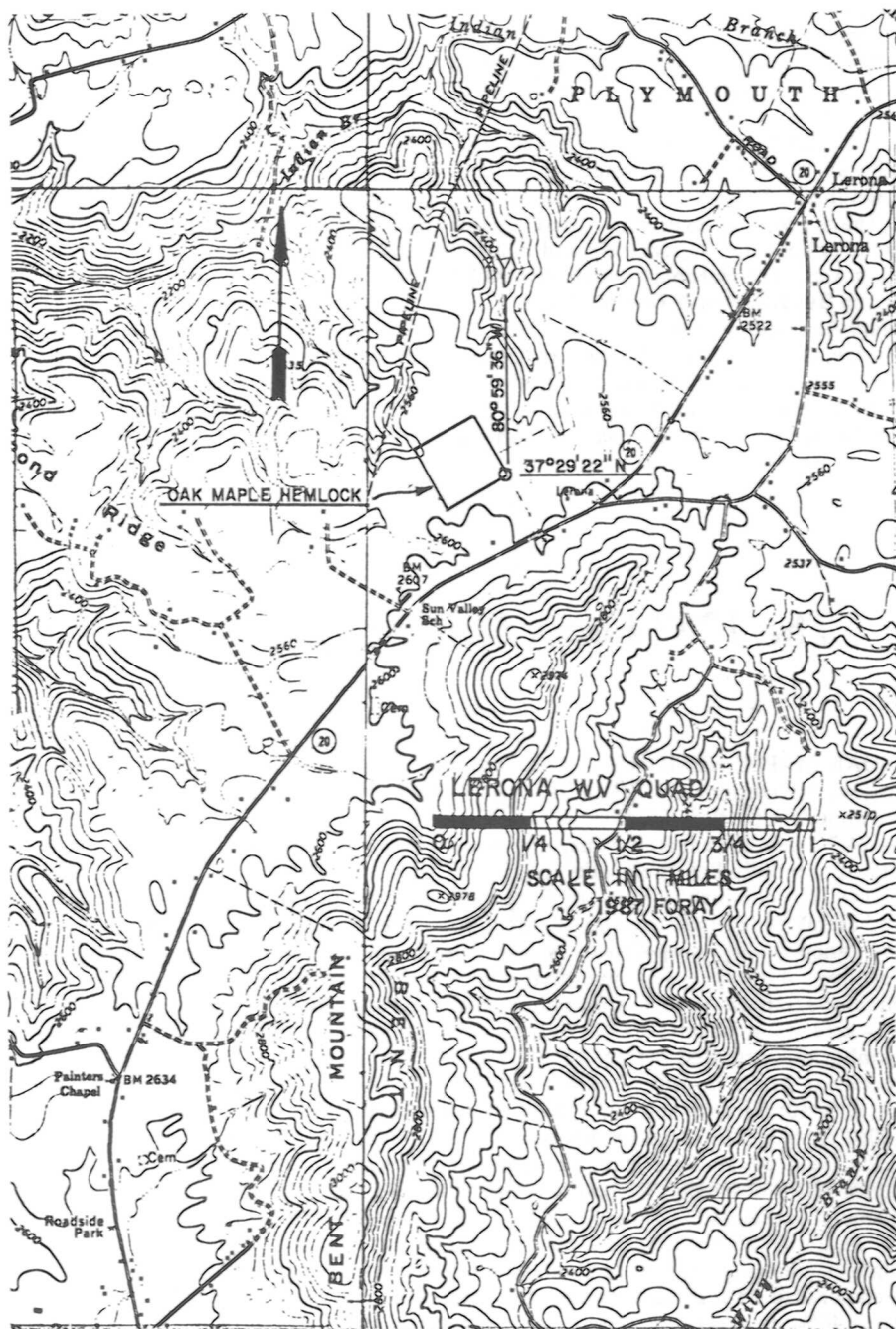
RD1 Box 1070
Ruffsedale, Pa. 15679

The 1987 Foray Singing Male Census

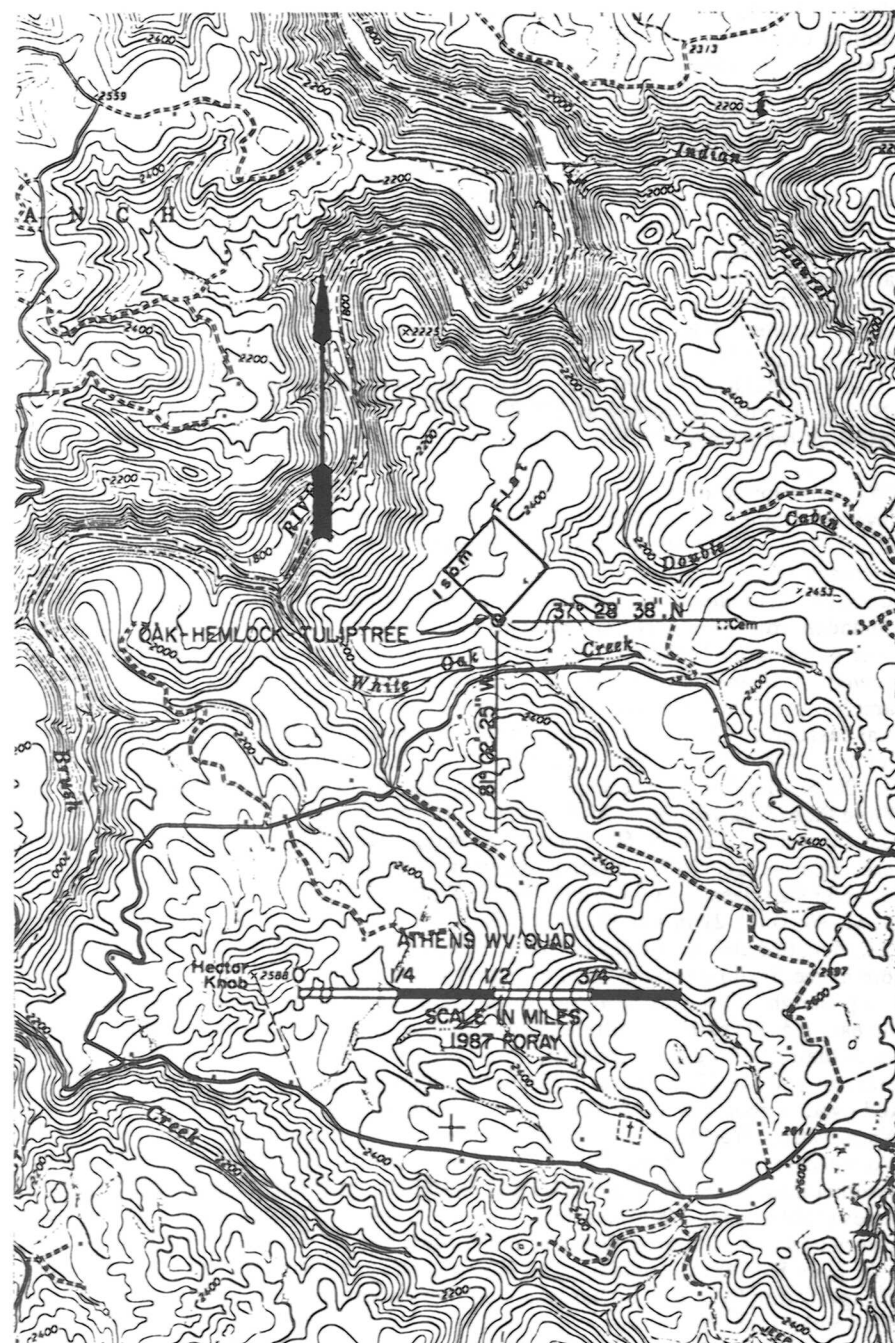
Virginia Johnson

OAK-MAPLE-HEMLOCK — Location: West Virginia; Mercer Co.; 4.4 miles N. of Athens. NE corner at 37° 29' 22"N, 80° 59' 36"W; Lerona Quadrangle, USGS; on the combined properties of Earl Hager and Kenneth Phillips. Continuity: New. Size: 10 ha = 24.7 acres, (316 meters square, measured sides run NW and SW). Description of Plot: Essentially flat at elevation of 2560 ft. with one corner falling in the head of a hollow. The dominant canopy trees are Oaks (*Quercus* sp.), Red Maple (*Acer rubrum*), and Hemlock (*Tsuga canadensis*). Most prominent in the understory are saplings of the canopy. The ground cover is primarily Teaberry (*Gaultheria procumbens*) and seedlings of the canopy. A quantitative survey of the vegetation, based on five 0.1 acre circular samples, gave the following results: Trees 3-inches in diameter and over, 424/acre; total basal area, 137 sq. ft./acre. Species comprising 98% of the total number of trees: Red Maple, 86, 30, 20, 100; Hemlock, 20, 7, 8, 40; Scarlet Oak (*Q. coccinea*), 24, 8, 25, 100; Chestnut Oak (*Q. prinus*), 2, 1, 7, 20; White Oak (*Q. alba*), 10, 3, 5, 40; Hickory sp., 12, 4, 6, 40; Sourwood (*Oxydendrum arboreum*), 58, 20, 7, 100; Tuliptree (*Liriodendron tulipifera*), 2, 1, 1, 40; Black Gum (*Nyssa sylvatica*), 10, 1, 2, 20; Dead, 52, 18, 13, 100. Figures following each species denote number of trees per acres, relative density %, relative dominance %, and relative frequency. Trees by diameter size class: A (3-6 in.) 126, 44, 13, 9; B (6-9 in.) 84, 30, 25, 18; C (9-15 in.) 42, 15, 34, 24; D (15-21 in.) 28, 10, 50, 37; E (21-27 in.) 2, 1, 6, 4; F (27-33 in.) 2, 1, 10, 7. Figures following each class show number of trees per acre, relative density, basal area per acre for that class, and relative dominance. Shrub stems per acre, 424; ground cover 44%; canopy cover 75%; average canopy height 85 ft. (range 71-100). Edge: One

side is within 50 feet of an open field; on the other three sides like forest continues. Weather: Mornings were all cool, 60-65°, and clear. Coverage: June 6-8, 1987. All



trips between dawn and 0745 or 2010 and 2100. Total party hours: 24. Census: Ovenbird, 8.5 (85, 34); Hooded Warbler, 5 (82, 33); Red-eyed Vireo, 3 (30, 12); Eastern



Wood-Pewee, 1.5; American Robin, 1.5; Scarlet Tanager, 1.5; Red-bellied Woodpecker, 1; Downy Woodpecker, 1; Great Crested Flycatcher, 1; Blue-gray Gnatcatcher 1; Wood Thrush, 1, N. Cardinal, 1; Indigo Bunting, 1, Solitary Vireo, .5; Pileated Woodpecker, +; Acadian Flycatcher, +; Black-capped Chickadee, +; Carolina Chickadee +; Tufted Titmouse, +; White-breasted Nuthatch, +; Carolina Wren, +; Rufous-sided Towhee, +; Chipping Sparrow, +. Total: 23 species; 28.5 territorial males (285/sq. km., 114/100 acres). Visitors: Red-shouldered Hawk, E. Screech-Owl, Chuck-will's-widow, Blue Jay, American Crow, Common Grackle. Comments: The Chuck-will's-widow sang only one evening and would not have been heard except for two census takes thrashing through the brush stringing their area at dusk. The young Screech-Owl was seen in the morning. When others returned to see it, the bird was on the ground and died of starvation soon afterward. It is also interesting to note that both Chickadees were heard singing on the area. Census participants: Matt Ash, Jean Brady, Jim Bullard, Mary Ann Dotson, Anne Eddy (compiler), Emily Fleming, Jay Graffious, Virginia Johnson, Don and Marilyn Morton, Loretta Mullins, John Schramm. Vegetation surveyors: Matt Ash, Lynn Barnhart, Mike Berdine, Jim Bullard, Mel Hooker, Bill Smith, John Weimer.

OAK-HEMLOCK-TULIPTREE — Location: West Virginia; Mercer Co.; 3.9 miles NNW of Athens. SE corner at 37° 28' 38"N, 81° 02' 24"W; Athens Quadrangle, USGS; on the property of Wm. T. Lilly, and known as Isom Flats. Continuity: New. Size: 10 ha = 24.7 acres, (316 meters square, measured sides run magnetic NE & NW). Description of plot: The area is essentially level and on a ridge top. 2360 ft. elevation sloping to 2320 ft. elevation on the S & W sides. The area had been selectively timbered 40 years ago, with many trees, again, reaching maturity. The dominant canopy trees are Oaks (*Quercus sp.*), Hemlock (*Tsuga canadensis*), and Tuliptree (*Liriodendron tulipifera*). Most prominent in the understory are Rhododendron (*Rhododendron maximum*) and saplings of the canopy. The ground cover is primarily Teaberry (*Gaultheria procumbens*) and Partridge Berry (*Mitchella repens*). A quantitative survey of the vegetation, based on five 0.1 acre circular samples, gave the following results: Trees 3-inches in diameter and over, 496/acre; total basal area, 129 sq. ft./acre. Species comprising 91% of the total number of trees: Hemlock, 138, 27.5, 13, 100; Tuliptree, 42, 8.5, 11, 100; White Oak (*Q. alba*), 88, 18, 28, 100; Scarlet Oak (*Q. coccinea*), 32, 6, 18, 80; Black Oak (*Q. velutina*), 12, 2, 5, 60; White Pine (*Pinus strobus*), 26, 5, 10, 60; Sourwood (*Oxydendron arboreum*), 80, 6, 8, 100; Dead trees, 42, 8, 5, 60. Figures following each species are number of trees per acre, relative density%, relative dominance%, and relative frequency. Trees by diameter size class: A (3-6 in.) 348, 70, 35, 27; B (6-9 in.) 74, 15, 22, 17; C (9-15 in.) 64, 13, 51, 40; D (15-21 in.) 8, 12, 14, 11; E (21-27 in.) 2, 0, 6, 5. Figures following each class denote number of trees per acre, relative density, basal area per acre, relative dominance. Shrub stems per acre, 478; ground cover 28%; canopy cover 76%; average canopy height, 73 ft. (range 67-95). Edge: Same on all sides with a meadow near 1/3 of the east side. Weather: Scattered fog with cool temperatures in morning, clear and warm the rest of the day. Coverage: June 6-9, 1987. All trips between dawn and 0800 hours or 1900 & 2030 hours. Total party hours: 26. Census: Ovenbird, 8 (80, 32); Red-eyed Vireo, 7.5 (75, 30); Scarlet Tanager, 3.5 (35, 14); Wood Thrush, 2; Worm-eating Warbler, 2; Tufted Titmouse, 1; Black-and-White Warbler, 1; Hairy Woodpecker, +; E. Wood-Pewee, +; Great Crested Flycatcher, +; Blue Jay, +; Carolina Chickadee, +; White-breasted Nuthatch, +. Total: 13 species; 25 territorial males (250/sq. km., 100/100 acres). Visitors: Killdeer, Ruby-throated Hummingbird, American Crow, Common Grackle, and Brown-headed Cowbird. Participants: Matt Ash, Lynn Barnhart (compiler), Mel Hooker, Jeremiah Hunter, Nevada Laitch, Reba Pfalzgraf, Ann Pyle, Bob Richardson, Joe Rieffenberger, John Schramm, Ruth Smith, Bill Smith, John Weimer.

Breeding Bird Records For The 1987 Foray

Harriet Hooker

The 1987 Foray at Concord College was a new situation for the Club and may have made it more difficult to locate and record nests. However, we received nest cards from 26 observers, reporting on 27 species, for a total of 73 nests. We had at least four sightings of adults feeding young where a nest could not be located. An annotated list of the breeding birds follows.

SPECIES	OBS.	CONTENT	HBT.	SITE	ALT.	COMMENTS
Mourning Dove	LW	Y	Roadside	07	1750	Peterstown
Belted Kingfisher	TF	Y	4-05	13	2200	W. of Kegley
Downy Woodpecker	TF	Y	02	08	1441	E. of Pipestem
Downy Woodpecker	NL	Y	Park-like	08	1640	Peterstown
Eastern Phoebe	IP	A-on	Shrubs	13	1400	Bluestone St. Park
Eastern Phoebe	IP	A-on	07	13	1400	Bluestone St. Park
Eastern Phoebe	JH	A-on	07	13	1400	Bluestone St. Park
Eastern Phoebe	JW	Y	05	Post	2116	E. of Lerona
Eastern Phoebe	IP	A-on	8-03	Bldg.	2000	Camp Creek St. Park
Eastern Phoebe	TF	4E	1-03	13	1520	E. of Pipestem
Eastern Phoebe	MA	Y	4	Bldg.	2100	Camp Creek St. Park
Eastern Phoebe	LB	SE	4	Bldg.	2600	E. of Pipestem
Eastern Phoebe	JS	A-on	4-02	Bldg.	2100	Camp Creek St. Park
Eastern Phoebe	LW	A-on	07	13	2000	Brush Creek Falls
Eastern Phoebe	LB	F	1-03	Bldg.	2220	N.W. of Athens
Eastern Phoebe	AE	3E	1-03	13	1500	Pipestem
Eastern Kingbird	PM	F	8-03	09	2530	Athens
Eastern Kingbird	ER	A-on	02	07	1530	Glen Lyn
Eastern Kingbird	PM	A-on	8-03	07	2580	Athens
Eastern Kingbird	VJ	A-on	4	07	2597	W. of Kegley
Eastern Kingbird	PM	A-on	08	07	2530	Athens
Eastern Kingbird	AE	A-on	08	07	2400	Lerona
Tree Swallow	LW	4Y	4	11	2250	Lerona
Tree Swallow	TF	Y	02	08	1441	E. of Pipestem
Blue Jay	DC	3Y	9-02	07	2300	Athens
Crow	LM	Y	4-03	09	1600	Greenville
White-Br. Nuthatch	TF	Y	04	08	2600	W. of Kegley
Eastern Bluebird	LW	5Y	4	11	2250	Lerona
Eastern Bluebird	PM	F	9-03	07	2580	Athens
Eastern Bluebird	TF	3Y	5-05	Post	2000	E. of Pipestem
Wood Thrush	AE	A-on	03	07	2200	Petry
Wood Thrush	AE	A-on	02	07	1500	Pipestem
American Robin	MA	A-on	02	07	1441	E. of Pipestem
American Robin	CC	Y	02	07	2100	Matoaka
American Robin	EJ		03	07	1600	Peterstown
American Robin	EW	B	9	07	2560	Athens
American Robin	RB	3Y	02	07	2597	W. of Kegley
American Robin	RP	A-on	1-03	07	2400	White Oak Rd.
American Robin	RB	B	02	07	2597	W. of Kegley
Brown Thrasher	RB	2E	4-02	04	2400	E. of Lerona
Cedar Waxwing	PM	B	8-03	07	1400	Bluestone St. Park
Cedar Waxwing	TF	A-on	02	07	1441	E. of Pipestem
European Starling	IP		Lake	07	2000	Athens
European Starling	PM		9-03	Elec. box	2580	Athens
Red-eyed Vireo	AE	4E	1-02	07	2500	Lerona
Chest.-Sided Warbler	TF	3E, 1Y	03	05	3710	Bluefield
Ovenbird	LB	5Y	1-02	02	2300	N.W. of Athens
Ovenbird	NL	3Y	1	02	1640	Peterstown
Northern Cardinal	TF	2E	1-03	05	1540	E. of Pipestem
Chipping Sparrow	MH	4E	9	09	2600	Athens
Chipping Sparrow	PM	Y	9	07	2580	Athens

Song Sparrow	JW	4Y	03	04	2440	S.E. of Leron
Song Sparrow	LW	5E	8-01	09	1750	Peterstown
Song Sparrow	RB	3E, 2Y	02	05	1600	Peterstown
Redwinged Blackbird	PM	Y	8-03	04	2580	Athens
Redwinged Blackbird	JW	Y	3	05	2500	S. of Athens
Redwinged Blackbird	JH	4E	4	04	1700	Peterstown
Redwinged Blackbird	LM	4E	3	04	1600	Pipestem
Redwinged Blackbird	JH	3E	4	04	1700	Peterstown
Common Grackle	AB	Y	1	07	1530	Sandstone Falls
Common Grackle	MR	Y	02	07	2100	Shawnee Lake
Common Grackle	LW	Y	03	09	1460	Bluestone St. Park
Common Grackle	PM	Y	03	09	2580	Athens
Orchard Oriole	AM	F	Camp Grd.	07	1400	Bluestone St. Park
Orchard Oriole	PM	A-on	8-03	07	2580	Athens
Northern Oriole	PM	Y	8-03	07	1400	Bluestone St. Park
Northern Oriole	NL	Y	1	07	1400	Hinton
Northern Oriole	TF	Y	8-03	07	2700	Ada
Northern Oriole	EH	Y	02	07	1530	Glen Lyn
Northern Oriole	RB	B	4-02	07	2597	W. of Kegley
House Finch	JR	A-on	9	Post	2600	Athens
House Finch	LW	3Y	9	Bldg.	1750	Peterstown
House Sparrow	PM	Y	9-03	Bldg.	2580	Athens

LEGEND

OBSERVER (OBS): MA, M.D. Ash; AB, A.K. Bush; LB, L. Barnhart; RB, R.K. Bell; CC, C.V. Conrad; DC, D.H. Caperton; AE, A.D. Eddy; TF, T.R. Fox; EH, E.E. Hutton; JH, J.D. Hunter; MH, M.T. Hooker; EJ, E.D. Jacobs; VJ, V. Johnson; NL, N.I. Laitsch; AM, A.M. McRae; LM, L.J. Mullens; PM, P.B. Matthey; IP, I.B. Pierce; RP, R.P. Pfalzgraf; ER, E.C. Reichelderfer; JR, J.A. Rogers; MR, M.M. Rieffenberger; JS, J.B. Schramm; EW, E.M. Weimer; JW, J.A. Ward; LW, L.P. Wilson.

CONTENT: A-on, Adult on nest; Y, young; E, eggs; F, feeding; B, building.

HABITAT: 1, woods; 3, marsh; 4, field; 5, grassland; 8, suburban; 9, urban; 01, coniferous; 02, deciduous; 03, mixed; 04, orchard; 05, cultivated; 07, no vegetation; 08, hedgerow.

SITE: 11, nest box; 13, cliff or bank; 05, shrub; 07, deciduous branch; 08, deciduous cavity; 09, conifer branch.

ALTITUDE: Locality in feet above sea level.

COMMENT: Locality of nest or nearest town.

The 1987 Foray Breeding Bird Surveys

Ralph K. Bell

All but one of the Breeding Bird Surveys were shortened versions of the official U.S. Fish & Wildlife Service roadside surveys. This was done so that the participants could get back to camp for breakfast and get involved in regular Foray activities. Several of the surveys consisted of 20 stops per route (each stop was for 3 minutes every half mile to record all the birds seen or heard). Five routes had less stops because they were designed to assure at least minimum coverage of five West Virginia Breeding Bird Atlas blocks (one route per block) in the Foray area.

Official U.S. Fish & Wildlife Service Survey routes consist of 50 stops for 3 minutes every half mile over a designated route. One such route was run during the Foray period. Only one counter is permitted on the official routes, but on our shorter Foray routes more than one person may have named the birds encountered to enliven

interest and also to try and record all of the birds possible in the Foray area. Practically every road close to camp was covered as were many of the more distant ones.

Including the official U.S. route, a total of 13 routes were run. In all there were 274 three minute stops, which resulted in 4335 birds of 91 species being recorded. These are given in Table 1. The first column gives the number of birds recorded for each species found and the last column gives the number of stops at which the species was found.

TABLE 1
NUMBER OF BIRDS BY SPECIES

Species	Number	Stops Present
Great Blue Heron	1	1
Green-backed Heron	2	2
Wood Duck	4	1
Mallard	8	4
Black Vulture	1	1
Red-shouldered Hawk	2	2
Broad-winged Hawk	1	1
Red-tailed Hawk	1	1
Wild Turkey	5	4
N. Bobwhite	1	1
Killdeer	17	12
Mourning Dove	74	56
Black-billed Cuckoo	1	1
Yellow-billed Cuckoo	12	12
Great Horned Owl	1	1
Whip-poor-will	1	1
Chimney Swift	26	13
Ruby-th. Hummingbird	6	5
Belted Kingfisher	1	1
Red-bellied Woodpecker	3	3
Downy Woodpecker	27	26
Hairy Woodpecker	4	4
Pileated Woodpecker	13	12
N. Flicker	19	17
E. Wood-Pewee	81	73
Acadian Flycatcher	53	44
Willow Flycatcher	9	8
Great Crested Flycatcher	57	51
E. Phoebe	29	27
E. Kingbird	14	13
Tree Swallow	1	1
Rough-winged Swallow	15	10
Barn Swallow	50	18
Blue Jay	47	43
American Crow	291	174
Carolina Chickadee	34	29
Tufted Titmouse	143	124
White-breasted Nuthatch	33	29
Carolina Wren	57	54
House Wren	74	63
Blue-gray Gnatcatcher	73	60
Eastern Bluebird	22	17

Wood Thrush	200	123
American Robin	236	115
Gray Catbird	90	67
N. Mockingbird	7	6
Brown Thrasher	26	24
Cedar Waxwing	23	10
European Starling	143	42
White-eyed Vireo	31	26
Solitary Vireo	3	3
Yellow-throated Vireo	31	28
Warbling Vireo	1	1
Red-eyed Vireo	297	168
Golden-winged Warbler	16	16
Northern Parula	12	12
Yellow Warbler	56	50
Blackburnian Warbler	1	1
Chestnut-sided Warbler	24	16
Yellow-throated Warbler	5	5
Prairie Warbler	4	4
Cerulean Warbler	4	3
Black-and-white Warbler	35	34
Worm-eating Warbler	15	13
Kentucky Warbler	26	25
Hooded Warbler	38	31
American Redstart	27	23
Ovenbird	69	52
Louisiana Waterthrush	6	6
Common Yellow-throat	26	25
Yellow-breasted Chat	66	55
Scarlet Tanager	112	96
Northern Cardinal	165	131
Rose-breasted Grosbeak	4	4
Indigo Bunting	233	163
Rufous-sided Towhee	214	149
Dark-eyed Junco	1	1
Chipping Sparrow	104	80
Field Sparrow	56	47
Savannah Sparrow	3	1
Grasshopper Sparrow	3	2
Song Sparrow	204	144
Red-winged Blackbird	70	32
Eastern Meadowlark	33	24
Common Grackle	85	28
Brown-headed Cowbird	47	34
Orchard Oriole	2	2
N. Oriole	20	19
House Finch	8	6
American Goldfinch	76	51
House Sparrow	53	25

TABLE 2
MOST ABUNDANT SPECIES

Species	Number	% of Total
Red-eyed Vireo	297	6.8
American Crow	291	6.5
American Robin	236	5.4
Indigo Bunting	233	5.4
Rufous-sided Towhee	214	4.9
Song Sparrow	204	4.7
Wood Thrush	200	4.6
Northern Cardinal	165	3.8
Tufted Titmouse	143	3.3
European Starling	143	3.3
Scarlet Tanager	112	2.5
Chipping Sparrow	104	2.4

TABLE 3
MOST WIDELY DISTRIBUTED SPECIES

Species	Stops Present	% of Stops Noted
American Crow	174	63.5 %
Red-eyed Vireo	168	61.3
Indigo Bunting	163	59.5
Rufous-sided Towhee	149	54.4
Song Sparrow	144	52.6
Northern Cardinal	131	47.8
Tufted Titmouse	124	45.3
Wood Thrush	123	45.0
American Robin	115	41.9
Scarlet Tanager	96	35.0
Chipping Sparrow	80	29.2
Eastern Wood-Pewee	73	27.0

Although 91 species were recorded on at least one of the 274 stops of the survey routes, the 12 most abundant species accounted for almost 54% of all individuals recorded. The Red-eyed Vireo was the most common bird on five of the routes, the Am. Crow on four, the Song Sparrow on two, the Robin and Starling on one route each.

Participants on one or more of the survey routes included Matt Ash, Lynn Barnhart, Charles Bedford, Jean Brady, Juanita DeLancey, Tom Fox, Emily Grafton, Jeremiah Hunter, Ed Ilgenfritz, Ann McRae, Don Morton, Marilyn Morton, Loretta Mullens, Don Nemanich, Don & Joan Pattison, Reba Pfalzgraf, Jim & Judy Phillips, Anne Pyle, John Schramm, Ed Smith, Judy Ward and Leon Wilson.

Vascular Flora of the 1987 Foray

William N. Grafton
WVU Wildlife Specialist

The 1987 Foray area had the potential of a very diverse list of flora. The New River serves as a northward migration route for southeastern US flora, while the Greenbrier River serves as a southward migration route as well as a route from high elevation (4500 feet) to low elevation (2000 feet). Soils in the area spanned the Pennsylvanian, Mississippian, Devonian, Silurian and Ordovician geologic formations. The Devonian shales are well known for the unique shale barrens.

The areas which were least explored during the Foray were the aquatic and shoreline habitats of Bluestone Reservoir and the habitats associated with the Silurian and Ordovician formations.

Frequency of plants is consolidated into three categories of common, present and rare. "Common" is a term indicating a plant was found throughout or abundantly in the Foray area. "Present" is a term synonymous with such classifications as uncommon, occasional, infrequent and locally abundant. "Rare" indicates the plant was located in fewer than 10 sites within the Foray area or is rare or unique in West Virginia.

Designations of F1 or Se following the plant name indicates the presence of flowers (F1) or seeds (fruits) (Se). No designation indicates the plant was identified from vegetative evidence.

BBC members deserving special mention for contributions to the following floristic lists are Ruth Smith (Ranunculaceae) Bob Richardson (Cruciferae), Eleanor Bush (Violaceae and Compositae), Emily Grafton and Norma Venable (Umbelliferae, Labitae and Scrophulariaceae), Dr. Eugene Hutton, Esther Reichelderfer, Ann Pyle, Reba Pfalzgraf, Dr. Kyle Bush and Maxine Thacker.

Most plants growing in yards, fields, on roadbanks and along railroads in southeastern West Virginia were typical of the remainder of the State. In general, railroads were poor places to look for plants because of past heavy herbicide usage to maintain rights-of-way along both the CSX and N & W systems.

The most noteworthy plants found in these disturbed habitats are as follows:

Colicroot - *Aletris farinosa* - field at Oliver Johnson residence near Lerona.
Shining Ladies' -tresses - *Spiranthes lucida* - wet roadside shale 'borrow' pit on Lick Creek Road.

Green Adder's-mouth - *Malaxis unifolia* - moist field and forest in several scattered locations.

Loesel's Twayblade - *Liparis loeselii* - wet roadside shale borrow pit on Lick Creek Road.

Canada Anemone - *Anemone canadensis* - moist open field at Shawnee Lake recreation area.

Leatherflower - *Clematis viorna* - openings along roads, railroads and riverbanks.

Cuckoo-flower - *Cardamine pratensis* - present in wet soils of shady roads and muddy areas in several locations. Plant is listed because **Flora of WV** states this as reported for WV but no verifying specimens are known.

False Gromwell - *Onosmodium hispidissimum* - Open pastures at two sinkholes at Greenville Saltpeter Cave.

Piedmont Bedstraw - *Galium pedemontanum* - common in pastures and fields throughout the Foray area.

Small Yellow Crownbeard - *Verbesina occidentalis* - common in old pastures and along roads.

Small's Ragwort - *Senecio smallii* - common in poor soil along roads and railroads.
Nipplewort - *Lapsana communis* - common in openings along roads.
Sweet Coltsfoot - *Petasites hybridus* - escape from ornamental plantings at Bramwell.
This location is a state record.

Common plants of disturbed habitats:

White Pine - *Pinus strobus*
Red Cedar - *Juniperus virginiana*
Asiatic Day-flower - *Commelina communis* - F1
Common Day Lily - *Hemerocallis fulva* - F1
Garden Asparagus - *Asparagus officinalis* - F1
Saw Brier - *Smilax glauca* - F1
Blue-eyed Grass - *Sisyrinchium angustifolium* - F1/Se
Hazelnut - *Corylus americana* - Se
Chinese Chestnut - *Castanea mollissima* - F1
Sleepy Catchfly - *Silene antirrhina* - F1
Bouncing Bet - *Saponaria officinalis* - F1
White Sassafras - *Sassafras albidum*
Whitlowgrass - *Draba verna* - Se
Field Cress - *Lepidium campestre* - F1/Se
Wild Peppergrass - *L. virginicum* F1/Se
Dense-flowered Peppergrass - *L. densiflorum* - F1/Se
Shepherd's Purse - *Capsella bursa-pastoris* - F1/Se
Hedge Mustard - *Sisymbrium officinale* - F1
Winter Cress - *Barbarea vulgaris* - F1/Se
Spring Cress - *B. verna* - F1/Se
Pennsylvania Bittercress - *Cardamine pensylvanica* - Se
Tower Mustard - *Arabis glabra* - F1
Smooth Rockcress - *A. laevigata* - Se
Sicklepod - *A. canadensis* - Se
Meadowsweet - *Spiraea alba* - F1
Wild Crabapple - *Pyrus coronaria*
Common Serviceberry - *Amelanchier arborea* - Se
Hawthorns - *Crataegus* spp.
Black Locust - *Robinia pseudo-acacia*
Great Yellow Wood Sorrel - *Oxalis grandis* - F1
Tree-of-Heaven - *Ailanthus altissima*
Staghorn Sumac - *Rhus typhina* F1
Smooth Suma - *R. glabra* - F1
Shining Sumac - *R. copallina* - F1
Poison Ivy - *R. radicans*
American Holly - *Ilex opaca* - F1
Strawberry Bush - *Euonymus americanus* - F1
Climbing Bittersweet - *Celastrus scandens*
Pale Touch-Me-Not - *Impatiens pallida* - F1
Spotted Touch-Me-Not - *I. capensis* - F1
Virginia Creeper - *Parthenocissus quinquefolia*
Common St. John's-wort - *Hypericum perforatum*
Dotted St. John's-wort - *H. punctatum*
Striped Violet - *Viola striata* - F1
Autumn Olive - *Elaeagnus umbellata* - F1
Common Evening-primrose - *Oenothera biennis*
Parsnip - *Pastinaca sativa* - F1

Wild Carrot - *Daucus carota* - F1
 Hercules' Club - *Aralia spinosa*
 Squaw Huckleberry - *Vaccinium stamineum* - F1
 Whorled Loosestrife - *Lysimachia quadrifolia* - F1
 Moneywort - *L. nummularia*
 Fringed Loosestrife - *L. ciliata*
 Periwinkle - *Vinca minor* - Se
 Indian Hemp - *Apocynum cannabinum* - F1
 Butterfly Weed - *Asclepias tuberosa* - F1
 Bluethistle - *Echium vulgare* - F1
 Catnip - *Nepeta cataria* - F1
 Ground-ivy - *Glechoma hederacea* - Se
 European Selfheal - *Prunella vulgaris* - F1
 Wild Sage - *Salvia lyrata* - Se
 Wild Bergamot - *Monarda fistulosa*
 American Pennyroyal - *Hedeoma pulegioides*
 Field Basil - *Satureja vulgaris* - F1
 Bittersweet - *Solanum dulcamara* - F1
 Great Mullein - *Verbascum thapsus*
 Moth Mullein - *V. blattaria* - F1
 Small Snapdragon - *Chaenorrhinum minus* - F1
 Gray Beardtongue - *Penstemon canescens* - F1
 Thyme-leaved Speedwell - *Veronica serpyllifolia* - F1/Se
 Common Speedwell - *V. officinalis* - F1/Se
 Corn Speedwell - *V. arvensis* - F1
 Cleavers - *Galium aparine* - Se
 Bluets - *Houstonia caerulea* - F1
 Red Coralberry - *Symphoricarpos orbiculatus*
 Common Teasel - *Dipsacus sylvestris*
 Venus' Looking Glass - *Specularia perfoliata* - F1
 Indian Tobacco - *Lobelia inflata*
 White Top - *Erigeron annuus* - F1
 Daisy Fleabane - *E. strigosus* - F1
 Wood Tickseed - *Coreopsis major*
 Raceweed - *Galinsoga ciliata*
 Yarrow - *Achillea millefolium* - F1
 Pineapple Weed - *Matricaria matricarioides* - F1
 Ox-eye Daisy - *Chrysanthemum leucanthemum* - F1
 Common Mugwort - *Artemisia vulgaris*
 Coltsfoot - *Tussilago farfara* - Se
 Golden Ragwort - *Senecio aureus* - Se
 Common Thistle - *Cirsium vulgare*
 Field Thistle - *C. discolor*
 Spotted Knapweed - *Centaurea maculosa*
 Nipplewort - *Lapsana communis* - F1
 Chicory - *Cichorium intybus* - F1
 Cynthia - *Krigia biflora* - F1
 Common Dandelion - *Taraxacum officinale* - F1
 Mouse-ear Hawkweed - *Hieracium pilosella* - F1
 King Devil - *H. pratense* - F1
 Rattlesnake-weed - *H. venosum*

Plants "present" in disturbed habitats:
 Meadow Spikemoss - *Selaginella apoda*
 Adam's Needle - *Yucca smalliana* - F1
 White Poplar - *Populus alba*
 Chinquapin - *Castanea pumila* - F1
 White Mulberry - *Morus alba*
 Osageorange - *Maclura pomifera*
 Deptford Pink - *Dianthus armeria* - F1
 Wild Columbine - *Aquilegia canadensis* - F1
 Creeping Buttercup - *Ranunculus repens* - F1
 Revolute Meadowrue - *Thalictrum revolutum* - F1
 Turnip - *Brassica napus* - F1
 Cuckoo-flower - *Cardamine pratensis* - F1
 Leatherflower - *Clematis viorna* - F1
 Upright clinquefoil - *Potentilla recta*
 Racemed Milkwort - *Polygala polygama* - F1
 Seneca Snakeroot - *P. senega* - F1
 Toothed Spurge - *Euphorbia dentata* - F1
 Wood Spurge - *E. commutata* - F1
 Common Sundrops - *Oenothera tetragona* - F1
 Hairy Angelica - *Angelica venenosa*
 Lance-leaved Loosestrife - *Lysimachia lanceolata*
 Privet - *Ligustrum vulgare*
 Hound's-tongue - *Cynoglossum officinale* - F1
 Motherwort - *Leonurus cardiaca* - F1
 Henbit - *Lamium amplexicaule* - F1
 Common Ground-cherry - *Physalis heterophylla* - F1
 Matrimony-vine - *Lycium halmifolium*
 Smooth Beard-tongue - *Penstemon laevigatus* - F1
 Piedmont Bedstraw - *Galium pedemontanum* - F1
 Upland Boneset - *Eupatorium sessilifolium*
 Phalidelpia Fleabane - *Erigeron philadelphicus* - Se
 Purplish Cudweed - *Gnaphalium purpureum* - F1
 Small Yellow Crownbeard - *Verbesina occidentalis*
 Dog Fennel - *Anthemis cotula* - F1
 Small's Ragwort - *Senecio smallii* - F1
 Fall Dandelion - *Leontodon autumnalis* - F1
 Goatsbeard - *Tragopogon major* - F1/Se
 Spiny Sow Thistle - *Sonchus asper* - F1
 Willow Lettuce - *Lactuca saligna*
 Wild Lettuce - *L. canadensis*

Rare plants in manmade/disturbed habitats:
 Spiderwort - *Tradescantia virginiana* - Se
 Yellow Day Lily - *Hemerocallis flava* - F1
 Colicroot - *Alettris farinosa* - F1
 Shining Ladies' Tresses - *Spiranthes lucida* - F1
 Green Adder's-mouth - *Malaxis unifolia* - F1
 Loesel's Twayblade - *Liparis loeselii* - F1
 Weeping Willow - *Salix babylonica*
 White Willow - *S. alba*
 Quaking Aspen - *Populus tremuloides*
 Balm of Gilead - *P. gileadensis*

Canada Anemone - *Anemone canadensis* - F1
 Poppy - *Papaver dubium* - F1
 Field Pennycress - *Thlaspi arvense* - F1/Se
 Oriental Bittersweet - *Celastrus orbiculatus*
 White Milkweed - *Asclepias variegata* - F1
 Upright Bindweed - *Convolvulus spithameus* - F1
 American Gromwell - *Lithospermum latifolium* - Se
 False Gromwell - *Onosmodium hispidissimum* - Se
 Golden Coreopsis - *Coreopsis tinctoria* - F1
 Sweet Coltsfoot - *Petasites hybridus*

The forest on top of East River Mountain was studied to determine composition and frequency of species. East River and Peters Mountains both range from 3500 to 4000 feet elevation. Several people visited the north facing slopes of East River Mountain immediately east of Bluefield.

The most frequent tree species of the mixed hardwood forest were sugar maple, red oak, chestnut oak, white ash, American basswood and hop hornbeam. The shrub layer was dominated by striped maple, wild plum, hazelnut and wild hydrangea.

Mountain ash, hobblebush and Carolina Lily are known to occur on Buckhorn Knob (4069 feet) which is the highest elevation on East River Mountain.

Common plants of East River Mountain top are listed below:

Common Polypody - *Polypodium virginianum*
 White Clintonia - *Clintonia umbellulata* - F1
 Great Solomon's Seal - *Polygonatum canaliculatum* - F1
 Hazelnut - *Corylus americana*
 Hop Hornbeam - *Ostrya virginiana*
 Chestnut Oak - *Quercus prinus*
 Red Oak - *Q. ruba*
 Pipevine - *Aristolochia macrophylla* - Se
 Revolute Meadowrue - *Thalictrum revolutum* - F1
 Dame's Rocket - *Hesperis matronalis* - F1
 Wild Stonecrop - *Sedum ternatum*
 Wild Hydrangea - *Hydrangea arborescens*
 Bowman's Root - *Gillenia trifoliata* - F1
 Wild Plum - *Prunus americana* - Se
 Wild Geranium - *Geranium maculatum* - F1
 Striped Maple - *Acer pensylvanicum*
 Sugar Maple - *A. saccharum*
 American Basswood - *Tilia americana*
 Wild Sarsaparilla - *Aralia nudicaulis*
 Black Snakeroot - *Sanicula marilandica* - F1
 Smooth Sweet Cicely - *Osmorhiza longistylis* - Se
 Golden Alexanders - *Zizia trifoliata* - Se
 Honewort - *Cryptotaenia canadensis* - F1
 Woodland Meadow-parsnip - *Thaspium trifoliatum* - F1/Se
 White Ash - *Fraxinus americana*
 Poke Milkweed - *Asclepias exaltata* - F1
 Virginia Waterleaf - *Hydrophyllum virginianum*
 Long-leaved Summer Bluet - *Houstonia longifolia* - F1
 Morrow's Honeysuckle - *Lonicera morrowii*

Plants "present" on top of East River Mountain are listed below:

Turk's Cap Lily - *Lilium superbum*
 American Lily-of-the-Valley - *Convallaria montana* - Se
 Carrion Flower - *Smilax herbacea* - Se
 Bitternut Hickory - *Carya cordiformis*
 Mockernut Hickory - *C. tomentosa*
 Early Meadowrue - *Thalictrum dioicum* - Se
 Cucumber Tree - *Magnolia acuminata*
 Virginia Strawberry - *Fragaria virginiana* - F1
 Multiflora Rose - *Rosa multiflora* - F1
 Black Locust - *Robinia pseudo-acacia*
 Yellow Buckeye - *Aesculus octandra*
 Wild Black Cherry - *Prunus serotina* - Se
 Flame Azalea - *Rhododendron calendulaceum*
 Periwinkle - *Vinca minor*
 Nondo - *Ligusticum canadense* - F1
 Maple-leaved Arrowwood - *Viburnum acerifolium*
 Black Elderberry - *Sambucus canadensis*

The 1987 Foray area encompassed several aquatic and wetland sites. The largest of these was the 1800 acre Bluestone Reservoir. An old backwater channel of the Greenbrier River (now blocked by the CSX Railroad) contained an excellent population of watershield and other aquatics. Foray groups also surveyed Athens Lake and Long Branch Lake (Pipestem State Park).

The most noteworthy plants found in the aquatic or wetland habitats are as follows: Spike rush - *Eleocharis quadrangulata* - shoreline at head of Long Branch Lake. The old backwater channel located along the CSX Railroad about 0.5 mile east of Pence Springs contained Swamp Dock, Greater Duckweed, Watermeal, Cowlily and Watershield.

Common aquatic and wetland plants identified are as follows:

Sensitive Fern - *Onoclea sensibilis*
 White Pine - *Pinus strobus*
 Broad-leaved Cattail - *Typha latifolia*
 American Burreed - *Sparganium americanum* - F1
 Calamus - *Acorus calamus*
 Black Willow - *Salix nigra*
 Silky Willow - *S. sericea*
 River Birch - *Betula nigra*
 Brookside Alder - *Alnus serrulata*
 Swamp White Oak - *Quercus bicolor*
 Pin Oak - *Q. palustris*
 Meadowsweet - *Spiraea alba* - F1
 Small-flowered Agrimony - *Agrimonia parviflora*
 Swamp Rose - *Rosa palustris*
 Red Maple - *Acer rubrum*
 Shrubby St. John's-wort - *Hypericum prolificum*
 Black Gum - *Nyssa sylvatica*
 Seedbox - *Ludwigia alternifolia*
 Marsh Purslane - *L. palustris*
 Poison Hemlock - *Conium maculatum* - F1
 Water Hemlock - *Cicuta maculata* - F1
 Silky Cornel - *Cornus amomum*
 Maleberry - *Lyonia ligustrina*

Swamp Milkweed - *Asclepias incarnata*
 Common Monkeyflower - *Mimulus ringens*
 Clammy Hedge-hyssop - *Gratiola neglecta* - F1
 Water-willow - *Justicia americana*
 Buttonbush - *Cephalanthus occidentalis*
 Boneset - *Eupatorium perfoliatum*
 Purple Sneezeweed - *Helenium flexuosum*

Plants "present" in the aquatic or wetland habitats are listed below:

Common Water Plantain - *Alisma subcordatum*
 Wapato - *Sagittaria latifolia* - F1
 Mild Water Pepper - *Polygonum hydropiperoides* - F1
 Tall Meadowrue - *Thalictrum polygamum*
 Forget-Me-Not - *Myosotis scorpioides* - F1
 Bugleweed - *Lycopus virginicus*
 Water Horehound - *L. americanus*
 Peppermint - *Mentha piperita*
 Water Speedwell - *Veronica anagallis-aquatica* - F1

Rare plants in the aquatic or wetland habitats are listed below:

Spikerush - *Eleocharis quadrangulata*
 Greater Duckweed - *Spirodela polyrhiza*
 Watermeal - *Wolffia punctata*
 Swamp Dock - *Rumex verticillatus* - F1
 Cowlily - *Nuphar advena* - F1
 Watershield - *Brasenia schreberi* - F1
 Golden Saxifrage - *Chrysoplegium americanum* - Se
 Steeplebush - *Spiraea tomentosa*

Mesic forests on moist, rich soils were quite common throughout the 1987 Foray area. The more common forest types were cove hardwoods, white pine, yellow-poplar, mixed hardwoods and northern hardwoods.

Locations that were inventoried during Foray were in Camp Creek State Forest, the mouth of Camp Creek, Bluestone River in the vicinity of Brush Creek, lower sections of Brush Creek, slopes of New River near Crumps Bottom, Pipestem State Park and slopes of Indian Creek between Greenville and Red Sulphur Springs.

Common plants of mesic forests are listed below:

Rattlesnake Fern - *Botrychium virginianum*
 Marginal Shield Fern - *Dryopteris marginalis*
 Maidenhair Fern - *Adiantum pedatum*
 Hemlock - *Tsuga canadensis*
 White Pine - *Pinus strobus*
 Plantain-leaf Sedge - *Carex plantaginea*
 Jack-in-the-Pulpit - *Arisaema triphyllum* - F1/Se
 Mealy Bellwort - *Uvularia perfoliata* - Se
 Yellow Fawn Lily - *Erythronium americanum* - Se
 Plumelily - *Smilacina racemosa* - F1
 Hairy Disporum - *Disporum lanuginosum* - Se
 Indian Cucumber-root - *Medeola virginiana* - F1
 Downy Solomon's Seal - *Polygonatum pubescens* - Se
 Ill-scented Trillium - *Trillium erectum* - Se
 Large Flowered Trillium - *T. grandiflorum* - Se
 Bitternut Hickory - *Carya cordiformis*

Shagbark Hickory - *C. ovata*
 Hop Hornbeam - *Ostrya virginiana*
 American Beech - *Fagus grandifolia*
 White Oak - *Quercus alba*
 Red Oak - *Q. rubra*
 Slippery Elm - *Ulmus rubra*
 American Elm - *U. americana*
 Wood Nettle - *Laportea canadensis* - F1
 Buffalonut - *Pyrularia pubera* - F1
 Wild Ginger - *Asarum canadense* - Se
 Pipevine - *Aristolochia macrophylla* - Se
 Great Chickweed - *Stellaria pubera* - Se
 Starry campion - *Silene stellata*
 Early Meadowrue - *Thalictrum dioicum* - Se
 Rue Anemone - *Anemonella thalictroides* - Se
 Sharplobe Hepatica - *Hepatica acutiloba* - Se
 Windflower - *Anemone quinquefolia* - Se
 May-apple - *Podophyllum peltatum* - Se
 Blue Cohosh - *Caulophyllum thalictroides* - Se
 Canada Moonseed - *Menispermum canadense*
 Cucumber Tree - *Magnolia acuminata*
 Mountain Magnolia - *M. fraserii*
 Yellow-poplar - *Liriodendron tulipifera*
 PawPaw - *Asimina triloba*
 Spicebush - *Lindera benzoin* - Se
 Bloodroot - *Sanguinaria canadensis* - Se
 Two-leaved Toothwort - *Dentaria diphylla* - Se
 Cutleaf Toothwort - *D. laciniata* - Se
 Smooth Rockcress - *Arabis laevigata* - Se
 Wild Stonecrop - *Sedum ternatum* - Se
 Lettuce Saxifrage - *Saxifraga micranthidifolia* - F1
 Foamflower - *Tiarella cordifolia* - Se
 Miterwort - *Mitella diphylla* - Se
 Prickly Gooseberry - *Ribes cynosbati* - Se
 Wild Hydrangea - *Hydrangea arborescens*
 Witch-hazel - *Hamamelis virginiana*
 Goatsbeard - *Aruncus dioicus* - F1
 Common Serviceberry - *Amelanchier arborea*
 Flowering Raspberry - *Rubus odoratus* - F1
 Wild Black Cherry - *Prunus serotina* - Se
 Redbud - *Cercis canadensis* - Se
 Hog-peanut - *Amphicarpa bracteata*
 Wild Geranium - *Geranium maculatum* - F1
 Gay Wings - *Polygala paucifolia*
 Bladdernut - *Staphylea trifolia* - Se
 Striped Maple - *Acer pensylvanicum* - Se
 Sugar Maple - *A. saccharum* - Se
 Yellow Buckeye - *Aesculus octandra* - F1
 Summer Grape - *Vitis aestivalis*
 American Basswood - *Tilia americana*
 White Basswood - *T. heterophylla*
 Marsh Blue Violet - *Viola cucullata* - Se
 Common Blue Violet - *V. papilionacea* - Se

Sweet White Violet - *V. blanda* - Se
 Halberd-leaf Yellow Violet - *V. hastata* - Se
 Smooth Yellow Violet - *V. pennsylvanica* - Se
 Canada Violet - *V. canadensis* - F1/Se
 Long-spurred Violet - *V. rostrata* - F1
 Flowering Dogwood - *Cornus florida* - Se
 American Spikenard - *Aralia racemosa*
 Clustered Snakeroot - *Sanicula gregaria* - F1
 Black Snakeroot - *S. canadensis*
 Smooth Sweet Cicely - *Osmorhiza longistylis* - Se
 Golden Alexanders - *Zizia trifoliata* - F1
 Honewort - *Cryptotaenia canadensis* - F1
 White Ash - *Fraxinus americana* - Se
 Wild Blue Phlox - *Phlox divaricata* - Se
 Creeping Phlox - *P. stolonifera* - Se
 Showy Skullcap - *Scutellaria serrata* - F1
 Meehanian - *Meehanian cordata* - F1
 Ground-ivy - *Glechoma hederacea* - Se
 Hairy Woodmint - *Blephilia hirsuta*
 Cancerroot - *Conopholis americana* - F1
 Wild Liquorice - *Galium circaeazans* - F1
 Partridge Berry - *Mitchella repens*
 Tall Bellflower - *Campanula americana*
 White Snakeroot - *Eupatorium rugosum*
 Squarrose Goldenrod - *Solidago squarrosa*
 White-flowered Leafcup - *Polymnia canadensis*
 Yellow-flowered Leafcup - *P. uvedalia*
 Tall Coneflower - *Rudbeckia laciniata*

Plants "present" in mesic forests are listed below:

Walking Fern - *Camptosorus rhizophyllus*
 Maidenhair Spleenwort - *Asplenium trichomanes*
 American Yew - *Taxus canadensis*
 Green Dragon - *Arisaema dracontium* - Se
 Spiderwort - *Tradescantia ohioensis* - F1
 Large-flowered Bellwort - *Uvularia grandiflora* - Se
 Wild Lily-of-the-Valley - *Maianthemum canadense* - Se
 Sessile Trillium - *Trillium sessile* - Se
 Showy Orchis - *Orchis spectabilis* - Se
 Large Round-leaved Orchid - *Habenaria orbiculata*
 Downy Rattlesnake Plantain - *Goodyera pubescens*
 Puttyroot - *Aplectrum hyemale*
 Large Twayblade - *Liparis lilifolia* Se
 Butternut - *Juglans cinerea*
 Black Walnut - *J. nigra*
 Yellow Birch - *Betula alleghaniensis*
 Yellow Oak - *Quercus muhlenbergii*
 Hackberry - *Celtis occidentalis*
 Red Mulberry - *Morus rubra*
 Virginia Snakeroot - *Aristolochia serpentaria* - F1
 Roundlobe Hepatica - *Hepatica americana* - Se
 Mountain Anemone - *Anemone lancifolia* - Se
 Leatherflower - *Clematis viorna* - F1

Wild Columbine - *Aquilegia canadensis* - F1
 White Baneberry - *Actaea pachypoda* - Se
 Goldenseal - *Hydrastis canadensis* - Se
 Twinleaf - *Jeffersonia diphylla* - Se
 Umbrella Magnolia - *Magnolia tripetala*
 Early Saxifrage - *Saxifraga virginiana* - Se
 Fire Cherry - *Prunus pennsylvanica*
 Honeylocust - *Gleditsia triacanthos*
 Wild Vetch - *Vicia caroliniana* - F1
 Violet Wood Sorrel - *Oxalis violacea* - F1
 Mountain Holly - *Ilex montana*
 Wahoo - *Euonymus atropurpurea*
 Strawberry Bush - *E. americanus* - F1
 Black Sugar Maple - *Acer nigrum*
 Green Violet - *Hybanthus concolor* - Se
 Roundleaf Violet - *Viola rotundifolia* - Se
 Trifoliate Snakeroot - *Sanicula trifoliata* - F1
 Aternate-leaved Dogwood - *Cornus alternifolia* - F1
 Galax - *Galax aphylla* - F1/Se
 Silverbell - *Halesia carolina* - Se
 Virginia Waterleaf - *Hydrophyllum virginianum* - F1
 Broadleaf Waterleaf - *H. canadense* - F1
 Rock Skullcap - *Scutellaria saxatilis* - F1
 Richweed - *Collinsonia canadensis*
 Horsegentian - *Triosteum auranticum* - F1
 Maple-leaved Arrowwood - *Viburnum acerifolium* - F1
 Red Elderberry - *Sambucus pubens* - Se

Rare plants of mesic forests are listed below:

Carex pedunculata
 Carolina Lily - *Lilium michauxii* - F1
 Hybrid Oak - Possibly X *Q. saulii*
 Slender Toothwort - *Dentaria heterophylla* - F1/Se
 Mountainash - *Pyrus americana*
 Mountain Maple - *Acer spicatum* - F1
 Ginseng - *Panax quinquefolius* - F1
 Pennywort - *Obolaria virginica* - Se
 American Gromwell - *Lithospermum latifolium* - F1
 Wild Petunia - *Ruellia strepens* - F1
 Smooth Honeysuckle - *Lonicera dioica* - F1
 Hobblebush - *Viburnum alnifolium*

Xeric forests (dry woods) were common on steep slopes, ridge tops and in the shale formations of eastern Mercer and Monroe Counties. The more common forest types were mixed oak, oak-hickory and Virginia pine.

Locations studied included Eads Mill, Camp Creek State Forest, Pipestem State Park, Bluestone State Park, Isom Flats, an area at the mouth of Brush Creek and some shale forests near Wayside in Monroe County.

Common plants of xeric forests are listed below:

Groundpine - *Lycopodium obscurum*
 Groundpine - *L. flabelliforme*
 New York Fern - *Thelypteris noveboracensis*
 Christmas Fern - *Polystichum acrostichoides*
 Hay-scented Fern - *Dennstaedia punctilobula*

Bracken - *Pteridium aquilinum*
 Common Polypody - *Polypodium virginianum*
 White Pine - *Pinus strobus*
 White Clintonia - *Clintonia umbellulata* - F1/Se
 Saw Brier - *Smilax glauca* - F1
 Common Greenbrier - *S. rotundifolia* - F1
 Wild Yam - *Dioscorea villosa* - Se
 Blue-eyed Grass - *Sisyrinchium angustifolium* - F1/Se
 Whorled Pogonia - *Isotria verticillata* - Se
 Downy Rattlesnake Plantain - *Goodyera pubescens*
 Bigtooth Aspen - *Populus grandidentata*
 Mockernut Hickory - *Carya tomentosa*
 Black Birch - *Betula lenta*
 White Oak - *Quercus alba*
 Chestnut Oak - *Q. prinus*
 Post Oak - *Q. stellata*
 Scarlet Oak - *Q. coccinea*
 Black Oak - *Q. velutina*
 Buffalonut - *Pyrularia pubera* - Se
 Coltsfoot - *Asarum virginicum* - F1/Se
 White Sassafras - *Sassafras albidum*
 Bowman's Root - *Gillenia trifoliata* - F1
 Multiflora Rose - *Rosa multiflora* - F1
 Wild Indigo - *Baptisia tinctoria*
 Black Locust - *Robinia pseudo-acacia*
 Red Maple - *Acer rubrum* - Se
 Southern Wood Violet - *Viola hirsutula* - Se
 Wild Sarsaparilla - *Aralia nudicaulis* - Se
 Yellow Pimpernel - *Taenidia integerrima* - F1
 Spotted Wintergreen - *Chimaphila maculata* - F1
 Round-leaved Am. Wintergreen - *Pyrola rotundifolia* - F1
 Indian Pipe - *Monotropa uniflora* - F1
 Great Laurel - *Rhododendron maximum*
 Flame Azalea - *R. calendulaceum* - F1
 Pinxter - *R. nudiflorum* - Se
 Mountain Laurel - *Kalmia latifolia* - F1
 Trailing Arbutus - *Epigaea repens* - Se
 Teaberry - *Gaultheria procumbens* - F1
 Sourwood - *Oxydendrum arboreum* - F1
 Black Huckleberry - *Gaylussacia baccata* - F1
 Squaw Huckleberry - *Vaccinium stamineum* - F1
 Late Low Blueberry - *V. vacillans* - F1
 Galax - *Galax aphylla* - F1/Se
 Whorled Loosestrife - *Lysimachia quadrifolia* - F1
 Hairy Skullcap - *Scutellaria elliptica* - F1
 Gray Beardtongue - *Penstemon canescens* - F1
 Common Lousewort - *Pedicularis canadensis* - Se
 Cancerroot - *Conopholis americana* - F1
 Partridge Berry - *Mitchella repens* - F1
 Long-leaved Summer Bluets - *Houstonia longifolia* - F1
 Maple-leaf Arrowwood - *Viburnum acerifolium* - F1
 Wood Tickseed - *Coreopsis major*
 Rattlesnake Hawkweed - *Hieracium venosum*

Plants "present" in the xeric forests are listed below:
 Interrupted Fern - *Osmunda claytoniana*
 Hemlock - *Tsuga canadensis*
 Scrub Pine - *Pinus virginiana*
 Pitch Pine - *P. rigida*
 Table Mountain Pine - *P. pungens*
 Red Cedar - *Juniperus virginiana*
 Mountain Bellwort - *Uvularia pudica* - Se
 American Lily-of-the-Valley - *Convallaria montana* - Se
 Yellow Stargrass - *Hypoxis hirsuta* - F1
 Dwarf Iris - *Iris verna* - Se
 Pink Lady's Slipper - *Cypripedium acaule* - Se
 Pignut Hickory - *Carya glabra*
 Beaked Hazelnut - *Corylus cornuta* - Se
 Chestnut - *Castanea dentata* - F1
 Chinquapin - *C. pumila* - F1
 Scrub Oak - *Quercus ilicifolia*
 Carolina Pink - *Silene caroliniana* - F1
 Fire Pink - *S. virginica* - F1
 American Barberry - *Berberis canadensis* - F1
 Cucumber Tree - *Magnolia acuminata*
 Yellow-poplar - *Liriodendron tulipifera*
 Rocktwist - *Draba ramosissima* - Se
 Alumroot - *Heuchera americana*
 Witch-hazel - *Hamamelis virginiana*
 Wild Crabapple - *Pyrus coronaria* - Se
 Pasture Rose - *Rosa carolina* - F1
 Redbud - *Cercis canadensis* - Se
 Shining Sumac - *Rhus copallina* - F1
 Fragrant Sumac - *R. aromatica* - Se
 Striped Maple - *Acer pensylvanicum* - F1
 Red Maple - *A. rubrum* - Se
 New Jersey Tea - *Ceanothus americanus* - F1
 Black Gum - *Nyssa sylvatica*
 Hercules' Club - *Aralia spinosa*
 Panicle Dogwood - *Cornus racemosa* - F1
 Maleberry - *Lyonia ligustrina*
 Shooting Star - *Dodecatheon meadia* - Se
 Four-leaved Milkweed - *Asclepias quadrifolia* - F1/Se
 Poke Milkweed - *A. exaltata* - F1
 Mosspink - *Rhlox subulata* - Se
 Mountain Phlox - *P. ovata* - F1
 Wild Comfrey - *Cynoglossum virginianum* - Se
 Downy Woodmint - *Blephilia ciliata* - F1
 Dittany - *Cunila origanoides*
 Downy Yellow Foxglove - *Gerardia virginica*
 Downy Arrowwood - *Viburnum rafinesquianum* - F1
 Southern Bellflower - *Campanula divaricata*
 Squaw-weed - *Senecio obovatus* - Se

Rare plants of the xeric forests are listed below:
 Devil's Bit - *Chamaelirium luteum* - F1
 Rock Sandwort - *Arenaria stricta*

Common Barberry - *Berberis vulgaris*
 Allegheny Sloe - *Prunus alleghaniensis* - Se
 Canby's Mountain Lover - *Pachistima canbyi*
 Pipsissewa - *Chimaphila umbellata*
 Box Huckleberry - *Gaylussacia brachycera*
 Spreading Dogbane - *Apocynum androsaemifolium* - F1
 Large-flowered Anglepod - *Matelea obliquus* - F1

The four rivers (New, Greenbrier, Bluestone and East Rivers) are generally swift flowing and subjected to extreme changes in volume. These rivers have open, sandy-boulder areas throughout their courses. Low gradient areas often contain narrow sandy beaches or rich alluvial sandy loam deposits. All riverbanks are scoured by floods throughout the year but most notably in late winter and spring. These artificial openings are the niche where many unusual plants occur. Most riverbanks are lined with sycamore, river birch and silver maple.

Common plants of riverbank habitats are as follows:

Royal Fern - *Osmunda regalis*
 Blunt-lobed Woodsia - *Woodsia obtusa*
 Marginal Shield Fern - *Dryopteris marginalis*
 Silvery Athyrium - *Athyrium thelypteroides*
 Ebony Spleenwort - *Asplenium platyneuron*
 Maidenhair Spleenwort - *A. trichomanes*
 Hemlock - *Tsuga canadensis*
 Sedge - *Carex pensylvanica* - Se
 Jack-in-the-Pulpit - *Arisaema triphyllum* - F1/Se
 Wild Onion - *Allium cernuum*
 Plumelily - *Smilacina racemosa* - F1
 Downy Solomon's Seal - *Polygonatum pubescens* - Se
 Blue-eyed Grass - *Sisyrinchium angustifolium* - F1/Se
 Yellow Iris - *Iris pseudoacorus* - F1
 Lizard's Tail - *Saururus cernuus* - F1
 Black Willow - *Salix nigra*
 Ward's Willow - *S. caroliniana*
 Silky Willow - *S. sericea*
 Cottonwood - *Populus deltoides*
 American Hornbeam - *Carpinus caroliniana* - Se
 Brookside Alder - *Alnus serrulata* - Se
 Windflower - *Anemone quinquefolia* - Se
 May-apple - *Podophyllum peltatum* - Se
 Dame's Rocket - *Hesperis matronalis* - F1/Se
 Cardamine *impatiens* - Se
 Wild Stonecrop - *Sedum ternatum* - Se
 Alumroot - *Heuchera americana* - F1
 Wild Hydrangea - *Hydrangea arborescens*
 Witch-hazel - *Hamamelis virginiana* - Se
 Sweetgum - *Liquidambar styraciflua*
 Sycamore - *Platanus occidentalis*
 Ninebark - *Physocarpus opulifolius* - F1
 Wild Plum - *Prunus americana* - Se
 Blue False Indigo - *Baptisia australis* - Se
 Blackberries - *Rubus* spp.
 Flowering Raspberry - *Rubus odoratus* - F1

Multiflora Rose - *Rosa multiflora* - F1
 Pasture Rose - *Rosa carolina* - F1
 Great Yellow Wood Sorrel - *Oxalis grandis* - F1
 Wild Geranium - *Geranium maculatum* - F1
 Poison Ivy - *Rhus radicans*
 Winterberry - *Ilex verticillata* - F1
 Bladdernut - *Staphylea trifolia* - Se
 Silver Maple - *Acer saccharinum*
 Boxelder - *A. negundo* - Se
 Yellow Buckeye - *Aesculus octandra* - F1
 Riverbank Grape - *Vitis riparia*
 Golden Alexanders - *Zizia aptera* - Se
 Woodland Meadow-parsnip - *Thaspium trifoliatum* - F1
 Flowering Dogwood - *Cornus florida* F1/Se
 Silky Cornel - *C. ammomum* - F1
 Smooth Azalea - *Rhododendron arborescens*
 Moneywort - *Lysimachia nummularia*
 Fringed Loosestrife - *L. ciliata*
 Persimmon - *Diospyros virginiana*
 Silverbell - *Halesia carolina*
 White Ash - *Fraxinus americana*
 Green Ash - *F. pensylvanica* - Se
 Fringetree - *Chionanthus virginica*
 Wild Potato Vine - *Ipomoea pandurata*
 Creeping Phlox - *Phlox stolonifera* - Se
 Bluebells - *Mertensia virginica* - Se
 Imperial-tree - *Paulownia tomentosa* - F1
 Buttonbush - *Cephalanthus occidentalis*
 Long-leaved Summer Bluets - *Houstonia longifolia* - F1
 Wild Raisin - *Viburnum cassinoides*
 Roughish Arrowwood - *V. dentatum* - F1
 Smooth Arrowwood - *V. recognitum* - F1
 Tall Coneflower - *Rudbeckia laciniata*
 Running Tickseed - *Coreopsis auriculata* - F1
 Golden Ragwort - *Senecio aureus* - Se
 Squaw-weed - *S. obovatus* - Se

Plants "present" on riverbank habitats are listed below:

Scouring Rush - *Equisetum hyemale*
 Common Solomon's Seal - *Polygonatum biflorum* - Se
 Hispid Greenbrier - *Smilax hispida*
 Large Yellow Lady's Slipper - *Cypripedium pubescens* - Se
 Buffalonut - *Pyrularia pubera* - Se
 Carolina Pink - *Silene caroliniana* - F1
 Tasselrue - *Trautvetteria caroliniensis* - F1
 Mountain Anemone - *Anemone lancifolia* - Se
 Wild Columbine - *Aquilegia canadensis* - F1
 Rocktwist - *Draba ramosissima* - Se
 Garlic Mustard - *Alliaria officinalis* - Se
 Marsh Yellow Cress - *Rorippa islandica* - F1
 Prickly Gooseberry - *Ribes cynosbati* - Se
 Virginia Strawberry - *Fragaria virginiana* - F1
 Barren Strawberry - *Waldsteinia fragarioides* - Se

Black Raspberry - *Rubus occidentalis*
 Honeylocust - *Gleditsia triacanthos*
 Mimosa - *Albizia julibrissin*
 Wild Vetch - *Vicia caroliniana* - F1
 Groundnut - *Apios americana*
 Hoptree - *Ptelea trifoliata* - F1
 Flowering Spurge - *Euphorbia corollata* - F1
 Fragrant Sumac - *Rhus aromatica* - Se
 Bladdernut - *Staphylea trifolia* - Se
 Striped Maple - *Acer pensylvanicum* - F1/Se
 Leatherwood - *Dirca palustris*
 Nondo - *Ligusticum canadense* - F1
 Panicle Dogwood - *Cornus racemosa* - F1
 Flame Azalea - *Rhododendron calendulaceum* - F1
 Galax - *Galax aphylla* - F1/Se
 Bluets - *Houstonia caerulea* - F1
 Fly Honeysuckle - *Lonicera canadensis*
 Maple-leaf Arrowwood - *Viburnum acerifolium* - F1
 Red Elderberry - *Sambucus pubens* - F1
 Robin's Plantain - *Erigeron pulchellus* - F1
 Robin's Plantain - *E.p. var. brauniae* - F1
 Cup-plant - *Silphium conatum*
 Rosinweed - *S. trifoliatum*
 Pale Indian Plantain - *Cacalia atriplicifolia*

Rare plants of riverbank habitats are as follows:

Arborvitae - *Thuja occidentalis*
 Sedge - *Carex pedunculata* - Se
 Virginia Spiraea - *Spiraea virginiana*
 Spiked Loosestrife - *Lythrum salicaria*
 Cow-parsnip - *Heracleum maximum* - F1
 Fog-fruit - *Lippia lanceolata* - F1
Monarda - These plants have not been positively identified to date.

Several hundred plants were observed in steep Mauch Chunk soils at three locations (Eads Mill, Pipestem - under the tram and roadbank upriver from Mountain Creek Lodge). The plants were in clumps of 10-2 stems, 8-16 inches tall, unbranched stems predominated and the flowers were light blue to whitish.

One-flowered Broomrape - *Orobancha uniflora* - F1
 Shale Barren Aster - *Aster oblongifolius*
 Sweet-scented Indian Plantain - *Cacalia suaveolens*

An interesting wetland forest was located between Gardner and Princeton on Brush Creek. The following list of plants probably provides a good sample of the vegetation that occurred on the original swampy forested sites of Brush Creek near Princeton and Glenwood prior to the Brush Creek Watershed project.

Common plants of the wetland forest:

Common Solomon's Seal - *Polygonatum biflorum* - Se
 American Hornbeam - *Carpinus caroliniana* - Se
 Pin Oak - *Quercus palustris*
 Tall Meadowrue - *Thalictrum polygamum* - F1
 Yellow-poplar - *Liriodendron tulipifera*
 White Avens - *Geum canadense* - F1

Poison Ivy - *Rhus radicans*
 Red Maple - *Acer rubrum*
 Fringed Loosestrife - *Lysimachia ciliata* - F1
 Black Haw - *Viburnum prunifolium*
 Smooth Arrowwood - *V. recognitum*

Plants "present" in the wetland forest:

Canada Lily - *Lilium canadense* - F1
 Hazelnut - *Corylus americana*
 Spicebush - *Lindera benzoin* - Se
 Hawthorn - *Crataegus* Spp. - Se
 Wild Black Cherry - *Prunus serotina* - Se
 Winterberry - *Ilex verticillata* - Se
 Yellow Buckeye - *Aesculus octandra* - Se
 Water Hemlock - *Cicuta maculata* - F1
 White Ash - *Fraxinus americana* - Se
 Common Lousewort - *Pedicularis canadensis* - Se
 One-seeded Bur-cucumber - *Sicyos angulatus* - F1

Rare plants of the wetland forest:

White Hellebore - *Veratrum viride* - Se
 Nannyberry - *Viburnum lentago*

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Ferns at the 1987 Foray

Ann H. Pyle

This is a report of ferns and fern allies found during the 1987 Foray headquartered at Concord College, Athens, West Virginia, on June 4 to June 13.

At least 15 ferns were found at once by a small group upon entering the area of the Isom Flats study plot. There we viewed, on the large boulders and rocks, the largest and most lush specimens and colonies of maidenhair ferns we had ever seen.

Some of the most unusual ferns of the area were reported by William Grafton.

Equisetaceae

Equisetum arvense

E. hyemale

Lycopodiaceae

Lycopodium lucidulum

L. obscurum v. *dendroideum*

L. flabelliforme

Selaginellaceae

Selaginella apoda

Ophioglossaceae

Botrychium dissectum f. *obliquum*

B. virginianum

Osmundaceae

Osmunda regalis

Common Horsetail

Scouring Rush

Shining Clubmoss

Tree Clubmoss

Groundpine

Meadow Spikemoss

Oblique Grapefern

Rattlesnake Fern

Royal Fern

O. cinnamomea
O. claytoniana
 Schizaeaceae
Lygodium palmatum
 Polypodiaceae
Woodsia scopulina
W. obtusa
Cystopteris fragilis
C. protrusa
C. bulbifera
Onoclea sensibilis
Phegopteris hexagonoptera
Thelypteris noveboracensis
Dryopteris goldiana
D. marginalis
D. spinulosa
D. intermedia
Polystichum acrostichoides
Dennstaedtia punctilobula
Athyrium thelypteroides
A. angustum v. *rubellum*
Camptosorus rhizophyllus
Asplenium platyneuron
A. trichomanes
A. montanum
Pellaea atropurpurea
Cheilanthes lanosa
Adiantum pedatum
Pteridium aquilinum
Polypodium virginianum

Cinnamon Fern
 Interrupted Fern
 Climbing Fern
 Allegheny Cliff Fern
 Blunt-lobed Woodsia
 Brittle Fern
 Lowland Brittle Fern
 Bulbiferous Bladder Fern
 Sensitive Fern
 Broad Beech Fern
 New York Fern
 Goldie's Shield Fern
 Marginal Wood Fern
 Spinulose Wood Fern
 Intermediate Wood Fern
 Christmas Fern
 Hay Scented Fern
 Silvery Athyrium
 Northeastern Lady Fern
 Walking Fern
 Ebony Spleenwort
 Maidenhair Spleenwort
 Mountain Spleenwort
 Purple Cliffbrake
 Hairy Lip Fern
 Maidenhair Fern
 Bracken
 Common Polypody

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Invertebrate and Aquatic Life 1987 Foray

Lynn Barnhart

Centipede (w/eggs) - *Scolopendra* sp.
 Millipede - Order Polydesmida
 Millipede - *Narceus* sp.
 Clam Shrimp - Order Conchostraca
 Dragonfly - *Gomphus* sp.
 Dragonfly - Family Gomphidae
 White-tailed Dragonfly - *Plathemis lydia*
 Widow Dragonfly - *Libellula luctosa*
 Black-winged Damselfly - *Calopteryx maculata*
 Cave Crickets - *Ceuthophilus* sp.
 Periodical Cicada - *Magicicada septendecim*
 Dobsonfly (Male & Female) - *Corydalus cornutus*
 Hellgrammite - *Corydalus cornutus*

Fishfly - *Chauliodes* sp.
 Scorpionfly - *Panorpa* sp.
 Tiger Beetle - *Cicindela sexguttata*
 Tiger Beetle - *C. duodecimguttata*
 Soldier Beetle - *Chauliognathus marginatus*
 Soldier Beetle - *Cantharis carolinus*
 Downy Leather-wing Soldier Beetle - *Podabrus tomentosus*
 Firefly - Family Lampyridae
 Crawling Water Beetle - *Haliphus* sp.
 Whiligig Beetle - *Dineutus* sp.
 Predaceous Diving Beetle - *Acilius* sp.
 Elder Borer - *Desmocerus palliatus*
 Long-horned Beetle - *Anoplopera rubrica*
 Long-horned Milkweed Beetle - *Tetraopes tetraophthalmus*
 Long-horned Beetle - *Leptura subhumata*
 Long-jointed Beetle - *Anthromacra aenea*
 Leaf Beetle - *Lina* sp.
 Click Beetle - *Melanactes piceus*
 Tumbling Flower Beetle - *Mordella atrata*
 Snout Beetle - *Odontopus calceatus*
 Locust Leaf Miner - *Chalepus dorsalis*
 Spicebush Swallowtail - *Papilio troilus*
 Tiger Swallowtail - *P. glaucus*
 Zebra Swallowtail - *P. marcellus*
 Pipevine Swallowtail Caterpillar - *P. philenor*
 Great Spangled Fritillary - *Speyeria cybele*
 Question-mark Anglewing - *Polygonia interrogationis*
 Red-spotted Purple - *Limenitis astyanax*
 Viceroy Butterfly - *L. archippus*
 Monarch Butterfly - *Danaus plexippus*
 Silver-spotted Skipper - *Epargyreus clarus*
 Tiger Moth - *Haploa militaris*
 Underwing Moth Caterpillar - *Catocla* sp.
 Spotted Datana - *Datana perspicua*
 Yellow-necked Caterpillar Moth - *D. ministra*
 Fall Webworm - *Hyphantria cunea*
 East. Tent Caterpillar - *Malacosma americanum*
 Orange-patched Smoky Moth - *Pyromorpha dimidiata*
 Pale Beauty - *Campaea perlata*
 Black-waved Flannel Moth - *Lagoa crispata*
 Badwing - *Dyspteris abortivaria*
 Small Engrailed - *Ectropis crepuscularis*
 Canadian Melanophia - *Melanophia canadaria crama*
 Cecropia Moth - *Hyalophora cecropia*
 Polyphemus Moth - *Antheraea polyphemus*
 Luna Moth - *Actias luna*
 IO Moth - *Automeris io*
 Gold-backed Robber Fly - *Chrysopilus ornatus*

I sampled two area waterways: Brush Creek and Bluestone River. Both areas had essentially the same inhabitants. Both waterways seemed to be clean and healthy. The following are the aquatic invertebrates common to both areas: Mayfly (Ephemeroptera), Stonefly (Plecoptera), Caddisfly (Trichoptera), Water Striders (*Gerris* sp), Dragonfly Nymphs (Odonata), and Snails (Gastropoda). The Bluestone River also had

lots of Water Penny Beetle Larvae (*Psphenus herricki*) and Riffle Beetles (*Helichus lithophilus*), which Brush Creek did not have. Brush Creek did seem to have many more snails than did the Bluestone River.

Thanks to Matt Ash, Jean Brady, Jeremiah Hunter, Nancy Eddy, Jay Graffious, John Schramm, Don and Joan Pattison, Bob Hogan, Tom Fox, Marion Means, and everybody else who brought things into the museum for all to see.

Spider Fauna 1987 Foray

Paula E. Cushing

The 1987 Foray at Athens, West Virginia hosted the first "spiderologist" in B.B.C.'s history. I would like to thank Bob Hogan for inviting me to the Foray and thanks to the members of the Club for their enthusiasm and hospitality.

The spider walks during the Foray turned up representatives of many spider families. Some of the spiders collected were of particular interest and deserve special mention. A jumping spider (family Salticidae) was collected by one of the scholarship students. These spiders are renowned for their lively behavior and their big-eyed, almost human, watchfulness. This particular individual, however, was unusually sluggish. The spider was kept overnight in a small glass vial and the following morning I found that a parasitic nematode worm had emerged from the spider's body. Amazingly, the spider was still alive — in fact, it seemed much relieved and was back to its old energetic self. Nematodes commonly use various invertebrates (such as grasshoppers and spiders) as hosts for part of their lifecycle. But it is a lucky find (in an arachnologist's viewpoint) to collect a spider from which a worm emerges.

Another spider, called the lampshade spider (family Hypochilidae, genus *Hypochilus*) is found in only a few places in the world: China, Tasmania, and the Appalachian Mountains. We were fortunate to find this spider at both Camp Creek State Forest and Pipestem State Park. *Hypochilus* is found in the center of its lampshade-shaped web. The web usually hangs beneath or from the face of large boulders. Hypochilidae is the most primitive of the "True Spiders" (i.e. the non-"tarantula" spiders).

Below is a list of the family and common names of the spiders found during the foray:

Agelenidae	funnel weavers
Araneidae	orb weavers
Hypochilidae	lampshade spiders
Linyphiidae	sheet-web weavers
Lycosidae	wolf spiders
Pisauridae	fishing spiders
Salticidae	jumping spiders
Tetragnathidae	long-jawed spiders
Theridiidae	cobweb weavers

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*Scholarship Students



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FIELD NOTES

SUMMER SEASON, 1987



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Most reporters agreed that rainfall was below average while temperatures were well above average. Most of West Virginia suffered from one of the most serious droughts in recent times. While many water sources had dried up by the end of the season, there were still a few interesting bird finds.

Loons through ducks — Ken Anderson found a **Common Loon** on the Kanawha River near Charleston, Kanawha Co. on June 4. Hullet Good reported a loon in the same vicinity on June 28. A **Pied-billed Grebe** was also on the Kanawha River on June 24 (KA). Two **Am. Bitterns** were observed at McClintic Wildlife Station in late July (HTSAS). **Great Blue Herons** were considered fairly common along the Ohio (HTSAS) and Kanawha (HG) rivers. **Great Egrets** were found in Kanawha (HC), Mason (WA) and Monroe (JP) Counties during August. The only sighting of **Black-crowned** and **Yellow-crowned Night-Herons** came from Kyger Creek, Ohio (WA).

Canada Geese, **Wood Ducks** and **Mallards** continue to be the most common waterfowl to spend the summer with us. **Snow Geese** were found in Mason (WA), Kanawha (HTSAS) and Summers (AV) Counties during June, July and August respectively. **American Black Ducks** were seen at the mouth of the Greenbrier River, Summers Co. (AV) and at Kyger Creek, Ohio (WA). **Green-winged Teal** were found regularly during August at Kyger Creek (WA).

Raptors through Shorebirds-Turkey Vultures were found in good numbers by Argabrite and Good. A good-sized roost of these birds inhabit the water tower at the Federal Corrections Institute at Alderson, Monroe Co. (JP). **Ospreys** were seen regularly near Kyger Creek (WA) during August. I received an unconfirmed report of an adult **Bald Eagle** along the Bluestone River in Mercer Co. during July. A **N. Harrier** was seen at Kyger Creek, Ohio (WA) in August. A pair of these birds were found in Monroe County near Peterstown during the Brooks Bird Club Foray (BBC). Two **Peregrine Falcons** were seen by several people at Kyger Creek, Ohio (WA, HTSAS) in late July and early August. At least one was observed to fly across the Ohio River and thus over West Virginia. Three of these birds were released in the New River Gorge as part of a stocking program.

Bell felt that **Wild Turkey** numbers were up in Pennsylvania. The only report for **Northern Bobwhites** came from the Ohio Valley (WA, HTSAS) where there numbers seemed to be up. Two **Common Moorhens** were found at McClintic Wildlife Station on July 30 (HTSAS). **Yellowlegs** were moving through the region from July 25 through the end of the period. Most reports came from the larger streams in the state. A **Western Sandpiper** was seen at Ashton on July 30 (HTSAS). A **Stilt Sandpiper** was at Apple Grove on the same day. Wendell Argabrite took pictures of a **Marbled Godwit** at Ashton, Mason County on August 5. This species is not listed for West Virginia. **Pectoral Sandpipers** were fairly common during July and August. Kyger Creek, Ohio produced some interesting shorebird finds; **Willet**, **Baird's Sandpiper**, **Short-billed Dowitcher**, **Red Knot** and **Wilson's Phalarope**. Four **American Avocets** were seen along the Kanawha River (AV) on August 10. The only report for **Bonaparte's Gull** came from South Charleston on June 4 (HG). A **Ring-billed Gull** was present at Gavin Power Plant, Ohio from June 28 to August 9 (WA). A **Caspian Tern** was at Kyger Creek in mid-August (WA) and several **Black Terns** were seen along the Ohio River (HTSAS) about the same time.

Cuckoos through thrushes-Black-billed Cuckoos were fairly common in Logan Co. (HTSAS). A **Common Barn-Owl** was heard in Princeton, Mercer Co. (JP) on July 23.

Eastern Screech Owls were found in Cabell, Mason, Wayne (HTSAS), Mercer and Summers (JP) Counties. **Great Horned Owls** were reported in Cabell, Mason, Wayne (HTSAS), Kanawha (HG), and Mercer (AM). **Barred Owls** were found in Cabell, Mason, Wayne (HTSAS), Mercer and Summers (JP) Counties. Late in the season, **Common Nighthawks** were noted in especially large numbers. Their migratory flights seemed to start as early as mid-August (AM) and continue throughout the period. Argabrite noted more than 700 on August 29 and I saw 2000 or more over Princeton the same day. A **Chuck-will's-widow** was heard during the BBC Foray in Lerona, Mercer County. Good reports two **Chuck-will's-widows** calling in Roane Co. during the summer. **Whip-poor-will** numbers were considered way down by Argabrite while the Huntington Tri-state Audubon Society considered them fairly common in the same area. While this species seems scarce in the southern part of the state, Lost River State Park, in the eastern panhandle seemed to have plenty in early June (JP).

The only report of Red-headed Woodpecker came from Clendenin (HG). **Olive-sided Flycatchers** continue to be found along the boardwalk at Cranberry Glades, Pocahontas Co. (GB, JP). This is the third summer in a row. At least 15 nesting areas were found for **Willow Flycatchers** in Cabell and Mason (HTSAS) Counties and this species continues to increase in numbers in southern West Virginia (JP). Four **Least Flycatchers** were found in Slaty Fork, Pocahontas Co. in July (WA). Most of the swallows seemed to be in usual numbers except I had no reports of **Purple Martins**. More than two hundred **Bank Swallows** were at the Gallipolis area and at least 89 nests were in the **Cliff Swallow** colony at Beech Fork State Park (HTSAS).

Carolina Wrens seemed up in numbers and the **House Wren** in usual numbers. Singing **Winter Wrens** were found near Babcock State Park, Fayette Co. during June (GW). A **Marsh Wren** was at McClintic on July 30 (HTSAS). **Golden-crowned Kinglets** were on Reddish Knob, Rockingham Co., Va. (RBC). **Veeries** were found on the Bluefield atlas block, Mercer Co. during Foray (BBC). A pair of **Loggerhead Shrikes** were seen near Ballard, Monroe Co. (BBC).

Vireos through Warblers — A **Philadelphia Vireo** was observed closely at Kyger creek on August 9 (WA). **Solitary Vireos** seemed fairly common in Logan County (HTSAS). **Warbling Vireos** were noted in the Matoaka atlas block, Mercer Co. (BBC). In Logan Co. a male **Brewster's Warbler** was found nesting with a female **Golden-winged Warbler** (WA, HTSAS). A **Lawrence's Warbler** singing near a nest was also found (HTSAS). **Prothonotary Warblers** were considered fairly common in Cabell and Wayne Counties (HTSAS). **Swainson's Warblers** were found near Ethel, Logan County (HTSAS) and near Russelville, Fayette County (GB). **Mourning Warblers** were noted at Gaudineer Knob and Cranberry Glades (AV).

Tanagers through finches-Summer Tanagers seemed down in numbers while **Scarlet Tanagers** seemed more common. **Blue Grosbeaks** were reported from along the Ohio River in West Virginia (HTSAS) and from Rockingham Co., Va. (RBC). **Chipping, Field and Song Sparrows** seemed to be in good numbers. A male **Lark Sparrow** was seen near Pt. Pleasant two weeks in a row during July (HTSAS). **Grasshopper Sparrows** were fairly common in Cabell, Wayne and Mason counties (HTSAS). This species was also found during Foray (BBC). Unusual was a **White-throated Sparrow** in full song near Boaz, Wood Co. (GB). This was on the 6th of June - perhaps a late migrant? Several reporters noted lower numbers of **Orchard Orioles** and higher numbers of **Northern Orioles**. **Purple Finches** were found June 6 at Cooper's Rock (GB). This species was also found all summer in Clendenin (HG). **Red Crossbills** were found on Reddish Knob, Rockingham Co., Va. (RBC).

Contributors — Ken Anderson (KA), Wendel Argabrite (WA), Ralph Bell (RB), George Breiding (GB), Brooks Bird Club Foray (BBC), Hullet Good (HG), Virginia Bly Hoover (VH), Huntington Tri-state Audubon Society (HTSAS), Ann McRae (AM), Rockingham Bird Club (RBC), Allegheny Vistas (AV), Gary Worthington (GW).

Banding News



Elkins, W. Va. — After reading Leon Wilson's interesting article about catching and banding birds at his blueberry patch in the October 1987 **Redstart** (Vol. 54: (2): 51-53), I decided to tabulate all the birds caught and banded in two 12-meter nets - one on each side of a Mulberry tree.

The Mulberry tree is about 20 ft. tall and 20 ft. wide. It is supposed to be a Russian Mulberry. Generally the berries are small, but in a good year it is loaded with berries an inch or more in length.

The location is about 12 miles from home so it wasn't possible to open up the nets early before the birds started feeding. It was usually 9 a.m. or later by the time I had breakfast and drove out there.

The banding was done between June 24 and August 6, 1987. Banding was not done on every day during the period. The nets were open while I was shearing my Balsam Fir Christmas trees or doing other work with my plantings on the Izaak Walton League property.

The wind was blowing most of the time which tightened the nets and helped some birds escape unbanded. A total of 227 birds of 30 species were banded.

Red-eyed Vireo	37	Eastern Bluebird	3
American Robin	27	Hairy Woodpecker	2
Song Sparrow	26	Least Flycatcher	2
Scarlet Tanager	25	Eastern Phoebe	2
Cedar Waxwing	18	Blue Jay	2
Grey Catbird	16	Black-capped Chickadee	2
Orchard Oriole	12	Eastern Wood-Pewee	1
Rose-breasted Grosbeak	7	Great Crested Flycatcher	1
Downy Woodpecker	7	Carolina Wren	1
House Wren	6	Golden-crowned Kinglet	1
Northern Cardinal	6	Brown Thrasher	1
Rufous-sided Towhee	6	White-eyed Vireo	1
American Goldfinch	5	Yellow Warbler	1
Chipping Sparrow	4	Common Yellowthroat	1
Summer Tanager	3	Brown-headed Cowbird	1

Ephe Olliver

Editor's Note: The large numbers of Red-eyed Vireos banded by Ephe was a very strong suggestion that the species may really love fruit so I checked B.H. Warren's **Birds of Pennsylvania** (1890) page 264 and found the following remark - "In late summer and autumn the Red-eyed Vireo feeds, more or less, on raspberries, mulberries, pokeberries and wild grapes. His white shirt-front is often soiled with the bright juices of the fruits on which he feeds." I have always been very interested in birds and their habits since I was a boy here on the farm and this is the first time I realized that the species has such a fondness for fruit. We are never too old to learn something new.

Book Reviews

Life Above The Jungle Floor by Donald Perry, 1986. Simon and Schuster, New York. 170 pp., illus., Price \$16.95.

Donald Perry applies mountain climbing techniques to the study of life in the tropical forest canopy in Costa Rica. His system employs ropes, pulleys, and platforms perched in trees more than one hundred feet above the ground. Here he was able to study species rarely observed even though many are common in undisturbed forest. These species, most of them rarely seen at ground level, live out their lives in the light, airy habitat of the canopy. Thus Perry was the first to observe many insects, mammals and birds in their natural canopy habitat. He is the first to photograph the Tiny Hawk and Great Potoo in the wild, and he is the discoverer of many new insect and plant species. His colorful descriptions of canopy life are fascinating. Equally compelling are his adventures with tropical storms, encounters with poisonous snakes and stinging ants, and the acrobatics involved in climbing to his canopy platforms. One of his adventures involved a dangerous descent into a hollow tree where he discovered a whole community of organisms sustained by bat guano.

Perry's drawings and color plates illustrate the amazing diversity and complex interrelationships of canopy life. Throughout the book he comments on the inevitable destruction of tropical jungles by man. He doesn't see much hope for their preservation. Many of the places he studied have already been destroyed.

In several places, Perry digresses to discuss the evolution of tropical forest organisms. His speculations, although interesting, are not supported by much evidence. I would have preferred more discussion of the tropical forest ecosystem he knows so well. His studies of ant-tree symbiosis, pollination of tropical trees, and epiphytes are especially interesting. Most readers will want to know more. Perry writes with an informal style that makes his book easy to enjoy, and yet there is enough science here to make it a good supplement for a high school or college ecology course.

One Man's Owl by Bernd Heinrich, 1987. Princeton University Press, Princeton, N.J., 224 pp., illus., Price \$19.50.

Bernd Heinrich is a biology professor at the University of Vermont. He is well known for his book on the ecology of bumble bees, **Bumble Bee Economics**. In **One Man's Owl**, Heinrich recounts his experiences with a captive Great Horned Owl over the course of two summers. This is not the ordinary story of a cute captive bird. Heinrich's purpose in keeping the bird was to make careful observations of the owl's behavior. He was especially interested in mobbing behavior and the owl's response to it, so he raised two American Crows as well. His observations were made at a summer cabin in Maine where the owl eventually had the freedom to come and go as it pleased. The author made many interesting observations of the owl's response to mobbing by crows and various other birds. We also share in his many amusing experiences with the owl and its reactions to other humans. Unlike some books that recount the history of a family's experience with a captive bird, most of Heinrich's book concerns scientific observation. None-the-less the book is written in a popular style and is easy to read in spite of the use of scientific names and frequent literature citations in the text. Bird watchers and biologists alike will enjoy this book.

A.R. Buckelew Jr., Editor

Errata

In "Avian Habitat Use at Glenwood Swamp During Fall and Winter" by Harry E. Slack III, **The Redstart** 54 (4): 123-133, the columns in Tables 1, 3, and 5 are pushed to the right about one quarter inch. Reprints of this article with properly aligned columns are available from the editor or the author.

In "The 1986 Christmas Bird Count" by Leon Wilson, **The Redstart** 54 (4): 134-139, the headings on the table of count results are in inverse order. Count no. 1 should be Blacksville, W.Va., count no. 2 should be Charleston, W.Va., etc. The headings in correct order are printed below. Readers can cut them from this page and paste them over the headings on page 136 of the October 1987 issue.

Blacksville, W.Va.
December 30, 1986

Charleston, W.Va.
January 3, 1987

Elkins, W.Va.
January 3, 1987

Franklin, W.Va.
December 27, 1986

Huntington, W.Va.
January 3, 1987

Ona, W.Va.
December 20, 1986

Parkersburg, W.Va.
January 3, 1987

Pipestem, W.Va.
December 20, 1986

Wheeling, W.Va.
December 21, 1986

Ashtabula, Ohio
December 27, 1986

Clarksville, Pa.
December 28, 1986

Washington, Pa.
December 20, 1986

Rockingham, County, Va.
December 20, 1986

Index for Volume 54

Prepared by Erika M. Seibel

- Allegheny Front Migration Observatory: Fall Migration 1986, 49
 More Data on Birds Banded at 69
 Amphibians and Reptiles in West Virginia by N. Bayard Green and Thomas K. Pauley 154
 Auks: An Ornithologist's Guide by Ron Freethy 94
 Avian Habitat Use at Glenwood Swamp During Fall and Winter 123
 Avocet, American, at South Charleston 148
 Banding News 92, 151
 Barn-Owl, Common 36, 64, 91, 150
 Barnhart, Lynn 29
 Beatty, Bill 154
 Bell, Ralph K. 92, 151
 Birder's World 65
 Bittern, American 149
 Least 149
 Blackbird, Red-winged 10, 18, 21, 22, 61, 65, 125, 126, 127, 132, 134, 138, 142, 143, 144
 Rusty 65, 129, 135, 139
 Bluebird, Eastern 8, 18, 21, 35, 36, 53, 60, 64, 91, 129, 134, 138, 141, 143, 147, 151, 152, 153
 Nest in Construction Materials
 Bobolink 127, 142
 Bobwhite, Northern 6, 19, 36, 137, 149
 The Breeding Bird Survey by Chandler Robbins 38
 Buckelew, A. R., Jr. 2, 39, 65, 95, 154
 Bufflehead 63, 90, 136, 149
 Bunting, Indigo 10, 15, 18, 21, 22, 52, 58, 61, 125, 127, 142, 144, 153
 Snow 65, 135, 138
 Canvasback 90
 Cardinal, Northern 10, 15, 18, 21, 22, 61, 125, 128, 132, 134, 138, 142, 143, 153
 Catbird, Gray 8, 21, 51, 60, 125, 128, 141, 143, 153
 Chat, Yellow-breasted 9, 21, 61, 150
 Chickadee, Black-capped 4, 51, 138, 141, 143, 147
 Carolina 7, 15, 17, 21, 51, 58, 59, 60, 125, 128, 132, 138, 153
 Christmas Bird Count, 1986 134
 Chuck-Will's-Widow 4, 59
 Coot, American 4, 125, 127, 133, 137
 Cormorant, Double-crested 4, 5, 63, 135, 136, 149
 Cowbird, Brown-headed 10, 15, 21, 22, 37, 56, 59, 61, 130, 139, 142, 143, 146, 147
 Crane, Sandhill 149
 Creeper, Brown 4, 51, 125, 129, 132, 138, 141, 143
 Crow, American 7, 15, 21, 22, 28, 58, 59, 60, 125, 127, 132, 134, 138, 141, 143, 144, 146
 Fish 135, 138
 Cuckoo, Black-billed 6, 19, 56, 60, 128, 140, 142
 Yellow-billed 6, 13, 15, 17, 19, 56, 58, 59, 60, 128, 140
 Devaul, Chanson A. 40
 Dickcissel 151
 Distributional Checklist of North American Birds by David DeSante and Peter Pyle 38
 Dowitcher, Short-billed 150
 Dove, Mourning 6, 19, 91, 129, 132, 134, 137, 140, 142
 Rock 6, 130, 134, 137
 Duck, American Black 4, 36, 63, 90, 129, 132, 136
 Ring-necked 63, 136
 Ruddy 63, 90
 Wood 5, 19, 36, 63, 90, 125, 127, 133, 136, 140, 149
 Eagle, Bald 36, 63, 90, 126, 137, 149
 Golden 64, 135, 137, 149
 The Ecological Status of West Virginia's Red Spruce Forests 44
 Egret, Great 35, 63, 149
 Falcon, Peregrine 63, 64
 Fall Hawk Migration Along Peters Mountain, West Virginia Part 3 85
 A Field Guide to Hawks: North America by William S. Clark 93
 Field Notes, Fall Season 63
 Spring Season 149
 Summer Season 35
 Winter Season 9
 Finch, House 11, 21, 37, 91, 134, 139, 142, 153
 Purple 4, 37, 52, 139, 142, 144, 147
 Flamingo, American 64
 Flicker, Northern 6, 15, 17, 19, 51, 60, 128, 132, 137, 140, 143
 Flycatcher, Acadian 7, 13, 15, 19, 22, 51, 56, 58, 59, 60, 141, 147
 Alder 141, 143
 Great-crested 7, 13, 15, 19, 51, 60, 141, 143, 153
 Least 7, 13, 19, 51, 60, 141, 143
 Olive-sided 36, 64, 150
 Traill's 51
 Willow 7, 19, 36, 143
 Foray, 1986, Gilmer County 2-35
 Bird List 2
 Amphibians and Reptiles 31
 Breeding Bird Records 17
 Breeding Bird Survey 19
 Ferns 28
 Herbaceous Flowering Plants 24
 Invertebrate and Aquatic Life 29
 Participants 35
 Singing Male Census 11
 Trees, Shrubs, Woody Vines 24
 Fye, Walter L. 68
 Gadwall 63, 90, 136
 Gnatcatcher, Blue-gray 8, 13, 18, 21, 51, 56, 58, 59, 60, 129, 141, 143, 150
 Goodwit, Marbled 36
 Goldeneye, Common 63, 90, 136
 Goldfinch, American 11, 15, 21, 22, 52, 59, 61, 128, 134, 139, 142, 146

Goose, Canada 4, 5, 19, 59, 63, 90, 130, 136, 149
Snow 36, 90, 149
Goshawk, Northern 126, 134, 135, 137
Grackle, Common 10, 21, 50, 52, 61, 63, 91, 125, 126, 129, 133, 139, 142, 143
Grebe, Horned 63, 135, 136, 149
Pied-billed 35, 63, 90, 129, 136, 140, 149
Grosbeak, Blue 4, 37, 151
Evening 65, 90, 91, 139
Rose-breasted 4, 52, 56, 59, 61, 127, 142, 143
Grouse, Ruffed 5, 36, 60, 127, 137, 140
Guide to Common Birds of West Virginia by
Norma Jean Venable 94
Gull, Bonaparte's 91, 134, 135, 137, 150
Great Black-backed 135, 137
Herring 91, 137, 150
Ring-billed 91, 130, 134, 137, 150
Hall, George A. 38, 49
Harrier, Northern 36, 64, 68, 86, 87, 88, 89, 90, 126, 127, 131, 132, 137
Hawk, Broad-winged 5, 15, 19, 60, 86, 87, 88, 89, 130, 131, 140, 149
Cooper's 5, 19, 64, 86, 87, 88, 89, 126, 128, 131, 137
Red-shouldered 5, 59, 130, 131, 132, 137, 140, 149
Red-tailed 5, 19, 36, 59, 60, 68, 86, 87, 88, 89, 127, 131, 132, 137, 140
Rough-legged 64, 90, 126, 131, 132, 137
Sharp-shinned 4, 36, 51, 59, 64, 86, 87, 88, 89, 90, 129, 131, 137
Heron, Great Blue 4, 5, 36, 90, 125, 129, 132, 136, 149
Green-backed 5, 19, 59, 63, 127, 149
Little Blue 36
Hogan, Robert S. 31
Hooker, Harriet 17
Mel 69
Hogan, Robert S. 31
Hummingbird, Ruby-throated 6, 13, 15, 17, 19, 36, 60, 64, 69, 127, 140, 150
Hutton, E. E. 24
Hurley, George 69, 85, 140
Ibis, White
Index for Volume 53 40
Jay, Blue 7, 13, 19, 51, 58, 60, 128, 132, 134, 137, 141, 143, 144, 146, 153
Johnson, Virginia 11
Junco, Dark-eyed 50, 52, 65, 69, 74, 75, 129, 134, 138, 142, 144, 146
Kestrel, American 5, 36, 63, 64, 68, 86, 87, 88, 89, 90, 127, 131, 132, 137, 149
Kiff, Lloyd 37
Killdeer 6, 19, 54, 55, 59, 60, 125, 127, 132, 137, 140, 142
Kinglet, Golden-crowned 4, 36, 51, 64, 138, 141, 143
Ruby-crowned 51, 128, 138
Kingfisher, Belted 6, 17, 19, 60, 129, 133, 137, 140
Kingbird, Eastern 7, 17, 19, 60, 130, 141
Koch, George 55
Laitsch, John 61
Lark, Horned 68, 92, 130, 137
Longspur, Lapland 91
Smith's 151
Loon, Common 35, 63, 90, 136, 149
Red-throated 63
Mallard 5, 19, 125, 129, 132, 134, 136, 149
Martin, Purple 4, 5, 36
Colony Registry 62
Matthey, Polly 53
Meadowlark, Eastern 10, 21, 127, 132, 138, 142, 143, 144
Merganser, Common 90
Hooded 136
Red-breasted 136
Merlin 64, 90, 149
The Migration of Hawks by Donald S. Heintzelman 39
Mockingbird, Northern 8, 21, 128, 138, 141, 153
Moorhen, Common 36, 149
The Mountain and the Migration by
James J. Brett 37
Nemanich, Don 19
Nighthawk, Common 4, 5, 36, 60, 64, 150
Nuthatch, Red-breasted 51, 64, 91, 138, 141
White-breasted 7, 13, 15, 21, 36, 51, 56, 59, 60, 129, 132, 134, 138, 141, 146
Oldsquaw 90
Olliver, Ephe 152
Oriole, Northern 11, 18, 21, 61, 142, 143, 153
Orchard 11, 18, 21, 153
Osprey 36, 63, 86, 87, 88, 89, 126, 131, 149
Ovenbird 9, 13, 15, 21, 52, 56, 58, 59, 61, 142, 146, 147
Owl, Barred 6, 19, 36, 60, 64, 91, 137, 140, 150
Great Horned 4, 6, 19, 36, 64, 91, 137, 150
Northern Saw-whet 91
Short-eared 68
on Reclaimed Surface Mine in
Clarion County, Pa. 68
Parula, Northern 9, 21, 51, 141, 143, 150
Penguins by John Sparks 94
Peterson First Guides: Birds by
Roger Tory Peterson 153
Pheasant, Ring-necked 4, 135, 137
Phillips, James D. 9, 35, 63, 149
Phoebe, Eastern 7, 17, 19, 22, 60, 91, 127, 132, 137, 141, 143, 147, 150
Pintail, Northern 63, 90, 130, 136
Pipit, Water 64, 127, 130, 135, 138, 150
Plover, Black-bellied 54, 55
Piping 54, 55
Semi-palmated 54, 55, 150
Pyle, Ann H. 28
Rail, King 36, 149
Sora 36, 129, 149
Virginia 36, 127, 149
Raven, Common 4, 91, 138, 141, 143
Redhead 63, 90, 135, 136
Redpoll, Common 65, 91, 151
Redstart, American 9, 15, 21, 52, 56, 58, 59, 61, 69, 70, 71, 129, 142

Robin, American 8, 13, 17, 21, 22, 51, 58, 60, 91, 125, 129, 132, 138, 141, 143, 144, 147, 153
Sanderling 54, 55
Sandpiper, Baird's 54, 55
Least 54, 55
Sandpiper, Pectoral 54, 55, 127
Semipalmated 54, 55
Solitary 55
Spotted 6, 55, 134, 135, 137
Stilt 54, 55, 64
Sapsucker, Yellow-bellied 4, 51, 64, 69, 137
Sunbathing 69
Scaup, Lesser 63, 90, 135, 136, 149
Scoter, Black 63
White-winged 63, 90, 135, 136
Screech-Owl, Eastern 6, 36, 64, 91, 137, 150
Shorebirds at South Charleston 54
Shoveler, Northern 135, 136
Shrike, Loggerhead 2, 8, 21, 64, 91, 126, 138, 150
Siskin, Pine 65, 91, 139
Slack, Harry E., III 123
Smith, J. Lawrence 54, 148
Snipe, Common 91, 127, 132, 137
Sortie, Handley Area 140
Mountwood Park, 1979 55
Sparrow, Bachman's 65
Chipping 10, 13, 18, 21, 22, 52, 61, 65, 91, 138, 142, 144, 147, 153
Field 10, 15, 21, 52, 61, 127, 138, 142, 144, 153
Fox 125, 128, 132
Grasshopper 10
Henslow's 65, 150, 151
House 11, 18, 21, 134, 139, 142, 143
Lark 65
Leconte's 65
Lincoln's 52, 65, 128, 151
Savannah 10, 37, 52, 125, 127, 132, 138, 142, 151
Sharp-tailed 126, 127
Song 10, 18, 21, 22, 52, 61, 125, 128, 132, 134, 138, 142, 144, 147, 153
Swamp 5, 10, 52, 91, 128, 132, 138, 142
Tree 91, 125, 132, 138
Vesper 4, 37, 65, 92, 93, 134, 135, 138, 142, 151
White-crowned 52, 91, 127, 138
White-throated 5, 10, 52, 65, 69, 72, 73, 91, 128, 132, 134, 138
Starling, European 8, 21, 60, 125, 127, 132, 134, 138, 141, 143
Stephenson, Steven L. 44
Swift, Chimney 6, 19, 58, 60, 64, 130, 140, 143, 150
Swan, Tundra 63, 90, 135, 136
Swallow, American Tree 5, 7, 17, 36, 130, 150
Bank 36, 127, 150
Barn 7, 17, 19, 22, 60, 127, 141, 143
Cliff 36, 127, 150
Northern Rough-winged 7, 17, 19, 60, 91, 127, 141
Tanager, Scarlet 10, 15, 21, 52, 56, 58, 59, 61, 129, 142, 143, 146, 147, 153
Summer 10, 21, 37, 56, 59, 61, 150

Teal, Blue-winged 36
Green-winged 4, 63, 90, 129, 133, 136
Tern, Black 150
Caspian 64
Common 36, 54, 55, 150
Forester's 150
Thrasher, Brown 8, 21, 51, 128, 141, 143, 153
Thrush, Gray-cheeked 51, 128
Hermit 51, 138, 141, 146
Swainson's 50, 51, 56, 58, 59, 60, 128, 141, 150
Wood 8, 13, 15, 21, 22, 51, 56, 58, 59, 60, 141, 143, 144, 147, 153
Titmouse, Tufted 7, 13, 15, 21, 36, 51, 58, 59, 60, 128, 132, 134, 138, 141, 143, 153
Towhee, Rufous-sided 10, 21, 52, 61, 128, 138, 142, 144
Turkey, Wild 5, 35, 36, 91, 137, 140
Turnstone, Ruddy 54, 55
Veery 51, 59, 60, 141, 143, 144, 146, 147
Vireo, Bell's 150
Philadelphia 51
Red-eyed 8, 13, 15, 18, 21, 22, 51, 56, 58, 59, 60, 64, 69, 78, 79, 141, 143, 144, 146, 147, 150
Solitary 4, 5, 36, 51, 134, 135, 138, 141, 143, 146, 147, 150
Warbling 8, 18, 21, 150
White-eyed 8, 18, 21, 36, 60, 128, 141, 143, 150
Yellow-throated 8, 13, 21, 51, 56, 58, 60, 141, 150, 153
Vulture, Black 90, 136, 140, 149
Turkey 5, 19, 58, 59, 90, 130, 136, 140, 142
Warbler, Bay-breasted 52, 59, 61, 125, 128
Black-and-White 9, 15, 21, 37, 52, 61, 69, 80, 81, 128, 141, 143, 150
Blackburnian 4, 50, 52, 56, 58, 59, 61, 128, 141, 147
Blackpoll 50, 52, 56, 59, 61, 64, 129, 142
Black-throated Blue 4, 37, 50, 52, 64, 141, 143, 144, 146, 147
Black-throated Green 4, 37, 52, 56, 58, 59, 61, 128, 141, 143, 144, 146, 147, 150
Blue-winged 8, 21, 37, 51, 60, 128, 150
Brewster's 4, 37, 51
Canada 37, 52, 56, 59, 61, 128, 142, 143
Cape May 50, 52, 58, 59, 61, 64, 91, 134, 135, 138, 150
Cerulean 9, 13, 15, 21, 56, 58, 59, 61, 141, 150
Chestnut-sided 4, 52, 59, 60, 69, 82, 83, 128, 141, 143, 147
Connecticut 52, 128
Goldin-winged 8, 21, 37, 51, 60, 141, 143, 150
Hooded 9, 13, 21, 37, 52, 56, 58, 59, 61, 128, 150
Kentucky 9, 13, 15, 21, 52, 56, 58, 59, 61, 142, 143
Magnolia 52, 128, 141, 143, 146, 147
Mourning 37, 52, 59, 61, 142, 143, 144
Nashville 51, 127, 150
Palm 52, 125, 127

Pine 4, 52, 91, 153
 Prairie 9, 21, 52, 61, 128, 150
 Prothonotary 4, 37
 Swainson's 4, 37
 Tennessee 50, 51, 56, 58, 59, 60, 64, 125,
 127, 150
 Wilson's 52, 59, 61, 69, 76, 77
 Worm-eating 9, 13, 15, 21, 52, 56, 58, 59, 61
 Yellow 9, 18, 21, 22, 60, 141, 143, 150
 Yellow-throated 9, 15, 21, 61, 129, 150
 Yellow-rumped 52, 59, 61, 64, 91, 125, 128,
 132, 138, 150
 Ward, Judy 3
 Waterthrush, Louisiana 9, 13, 21, 52, 58, 59,
 61, 129, 142, 147, 150
 Northern 52, 142
 Waxwing, Cedar 8, 18, 21, 51, 59, 60, 129, 138,
 141, 143, 147, 150
 Wildlife 2000 ed. by Jared Verner 39
 Wilson, Leon 24, 34
 Whip-poor-will 6, 19, 36, 58, 60, 150
 Willet 54, 55, 150
 Wigeon, American 63, 90, 136, 149
 Woodcock, American 4, 91
 Woodpecker, Downy 6, 13, 15, 19, 51, 60, 125,
 127, 132, 134, 137, 140, 147
 Hairy 6, 15, 19, 51, 56, 60, 128, 132, 134,
 137, 140, 153
 Pileated 6, 13, 15, 17, 19, 56, 58, 59, 60, 129,
 132, 137, 140, 146
 Red-bellied 6, 13, 15, 17, 19, 56, 60, 129,
 132, 134, 137, 153
 Red-headed 5, 64, 91, 130, 137, 140, 150
 Wood-Pewee, Eastern 7, 13, 15, 19, 51, 56, 58, 60,
 129, 141, 143, 147
 Wren, Bewick's 4, 5
 Carolina 7, 21, 35, 36, 60, 125, 128, 132, 134,
 138, 141, 143, 153
 House 8, 21, 36, 51, 64, 128, 141, 143, 150
 Marsh 127, 133, 150
 Winter 4, 5, 36, 51, 125, 132, 138, 141
 Yellowlegs, Lesser 54, 55, 127
 Yellowthroat, Common 9, 15, 21, 50, 52, 61, 125,
 128, 132, 142, 143

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The Brooks Bird Club is a non-profit organization whose objective is to encourage the study and conservation of birds and other phases of natural history. Membership includes subscriptions to the REDSTART and MAILBAG and entitles one to all the privileges offered by the Club. Classes of membership are: Student, \$5.00; Active, \$14.00; Family \$17.00; Sustaining, \$25.00; Life, \$200.00. Checks should be written payable to the Brooks Bird Club and mailed to 707 Warwood Avenue, Wheeling, West Virginia 26003.

1988 Calendar of Events The Brooks Bird Club, Inc.

Date	Activity	Place
January 1-31	BBC Membership Month - Mail to H.Q. . .	Wheeling, WV
February 1-29	Write article or observation for The Redstart or Mailbag . . . Mail to A.R. Buckelew, Jr.	
February 26-28	Early Spring Meeting - Jackson's Mill	Weston, WV
March 13	Waterfowl Field Trip	Seneca Lake, Ohio
April 22 - 24	Preston County 4-H Camp	Brandonville, WV
May 7 or 8	Century Day Count (local option)	All local groups
May 13 - 15	Ottawa Wildlife Refuge Warbler Trip	Lake Erie Area
June 1 - 30	25-Mile Breeding Bird Surveys	All local groups
June 2 - 11	Annual Foray	Bartow, WV
June 14-19	Sortie	Greenland Gap, WV
July 7 - 17	Canadian Maritime Provinces Trip	
August 15 - Oct. 9	Operation Bird Banding - Dolly Sods	Red Creek, WV
September 1 - 5	Annual Labor Day Outing - Greenbrier Youth Camp	Anthony, WV
September 16 - 18	Hawk Counts	WV Mountains
October 14 - 16	Annual Meeting Cedar Lakes	Ripley, WV
November 5	BBC Board of Directors Meeting	BBC Clubroom, Wheeling
November 11 - 13	Eastern Shore Waterfowl Trip	Eastern Shore
	Contact: Carl Slater	
Dec. 16 - Jan. 3	Christmas Bird Counts	All local groups (Send to Leon Wilson)

BBC FORAYS

1988 — June 2 - 11 Camp Pocahontas,
(Thornwood) Bartow, WV
1989 — June 8 - 17 Camp Pioneer,
Beverly, WV

SEASONAL FIELD AND BANDING NOTES DUE

March 15	June 15	September 15	December 15
MAIL: Field Notes to: James D. Phillips, 900 Reynolds Ave., Princeton, WV 24740			
Banding Notes to: Ralph K. Bell, R.D. 1, Box 229, Clarksville, Pa. 15322			

The dates for the 1988 BBC program were selected as most appropriate for our scheduled activity and place. Sometimes changes beyond our control might be necessary. When such is the case, notification will be made as soon as possible in the MAIL BAG.