

The Forests of Ivy Creek – Past, Present, and Future

Original Report, July, 2015. Thomas A. Dierauf

Appendix Update, December, 2020. Diana Foster

with support from Nicholas Foster, Tom Jones, John Scrivani, and Tom Wild

Year 2020 Note –

This Appendix Update reflects additions to Tom Dierauf's original appendix without changing any of his data or text. Updated and new data follow the phrase "Year 2020."

Circumferences of trees were measured using the painted lines that had been applied in year 2015. When paint lines could not be found, circumferences were measured 4.5 feet from the ground. Measurements given below are diameters in inches.

Use of GPS was essential for locating certain species, rocks, and stumps.

Area 1 Appendix

7. Beech, 36.1", dominant, split tree above bridge

38.09288234 N 78.49412012 W

Year 2020, 35.3"

97. Red hickory, 40.3", dominant

38.09262561 N 78.49362438 W

Year 2020, 42"

98. Mockernut hickory, 24.2", codominant?

38.09270168 N 78.49355633 W

Year 2020, 24.7"

100. Red maple, cross section #7, blew down in the derecho on 6/29/12 (there was a similar storm in Charlottesville in 2010). The cut was made close to the ground. The rings are extremely narrow in places. I counted 134, which I would hope is within 3 years plus or minus. Adding 2 years since the derecho, it originated about 1878.

38.09285355 N 78.49380192 W

Year 2020, not applicable

108. White oak/post oak hybrid, 37.0", dominant

38.09283396 N 78.49081388 W

Year 2020, 39.6"

109. Virginia pine, 12.4", intermediate, cored tree FF, about 77 years old, originated about 1937

38.09470708 N 78.49005059 W

Year 2020, 12.9"

110. Virginia pine, 11.1", intermediate, cored tree EE, about 73 years old, originated about 1941

38.09474541 N 78.49012562 W

Year 2020, 11.5"

111. Scarlet oak cut down by line maintenance workers, cross section #16, 88 rings + 2 years dead + 1 year to ground = 91 years, originated about 1923

38.0952453 N 78.48994625 W

Year 2020, not applicable

112. Scarlet oak cut down by line maintenance workers, cross section #17, 81 rings at 19 feet + 10 years to ground + 2 years dead = 93 years, originated about 1921

38.09532897 N 78.48989539 W

Year 2020, not applicable

113. Virginia pine, 12.4", intermediate, cored tree HH, about 82 years old, originated about 1932

38.09516134 N 78.48996602 W

Year 2020, 12.7"

114. Virginia pine, 12.8", over-topped, cored tree GG, crooked and deformed, very poor core, best not used

38.0945333 N 78.49015269 W

Year 2020, 12.4", dead, still standing

115. Large felsic rock

38.09449115 N 78.49025263 W

Year 2020, about 12" diameter.

116. Charred litewood pine stump

38.0947962 N 78.49045109 W

Year 2020, Could not find.

117. Charred litewood pine stump

38.09477243 N 78.49047985 W

Year 2020, 4" diameter, 8" above ground.

118. Rock pile

38.09469461 N 78.49094704 W

Year 2020, present

119. Hemlock, 23.0", codominant

38.09490315 N 78.49106268 W

Year 2020, Figure 20.

120. Virginia pine, 11.1", intermediate, cored tree PP, about 51 years old, originated about 1963

38.09394052 N 78.49190465 W

Year 2020, 11.5"

121. Rock pile

38.09357704 N 78.49165902 W

Year 2020, present

126. Virginia pine, 13.4", intermediate, cored tree QQ, about 76 years old, originated about 1938

38.09289909 N 78.492034 W

Year 2020, 13.7"

127. Red maple, 35.4", dominant

38.09297054 N 78.49212465 W

Year 2020, 36.7"

128. Virginia pine, died 2 years ago, cored on 9/26/03, originated about 1929

38.09273506 N 78.49282091 W

Year 2020, still standing.

148. Spring house

38.0932838 N 78.49199153 W

Year 2020, present

150. Bench at lake-overlook

38.0950104 N 78.48995831 W

Year 2020, present

151. Virginia pine, 12.0", poor intermediate, cored tree VV, about 92 years old, originated about 1922

38.09508641 N 78.49004688 W

Year 2020, 12.0"

152. Scarlet oak, 29.0", dominant

38.09511192 N 78.49012105 W

Year 2020, 31.3"

153. Scarlet oak blown-down by the 2012 derecho?, cross section #18, 90 rings + 2 years dead + 1 year to ground = 93 years, originated about 1921

38.09507602 N 78.49051509 W

Year 2020, lying on ground. Cross section had been made about 2' above root ball.

154. Hemlock, 9.8", over-topped

38.09493113 N 78.49070707 W

Year 2020, 9.6"

155. Chestnut stump

38.09490609 N 78.4907488 W

Year 2020, Barely visible above ground. Covered in moss.

156. Hemlock seedling, 10" tall

38.09495858 N 78.49128825 W

Year 2020, 9" tall.

157. Hemlock seedling, 18" tall

38.09500059 N 78.49123683 W

Year 2020, 6" tall. Main stem dead.

158. Chestnut stump

38.09498411 N 78.49123986 W

Year 2020, about 5" exposed above ground. Covered with moss.

159. Hemlock, 16.3", intermediate, half girdled by beavers

38.09507833 N 78.49127465 W

Year 2020, 16.8". Figure 21.

160. Chestnut stump

38.09483199 N 78.4914141 W

Year 2020, 8" above ground.

161. Chestnut stump

38.09460514 N 78.49186964 W

Year 2020, almost level with ground.

162. Virginia pine, 12.0", intermediate, cored tree TT, about 91 years, originated about 1923

38.09449508 N 78.49195269 W

Year 2020, 12.0"

163. Shortleaf pine, 9.3", overtopped (almost dead), cored tree YY, about 127 years old, originated about 1887

38.09456242 N 78.49215318 W

Year 2020, 9.2", dead, still standing

164. White pine, 28.5", dominant, open-grown

38.09425692 N 78.49186695 W

Year 2020, 29.8"

165. White pine, 15.3", codominant, cored tree SS, 28.4 inch white pine 6 feet away, also 27.4 and 24.9 inch trees nearby, rings narrow in center, about 91 years old, originated about 1929

38.09424741 N 78.49191754 W

Year 2020, 15.4"

166. White pine, 31.0", dominant, open-grown

38.0940348 N 78.49173331 W

Year 2020, 31.0", dead

167. Virginia pine, 12.4", codominant, cored tree RR, 3 inch living sassafras 10 feet away, about 49 years old, originated about 1966

38.09362456 N 78.49219787 W

Year 2020, 12.8"

168. Shortleaf pine, 9.3", poor intermediate/over-topped, cored tree UU, about 49 years old, originated about 1965

38.09370712 N 78.49193673 W

Year 2020, 9.3"

169. Black walnut with unusual bark, 16.0", intermediate/codominant

38.09346498 N 78.49165241 W

Year 2020, 16.9"

183. Mockernut hickory, 20.2", codominant

38.09227156 N 78.49351432 W

Year 2020, 21"

209. Northern red oak that blew down across Red Trail in the fall of 2003, probably around 30" DBH, 80 rings, originated about 1923, no suppressed rings in center

38.09270284 N 78.4929649 W

Year 2020, stump partially remains. Cut trunk has been scattered throughout area.

221. Post oak, 31.2", dominant, on fence line on Purple Trail [Field Trail]

38.09380563 N 78.48994238 W

Year 2020, 32.6"

222. Hemlock, 7.0", over-topped, on Purple Trail [Field Trail]

38.09424714 N 78.48984311 W

Year 2020, 8.1"

223. Fire-scarred beech, 26.8"

38.09484208 N 78.49124799 W

Year 2020, 27"

224. Fire-scarred beech, 26.9"

38.09500752 N 78.49152541 W

Year 2020, 27.4"

225. Fire-scarred beech, 31.0"

38.09468013 N 78.49178028 W

Year 2020, 31.7"

226. Virginia pine, 10.0", over-topped, cored tree EEE, originated about 1925

38.09452165 N 78.49189426 W

Year 2020, 10.2"

227. Virginia pine, 12.6", intermediate, cored tree FFF, originated about 1925

38.09289071 N 78.49250222 W

Year 2020, 13.1"

228. Virginia pine, 13.9", intermediate, cored tree GGG, originated about 1921

38.09276514 N 78.4934098 W

Year 2020, 14"

260. Black gum, 21.1", no visible fire scar, forked crown.

38.09500 N 78.49134 W

Year 2020 NEW

261. Chestnut stump. Fallen over as if tree fell. 24" at ground level.

38.09487 N 78.49046 W

Year 2020 NEW

262. Sassafras, in a grove of same species, 5.4"

38.09183 N 78.49181 W

Year 2020 NEW

Area 2 Appendix

1. Black walnut, 19.9", dominant

38.09201036 N 78.49264239 W

Year 2020, 21.3"

2. White oak, 35.6", dominant

38.09212085 N 78.49367901 W

Year 2020, 36.8"

3. Beech, 36.4", dominant

38.09217817 N 78.49366558 W

Year 2020, 37.1"

4. Red cedar, 22.6", intermediate, one of several cedars on an old fence line

38.09245852 N 78.49375174 W

Year 2020, 23", dead, standing

5. Red cedar, in same fence line

38.09245994 N 78.49377707 W

Year 2020, 14.3"

6. Red cedar, in same fence line

38.09251956 N 78.49385256 W

Year 2020, 17"

8. Beech, 26.2", dominant, in same fence line

38.09281683 N 78.4942269 W

Year 2020, 27"

9. Virginia pine, 10.5", intermediate/codominant, cored tree L, about 56 years old, originated about 1958

38.09274812 N 78.49417486 W

Year 2020, 11"

10. White pine, 22.9", dominant, close above fence line

38.09262854 N 78.49407522 W

Year 2020, 25.5"

34. Dead paulownia

38.08932379 N 78.49445825 W

Year 2020, Tree is lying on ground.

35. Head of seep

38.089108 N 78.49467837 W

Year 2020, present.

36. Lower end of seep and lower end of clubmoss colony

38.08906472 N 78.49488029 W

Year 2020, present.

37. Beech blow-down, cross section #14, 15.5", codominant, knocked down by #38, cross section was cut at a height of about 3 feet. I counted 87 rings, and the tree has been down about a year, giving a total age estimate of about 88 years (at 3 feet), and originating about 1926. There was a very strong release about 61 years ago, 1953, when a harvest cut was apparently made.

38.08887442 N 78.49468307 W

Year 2020, present, did not measure.

38. Red oak that has been dead a long time. It toppled over and knocked down #37.

38.08894673 N 78.49453712 W

Year 2020, present, did not measure.

39. Rock pile

38.08839047 N 78.49412359 W

Year 2020, present

40. Virginia pine, 12.3", intermediate, cored tree N, not a good core – I don't have the center or any bark; 40 rings

38.08875924 N 78.49342458 W

Year 2020, 13.1"

41. Virginia pine, 10.6", intermediate, cored tree O, 40 rings +4+4= 48 years, originated about 1966

38.08869007 N 78.49344215 W

Year 2020, 11.0"

42. Small dump

38.08818595 N 78.49222809 W

Year 2020, present

43. White pine, 24.5, dominant, in field fence line.

38.08812862 N 78.49172096 W

Year 2020, 25.4"

44. Beech, 23.8", dominant, open grown

38.08779804 N 78.4916618 W

Year 2020, 24.2"

45. Round hole

38.08794354 N 78.49268808 W

Year 2020, present.

46. Round hole in huge dump

38.08775193 N 78.49308992 W

Year 2020, present

47. Osage orange, not measured, photo #2118

38.08765293 N 78.49313778 W

Year 2020, multi-stemmed, measured largest stem 16.7"

48. Round hole

38.08785623 N 78.49361921 W

Year 2020, present

49. Virginia pine, 12.3", intermediate, cored tree P, 74 rings + 3 + 4 = 81, originated about 1933

38.08813607 N 78.493697 W

Year 2020, 12.3"

50. Virginia pine, 12.4", over-topped, cored tree U, 70 rings + 6 + 4 = 80; originated about 1934.

38.08814343 N 78.49423149 W

Year 2020, 12.4"

51. Beech, 27.4", dominant, fire-scarred

38.08864996 N 78.49498117 W

Year 2020, 28.0"

52. Beech, 36.9", dominant, fire-scarred

38.08866046 N 78.49493832 W

Year 2020, 37.7"

53. Shortleaf pine, 15.4", codominant, cored tree W, 106 rings + 5 = 111; originated about 1903
Strongly released about 74 years ago (1940)

38.08924007 N 78.49583293 W

Year 2020, 17"

54. Charred litewood pine stump

38.08907554 N 78.49524295 W

Year 2020, There are two very close together. One on S side of trail is 14" tall, 6" diameter at base. Second one on N side of trail is 14" tall, 12" diameter at base.

55. Round hole

38.0894611 N 78.49581791 W

Year 2020, present

56. Round hole

38.08946872 N 78.49593066 W

Year 2020, present

71. Black walnut, 27.8", dominant, in dump on upper side of White Trail

38.0919725 N 78.49382506 W

Year 2020, Tree was blown over. Dead. 28"

72. Ash, 17.1", co-dominant, on upper edge of dump above White Trail

38.09182202 N 78.4937282 W

Year 2020, 17.2"

73. Ailanthus, 10.2", intermediate, edge of White Trail, one of a few survivors

38.09185654 N 78.49448222 W

Year 2020, 10.7"

74. Loblolly, 9.2", strong intermediate, cored tree R, 43 rings + 4 = 47 years old, originated about 1967

38.09113323 N 78.49547918 W

Year 2020, 9.4"

75. Black gum, 20.6", co-dominant, with a wide crown, fence line tree

38.09112123 N 78.49496156 W

Year 2020, 21.2"

76. Small buckeye, photo #2156, above White Trail

38.09123259 N 78.49542781 W

Year 2020, 0.9" Deer have browsed trunk.

77. Paulownia, 14.0", over-topped, on School Trail

38.09078444 N 78.49508731 W

Year 2020, 14.5"

78. Virginia pine, 16.3" at 2.5 feet, cut down by the power company, cross section #4, I counted 70 rings, and adding 4 years to ground plus an estimated 3 years dead gives an estimate of 77 years, meaning it originated about 1937. I shaved the edge of the felling notch with a pocket knife until I was able to count the rings, and came up with the same estimate of age.

38.09033327 N 78.49537876 W

Year 2020, present, did not measure.

88. Virginia pine, 8.3", intermediate, cored tree C, about 36 years old, originated about 1978

38.09257573 N 78.49375783 W

Year 2020, 8.8"

99. Virginia pine, 8.3", intermediate, cored tree D, about 38 years old, originated about 1976

38.09261532 N 78.49375188 W

Year 2020, 9.0" 6' from trail.

122. Virginia pine, 14.9", codominant, cored tree II, 51 years old, originated about 1964

38.09105928 N 78.49552299 W

Year 2020, 16"

123. *Carya ovalis*, 28.0", dominant

38.09045795 N 78.49600905 W

Year 2020, 28.8"

124. White pine, 12.7", over topped, cored tree H, residual white pine?, decayed, core broke up and some was lost, not useable

38.08991264 N 78.49438962 W

Year 2020, 13.9"

125. Virginia pine, 13.1", intermediate, cored tree G, about 71 years old, originated about 1943

38.08993162 N 78.49430491 W

Year 2020, 13.4"

140. Foot bridge over Yellow Trail tributary

38.08828096 N 78.49413965 W

Year 2020, present

141. Club moss colony

38.0889787 N 78.49487067 W

Year 2020, present

149. Forks of tributary

38.08843245 N 78.49418141 W

Year 2020, present

170. Hay rake on Handicap Trail

38.09135532 N 78.49428271 W

Year 2020, present

171. Yellow poplar, 38.0", dominant

38.09116738 N 78.49449558 W

Year 2020, 41.2"

172. White pine, 12.2", overtopped, cored tree Q, the core I recovered is 6.75 inches and I lost at least .25 inches of bark. I should have hit the pith, but I can't distinguish it. Starting from the bark, I counted 95 rings to a clear release point (about 1919), when it must have been a small, suppressed seedling. There was another release point 60 years ago (about 1954).

38.09034339 N 78.49505143 W

Year 2020, 12.4"

173. Rock pile

38.08900886 N 78.49440441 W

Year 2020, present

174. Soil mound, about 20 by 15 feet, soil came from adjacent depression

38.08901156 N 78.49385482 W

Year 2020, present

175. Virginia pine, 10.1", intermediate, cored tree WW, originated about 1966

38.08880308 N 78.49377163 W

Year 2020, 10.4"

176. Yellow poplar, 12.3", weak codominant, cored tree JJ, difficult to count

38.08847756 N 78.49282113 W

Year 2020, 13.3"

177. Virginia pine, 13.7", cored tree OO, died a year or two, died about 77 years ago, originated about 1937

38.08831445 N 78.49256352 W

Year 2020, Dead tree is lying on west side of trail.

178. Virginia pine, 9.2", cored tree NN, died a year or two ago, died about 69 years ago, originated about 1945

38.08819769 N 78.4925525 W

Year 2020, could not find. Contradictory description above about year of dying.

179. Yellow poplar, 12.6", intermediate, cored tree KK, poor core broke up when extracted

38.08798837 N 78.49185468 W

Year 2020, 13.1"

180. Yellow poplar, 13.9", good intermediate, cored tree LL

38.08788157 N 78.49180708 W

Year 2020, 15.1"

181. Virginia pine, 12.6", overtopped, cored tree MM, about 70 years old, originated about 1944

38.08882983 N 78.49522701 W

Year 2020, 12.7"

182. Virginia pine, 9.9", intermediate, cored tree XX, about 70 years old, originated about 1944

38.08906137 N 78.49541282 W

Year 2020, 10.0"

185. Beech, 23.2", dominant, leader broke out at a height of 36 feet within the past year (still some leaves on twigs), cross section #11, cross section 11.7". I counted 78 rings on the cross section. Using a white oak site index curve by Willard Carmean, I estimate that a free-to-grow beech might grow to a height of 36 feet in 23 years. Adding this to the 78 rings gives an estimate of about 101 years as the minimum age this tree could be. It is likely (probable) that this tree has not been free-to-grow since germination, but rather has grown in the shade of other trees when young. This tree was released about 44 years ago.

38.09013201 N 78.49542597 W

Year 2020, 24.0"

186. Black walnut, 11.3", intermediate, blew down about 2 years ago (based on condition of twigs and bark), cross section #12, growing on the north bank of the Yellow Trail tributary. The section was cut at a height of 3.5 feet. I counted 64 rings. Adding 2 years for the time it has been dead and another 2 years to grow to 3.5 feet gives an estimate of 68 years, meaning it originated about 1946. This tree grew quite well for the first 10 years. There are 2 very large beech, each about 50 feet away, to the east and south, which must have been quite small when this walnut germinated, apparently in a canopy gap created by logging about 68 years ago.

38.08974921 N 78.49546605 W

Year 2020, Dead tree is down. Did not measure.

187. Red oak of some kind, 15.0", codominant, blew down perhaps 6 years ago (based on condition of sapwood), cross section #9, cross section 14.5" in diameter was cut at a height of 4 feet. I counted about 66 rings. Adding another year for the 4 foot section height gives an estimated origin of about 1941.

38.09023927 N 78.49464727 W

Year 2020, Dead tree is quite decomposed.

188. Beech, dominant, double-trunk tree; half the tree split off and was cross sectioned, cross section #15, section height was 10 feet, it has been down perhaps 2 years, and decay in the sapwood makes it difficult to get an accurate ring count (beech wood decays extremely rapidly). There is a strong release at about 25 rings, and the total number of rings is about 110. Adding 2 years since it died, means the release occurred about 1927. We did not try to measure DBH because the trunk is too badly split.

38.08939898 N 78.49480561 W

Year 2020, Standing trunk is thriving. Did not measure.

189. Scarlet oak, 38.5", dominant, seems to be dying. There are several large, dead branches and the bark on the lower side may be dead.

38.08861905 N 78.49418153 W

Year 2020, 39.3". Dead, standing.

190. Northern red oak, 36.3", dominant

38.08839574 N 78.49392699 W

Year 2020, 36.7", height about 127', located just east of swale, about 100' from footbridge.

191. Plot stake. I could not find any information on it.

38.08825984 N 78.49370554 W

Year 2020, 6" wooden stake w/ aluminum nail and blue flagging tape. Metal tags are on trees 8-10' away. These are remains of a tree stand project John Scrivani did with school students a number of years ago.

192. Small charred litewood pine stump

38.08770785 N 78.49371332 W

Year 2020, 4" tall, 4" diameter at base.

193. Small charred litewood pine stump

38.08916878 N 78.49534927 W

Year 2020, 15" tall, 5" diameter at base, on S side of trail.

194. Shortleaf pine, 14.9", codominant, cored tree BBB, released 77 years ago (1938), over 120 years old

38.08938343 N 78.49594211 W

Year 2020, 16.2"

195. Virginia pine, 10.0", good intermediate, cored tree AAA, about 47 years old, originated about 1967

38.09112654 N 78.49530063 W

Year 2020, 10.3" Dead. Lying on ground.

196. Virginia pine, 10.2", intermediate, cored tree ZZ, about 57 years old, originated about 1957

38.09160504 N 78.49483849 W

Year 2020, 10.2"

250. Virginia pine, 12.4", intermediate, cored tree HHH, originated about 1939

38.0898432 N 78.49428173 W

Year 2020, 12.7"

263. Hackberry, 12.4", on the School Trail and sign-marked w/ its name.

38.09168 N 78.49388 W

Year 2020 NEW

Area 3 Appendix

19. White oak, 45.0", dominant field edge tree

38.08930546 N 78.4976119 W

Year 2020, Tree had been 2 sprouts grown together. One fell down since 2015. Standing sprout is still alive. Diameter of standing: 36.5"

20. Northern red oak, 35.1", dominant field edge tree

38.08922021 N 78.49922905 W

Year 2020, 36.3"

21. Virginia pine, 14.3", intermediate, cored twice, cores K and T, core T is the better core, 81 rings + 7 rings to pith + 4 = 92 years; originated about 1922

38.08935769 N 78.49997832 W

Year 2020, 14.3"

22. Shortleaf pine, 19.4", dominant

38.08977543 N 78.49932119 W

Year 2020, 20"

23. White oak, 19.6", cross section # 13, blew down in 2010 based on the age of a sprout which originated when the tree went down, cross section is 19.5" and was cut at a height of 2 feet. The tree was probably a codominant when it went down. This tree was definitely a residual. It is located just within, but close to the south edge of Stand 3. Some of the rings are narrow and obscure, and I counted 137. Adding a year because the section height was 2 feet, and 4 years for how long it has been dead, gives an estimated age of 142 years, and originating about 1872. The section shows a very strong release about 1915, when it was about 6" in diameter, increasing growth perhaps 8-fold. There was another release, with growth more than doubling, about 1957, which is about the time of the clearcut when Stand 3 originated.

38.09026185 N 78.49960271 W

Year 2020, Dead tree is decomposing. 16" without bark

24. Yellow poplar line tree on power line R/W, 38.7", dominant, very open-grown, near bench

38.09164753 N 78.49968171 W

Year 2020, 39.8". Fence is standing along it. Figure 78.

25. Yellow poplar, 35.6", dominant, very open-grown, in intermittent tributary

38.09221485 N 78.49902781 W

Year 2020, 36.5". Figure 72.

57. Rocks piled on outcrop, below Green Trail

38.08807571 N 78.49712751 W

Year 2020, present.

58. Yellow poplar, 14.6", codominant?, cored tree I, advance regeneration?, originated about 1959?

38.08748988 N 78.49766501 W

Year 2020, 15.8"

59. Property corner stake?

38.08708781 N 78.49806382 W

Year 2020, 12" wooden stake w/ pink flagging tape. Iron pin w/ orange tape next to it.

60. Red oak, 38.2", dominant, litewood pine stumps around it

38.08728394 N 78.49802871 W

Year 2020, 40.5"

61. Rock pile

38.08816494 N 78.49758824 W

Year 2020, present

62. Rock pile

38.08818832 N 78.49758943 W

Year 2020, present

63. Rock pile

38.08778504 N 78.49831968 W

Year 2020, present

64. Virginia pine, 12.9", weak codominant, cored tree X, 66 rings + 5 + 4 = 75 years old, originated about 1939

38.08799406 N 78.49905608 W

Year 2020, 13.1"

65. Virginia pine, 9.4", intermediate, cored tree J, originated about 1955

38.08807976 N 78.49907754 W

Year 2020, 9.7"

66. Carya glabra, 22.9", dominant, 3 sprouts, dominant one measured

38.08817789 N 78.49907703 W

Year 2020, 24.1"

67. Rock pile with glass fragment on top

38.0882792 N 78.49894048 W

Year 2020, rock pile present, no glass fragment

68. Rock pile

38.08907554 N 78.49524295 W

Year 2020, present

69. Rock and mortar spring house, not on Ivy Creek

38.0894611 N 78.49581791 W

Year 2020, present

70. Shortleaf pine, 13.2", codominant, cored tree Y, 86 rings + 4 + 4 = 94; originated about 1920

38.08988155 N 78.50027212 W

Year 2020, 14.2"

139. Bench

38.09161153 N 78.49974756 W

Year 2020, Bench is not there.

142. Property stake.

38.09141762 N 78.49981155 W

Year 2020, Number is not on map. Could not find.

143. Rock pile -

Year 2020, Number and GPS coordinates inserted into appendix in 2020. There is a number on original map, but there had been no GPS data for it in the original appendix. Correlates w/ Figure 80 in text.

38.09135 N 78.50057 W

197. Shortleaf pine cored in November of 1994, over-topped, originated about 1845

38.08932208 N 78.49719324 W

Year 2020. Dead, standing. Did not measure. There was no measurement given for 2015.

198. Fire-scarred beech, 24.4", codominant

38.0887087 N 78.49770235 W

Year 2020, 25.7"

199. Possible road bed where it crosses Green Trail

38.08831078 N 78.49734165 W

Year 2020, present

200. Huckleberry colony on side of Green Trail

38.08911386 N 78.50014567 W

Year 2020, present

201. Northern red oak, 37.2", dominant, fence line tree

38.08919156 N 78.49894882 W

Year 2020, 38.7"

202. Shortleaf pine, 12.4", codominant, cored tree Z, 82 rings + 7 + 4 = about 93 years old, originated about 1921

38.08985522 N 78.50030776 W

Year 2020, 13.9"

242. Upper (top) spring

38.08959116 N 78.50144267 W

Year 2020, present

243. Lower spring

38.08942814 N 78.50131273 W

Year 2020, present

244. Walk-in cinder block upper structure, photos 2525 and 2526

38.08925612 N 78.50118819 W

Year 2020, present

245. Concrete box, lower structure, photo 2524

38.08929145 N 78.5011503 W

Year 2020, present

246. Beech, 14.5", cross section #19, blew down across the stream perhaps a year ago, but is still alive, sustained by a large root-ball. Phil cut the section (14.2 inches) at a height of about 6 feet. The first 26 rings were very narrow and then an abrupt release occurred, about 1951,

increasing growth about four-fold. There was another very strong release about 9 years ago due to the death of two large trees, each about 20 feet away, one across the stream and the other back up the bank. Interestingly, the most recent ring, while the tree was on the ground, is about as wide as the previous several rings.

38.08841228 N 78.49989752 W

Year 2020, diameter about 13" without bark

247. *Carya glabra*, on west end of Stand 1a

38.08996629 N 78.49870443 W

Year 2020, Section 1a text of original report mentions four old large trees, three had been mapped. Added a black line and measured.

Diameter 23.6"

248. White oak, on east end of Stand 1a

38.08987831 N 78.49842267 W

Year 2020, Section 1a text of original report mentions four old large trees, three had been mapped. Added a black line and measured.

Diameter 26.3"

249. Mimosa, 13.1", over-topped

38.0899542 N 78.49843939 W

Year 2020, 13.5". Two pines have fallen onto Mimosa, which is now leaning down.

252. Loblolly pine, 19.5", codominant

38.091787 N 78.498982 W

Year 2020, 20.4"

264. Chestnut Oak, 33.5". Burling at base, scar on trail side, east side of trail.

38.08973 N 78.50015 W

Year 2020 NEW

Area 4 Appendix

11. Bitternut hickory, 30.0", dominant, in floodplain

38.09317036 N 78.49364037 W

Year 2020, 31"

12. Loblolly pine, 22.6", dominant

38.09351259 N 78.4940018 W

Year 2020, 24.5". Figure 117.

13. Post oak, 37.9", dominant

38.09378716 N 78.49362318 W

Year 2020, 39". Figure 115.

14. Southern red oak, 4.4", dominant

38.09406476 N 78.49388229 W

Year 2020, 8.9", Lone tree in field, about ten feet from trail.

15. Yellow poplar, 8.3", codominant, cored tree S, can't count rings

38.09447814 N 78.49372305 W

Year 2020, 12"

16. Shortleaf pine, 9.6", intermediate/codominant, cored tree M, originated about 1984

38.09449884 N 78.49378615 W

Year 2020, 10.6"

26. Southern red oak, 37.5", dominant

38.09233924 N 78.49739034 W

Year 2020, 40"

27. Beech, 31.8" (measured larger stem on downstream side), dominant

38.09268273 N 78.49775446 W

Year 2020, 32.6"

28. Hickory (*Carya glabra*), 18.3", codominant, on western end of rock wall where Orange Trail starts

38.09319052 N 78.49734707 W

Year 2020, 19.2"

29. White oak, 31.9", dominant, extremely open-grown

38.09318038 N 78.49733306 W

Year 2020, 33.2". Figure 126.

30. Southern red oak, 37.1", dominant fence line tree

38.09286623 N 78.49722449 W

Year 2020, 38.1"

31. Red cedar, 21.9", dominant, fence line tree

38.09210429 N 78.49771457 W

Year 2020, 22.6".

32. Southern red oak, 54.6", dominant, open grown

38.09141136 N 78.49687303 W

Year 2020, 57". Figure 105.

33. Beech, 26.7", dominant

38.0915897 N 78.49671862 W

Year 2020, 28"

79. Loblolly, 12.4", dominant

38.09060974 N 78.49661594 W

Year 2020, Tree w/ black line, diameter is 11.5". Unusual needles, in 2s & 3s. May be hybrid. Tagged another Loblolly nearby that has more definitive characteristics for a Loblolly. See NEW #265.

80. Red cedar, 18.3", open grown but now intermediate

38.09133227 N 78.49677966 W

Year 2020, 18.8"

81. Beech, 30.2", dominant?

38.09301409 N 78.49548879 W

Year 2020, 31"

82. White oak, 37.8", dominant, open-grown

38.09346235 N 78.49495222 W

Year 2020, 38.7"

83. Holly, 18.8" measured below fork, intermediate, yard tree in house site

38.0935083 N 78.49494813 W

Year 2020, 19.1"

84. Beech, 35.4", dominant, open-grown

38.09331877 N 78.49484364 W

Year 2020, 36.1". Figure 112.

89. Red maple, 29.5", dominant

38.09517059 N 78.49262512 W

Year 2020, 30"

129. Red oak stump sprout from 1960's harvest

38.09313431 N 78.49370677 W

Year 2020, 4.0". Figure 108. Found barbed wire buried in soil at tree base.

145. End of rock wall

Year 2020, present

146. End of rock wall

Year 2020, present

147. End of rock wall

Year 2020, present

184. Northern red oak, about 30", dominant, cross section #10, blew down across Martin's Branch in June 2012 derecho, section was cut at a height of 4 feet. I counted about 140 rings at a height of perhaps 3 feet. It started as a fast growing sprout. Adding 2 years since the derecho, it originated about 1872. The sapwood showed considerable decay in just 2 years.

38.09320637 N 78.49411341 W

Year 2020, Did not measure.

203. Virginia pine, 10.7", intermediate, cored tree DDD, originated about 1971

38.09206438 N 78.49722953 W

Year 2020, 11.3"

208. Ash, 27.8", dominant, on interfluve between large gullies

38.09395114 N 78.4965961 W

Year 2020, 27.5"

229. Spring below Brown trail and tenant house

38.09322003 N 78.49527193 W

Year 2020, present

241. Red maple, 25.7", dominant, open-grown

38.09395213 N 78.49611667 W

Year 2020, 27"

251. Loblolly pine, 8.5", intermediate/over-topped

38.092061 N 78.497594 W

Year 2020, 10.2"

253. Big tooth aspen, 13.5", dominant, on western edge of gas line

38.094364 N 78.499268 W

Year 2020, 15.1". Figure 125.

265. Loblolly pine, 15.5". 3-needle clusters

38.09064 N 78.49660 W

Year 2020 NEW

Area 5 Appendix

95. Rock pile, photo #2168

38.09466744 N 78.49424916 W

Year 2020, Figure 133 in report. Curved tree to the rear-right of pile in photo has fallen.

96. Rock pile, photo #2169, beside upper leg of Orange Trail

38.09460481 N 78.49865089 W

Year 2020, present

101. Yellow poplar, 10.9", intermediate, cored tree BB, originated about 1962

38.09507556 N 78.49522444 W

Year 2020, 11.1" In old road bed/gully.

102. Shortleaf pine, 9.9", intermediate, cored tree CC, 72 rings + 2 + 4 = 78 years, originated about 1936

38.0946641 N 78.49572021 W

Year 2020, Tree is dead, still standing. Diameter 9.7"

103. Virginia pine, 12.0", intermediate, cored tree DD, originated about 1915, but was strongly released about 78 years ago (1936) when CC originated

38.0946736 N 78.49585607 W

Year 2020, 12.5"

104. Charcoal litewood pine stump

38.09485384 N 78.49661332 W

Year 2020, 8" high.

105. Another charcoal pine stump

38.09472999 N 78.49678771 W

Year 2020, 8" high.

106. Dead paulownia

38.09483216 N 78.49676458 W

Year 2020, 14" diameter w/out bark, still standing. Figure 140.

107. White pine, 28.2", dominant

38.09523165 N 78.49760415 W

Year 2020, 30"

130. Ash, 13.7", codominant?

38.09590027 N 78.49787744 W

Year 2020, 14.4"

131. Ash, 14.4", codominant?

38.09597082 N 78.49785589 W

Year 2020, Tree is dead, fallen. Diameter about 14.6"

132. Spring on side of old road

38.09616146 N 78.49781363 W

Year 2020, present

133. Large rock pile

38.09588357 N 78.49827012 W

Year 2020, present

134. Diffuse rock pile

38.09590375 N 78.49841872 W

Year 2020, present

135. Ash, 16.7", codominant?

38.09615691 N 78.49814414 W

Year 2020, 17.1"

136. Ash, 17.2", codominant?

38.09610136 N 78.49794517 W

Year 2020, 17.4"

137. Ash, 16.5" codominant?

38.09608845 N 78.49781241 W

Year 2020, 16.7"

204. Virginia pine, cross section #5, a Virginia pine that had recently fallen across the Orange Trail, Phil cut it off at stump height to clear the trail. After some shaving with a pocket knife I counted 55 rings, meaning it originated about 1959.

38.09562169 N 78.49947187 W

Year 2020, Decomposed.

205. Virginia pine, codominant, cored tree CCC, originated about 1953

38.09548507 N 78.49978665 W

Year 2020, 15.3"

206. Charred pine knots (photo 2352)

38.09444177 N 78.4967278 W

Year 2020, Chunks on ground. Figure 148.

207. Charred pine stump (photo 2353)

38.09462333 N 78.49681625 W

Year 2020, 6" high X 3" wide. Figure 147.

231. Foot-bridge on Orange Trail

38.09486882 N 78.49517904 W

Year 2020, present

232. Rebars in old road bed

38.0944123 N 78.49606659 W

Year 2020, Two bars about 8" tall each, 12" apart, have blue tape on them. Figure 139.

233. Chestnut stump, a black birch that germinated on a stump is in the background

38.09543623 N 78.49539597 W

Year 2020, Figure 158. Black birch in photo has fallen.

234. Close-up of the black birch that germinated on a stump

38.09542508 N 78.49537525 W

Year 2020, This tree has fallen, dead.

235. Another black birch that germinated on a stump

38.09540671 N 78.49587208 W

Year 2020, 12.1"

236. Double bench

38.09534748 N 78.49596036 W

Year 2020, Single bench.

237. Chestnut oak stump with sprout and a dozen small birch seedlings

38.09578098 N 78.49729459 W

Year 2020, 12.9", multiple *Betula lenta* seedlings.

238. Number not used

239. Bench

38.09575589 N 78.49715037 W

Year 2020, present

240. Ash, 22.1", codominant

38.09621913 N 78.49805723 W

Year 2020, 22.7"

Area 6 Appendix

17. Southern red oak, about 60" when it finally died about 5 years ago, cross section #3, the largest tree known to have grown at the ICNA. It had 3 leaders. The first leader to die, about a year or two before Dede retired (10 years ago?), was the largest and was on the downhill side. The other 2 leaders (the rest of the tree) died about 5 years ago. About 2 years ago one of these broke off at a height of 18 feet. Phil cut a cross section from it that I sanded and counted 109 rings. Growth was very slow for about the last 15 years or so as it was declining.

On 4/21/14 I measured the height of an adjacent yellow poplar (the top of the southern red oak has broken out) and got 99 feet. From Carmean's site index curves for black oak, and assuming a site index of 75, a forest grown tree would reach a height of 18 feet in about 9 years, so allowing for open growth, it might have taken 11 years. Adding 11 to 109 rings gives an age at death of 120, so if it died 5 years ago the tree probably originated about 1889.

38.0952601 N 78.49320057 W

Year 2020, nothing new to note.

18. White oak, 46.8", dominant, the Bartholomew oak, cross section #8, Phil cut a section from a lower branch that broke off over 10 years ago. The section is about 12 inches in diameter, but the sapwood and bark are gone. I counted 100 rings. On 4/21/14, after the leaves were partly out, I measure the height as best I could (at a distance of 90 feet), and came up with 90 feet.

To get a rough estimate of the age of the tree we must add 4 rough estimates to the 100 rings: (1) number of years in the missing sapwood (2) number of years to grow from the ground to where the branch originated (3) number of years to grow from the center of the trunk out to where the branch cross section was cut, and (4) number of years since the branch broke off. For number 1 I used 15 years, an average number of sapwood rings at stump height for oaks. Numbers 2 and 3 were estimated using a set of site index curves. For number 4 I used an estimate of 12 years.

The branch originated at 23 feet and we measured 14 feet from the cross section point to the center of the trunk. Using a site 70 index curve for white oak (Willard Carmean's curves), I came up with estimates of 13 years to grow to 23 feet and 12 years for the branch to grow 14 feet. Combining all these estimates: 100 rings + 15 years for lost sapwood + 13 years to grow to

a height of 23 feet + 12 years for the branch to grow 14 feet + 12 years since the branch broke off = 152 years as a rough estimate of the age of the tree.

38.09529687 N 78.49265035 W

Year 2020, 48.1"

85. Virginia pine, 8.6", intermediate?, cored tree A, originated about 1965

38.09574391 N 78.49318492 W

Year 2020, 9.6"

86. Shortleaf pine, 18.0", codominant, residual tree, cored tree B, lost end of core so could not estimate age

38.09580795 N 78.49319863 W

Year 2020, 19"

87. Virginia pine, 10.4", co-dominant, cored tree F, originated about 1962

38.09636123 N 78.493304 W

Year 2020, 11.3"

90. Shortleaf pine, 13.0", strong intermediate

38.0969517 N 78.49453897 W

Year 2020, 13.9"

91. Post oak, 9.5", strong intermediate, with cankers caused by chestnut blight

38.09707979 N 78.49449441 W

Year 2020, 10.5"

92. Shortleaf pine, 12.8", codominant, cored tree AA, 45 rings + 2 + 4 = 51 years, originated about 1963

38.0974788 N 78.49416679 W

Year 2020, 13.6"

93. Loblolly pine, 5.0", intermediate, in beaver clearing (there was a large colony of migrating bees in an oak tree 20 to 30 feet uphill when we measured this tree)

38.09821808 N 78.49590504 W

Year 2020, 7.5"

94. Loblolly pine, 17.2", strong intermediate

38.09897248 N 78.49616608 W

Year 2020, 18.3"

144. Rock pile, low and spread out

38.09536057 N 78.49351631 W

38.09206667 N 78.49285268 W

Year 2020, present

210. Loblolly pine, 13.8", codominant

38.09688283 N 78.49428202 W

Year 2020, 14.6"

211. Scarlet oak, 32.5", dominant

38.09747118 N 78.49474989 W

Year 2020, 34.7"

212. Southern magnolia (*Magnolia grandiflora*) seedling, about 1"

38.09771971 N 78.49528806 W

Year 2020, 1.7"

213. Pitch pine, 14'2", codominant

38.09772399 N 78.4953089 W

Year 2020, 15.8"

214. Loblolly pine, 5.2", intermediate, in "beaver clearing"

38.09807749 N 78.49546382 W

Year 2020, 6.4"

215. Hornbeam, 10.8", leans out over lake

38.09954316 N 78.49532258 W

Year 2020, 11.6"

216. Sycamore, 16.2", dominant

38.09860094 N 78.4967852 W

Year 2020, 19.3"

217. Sycamore, 15.8", dominant

38.09848743 N 78.49675306 W

Year 2020, 19.2"

218. Scarlet oak, 30.4", dominant

38.09820449 N 78.49634678 W

Year 2020, 31.4"

219. Cedar bench over-looking lake, several pitch pine seedlings in front of bench

38.09709174 N 78.49503495 W

Year 2020, present

220. Pitch pine, 13.0", codominant

38.09649234 N 78.49441674 W

Year 2020, 14.2"

230. Shortleaf pine, 23.0", dominant

38.09763226 N 78.49408087 W

Year 2020, 23.9"

266. Persimmon, 9.4"

38.09928 N 78.49641 W

Year 2020 NEW

267. American chestnut, 2 sprouts, each stem about 3/8" diameter, 4' and 4.5' tall, stump beneath litter 5" diameter

38.09824 N 78.49589 W

Year 2020 NEW