[] Dendrochronology Program Library Run RS\_B Program COF 14:50 Mon 20 Apr 2020 Page 1

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[] P R O G R A M C O F E C H A Version 6.06P 31158

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QUALITY CONTROL AND DATING CHECK OF TREE-RING MEASUREMENTS COF12K.for

Title of run: Red Spruce, Kossuth, ME (KT Smith)

File of DATED series: RS\_B.rrw

CONTENTS:

Part 1: Title page, options selected, summary, absent rings by series

Part 2: Histogram of time spans

Part 3: Master series with sample depth and absent rings by year

Part 4: Bar plot of Master Dating Series

Part 5: Correlation by segment of each series with Master

Part 6: Potential problems: low correlation, divergent year-to-year changes, absent rings, outliers

Part 7: Descriptive statistics

RUN CONTROL OPTIONS SELECTED VALUE

1 Cubic smoothing spline 50% wavelength cutoff for filtering

32 years

2 Segments examined are 50 years lagged successively by 25 years

3 Autoregressive model applied A Residuals are used in master dating series and testing

4 Series not transformed to logarithms N

5 CORRELATION is Pearson (parametric, quantitative)

Critical correlation, 99% confidence level 0.3281

6 Master dating series saved N

7 Ring measurements listed N

8 Parts printed 1234567

9 Absent rings are omitted from master series and segment correlations (Y)

Time span of Master dating series is 1822 to 1993 172 years

Continuous time span is 1822 to 1993 172 years

Portion with two or more series is 1826 to 1993 168 years

>> B371 1900 absent in 1 of 45 series, but is not usually narrow: master index is -0.340

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*C\* Number of dated series 65 \*C\*

\*O\* Master series 1822 1993 172 yrs \*O\*

\*F\* Total rings in all series 7162 \*F\*

\*E\* Total dated rings checked 7158 \*E\*

\*C\* Series intercorrelation 0.608 \*C\*

\*H\* Average mean sensitivity 0.228 \*H\*

\*A\* Segments, possible problems 6 \*A\*

\*\*\* Mean length of series 110.0 \*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

ABSENT RINGS listed by SERIES: (See Master Dating Series for absent rings listed by year)

B151 1 absent rings: 1920

B161 3 absent rings: 1919 1920 1921

B162 3 absent rings: 1920 1921 1922

B292 1 absent rings: 1923

B371 1 absent rings: 1900

B471 1 absent rings: 1883

10 absent rings 0.140%

PART 2: TIME PLOT OF TREE-RING SERIES: Red Spruce, Kossuth, ME (KT Smith) 14:50 Mon 20 Apr 2020 Page 2

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1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 Ident Seq Time-span Yrs

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. . . . . . . . . . . . . . . . . . <=====>. . B152 1 1934 1991 58

. . . . . . . . . . . . . . . . . <==========>. . B122 2 1881 1991 111

. . . . . . . . . . . . . . . . . <===========>. . B181 3 1877 1991 115

. . . . . . . . . . . . . . . . . <========>. . B112 4 1904 1991 88

. . . . . . . . . . . . . . . . . <==========>. . B121 5 1885 1991 107

. . . . . . . . . . . . . . . . . <==========>. . B141 6 1882 1991 110

. . . . . . . . . . . . . . . . . <==========>. . B182 7 1884 1991 108

. . . . . . . . . . . . . . . . . <=========>. . B171 8 1893 1991 99

. . . . . . . . . . . . . . . . . <=========>. . B151 9 1893 1991 99

. . . . . . . . . . . . . . . . . <==========>. . B131 10 1881 1991 111

. . . . . . . . . . . . . . . . . <==========>. . B111 11 1880 1991 112

. . . . . . . . . . . . . . . . . <===========>. . B132 12 1876 1991 116

. . . . . . . . . . . . . . . . . <=========>. . B172 13 1899 1991 93

. . . . . . . . . . . . . . . . . <=========>. . B161 14 1896 1991 96

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. . . . . . . . . . . . . . . . . <========>. . B261 17 1909 1992 84

. . . . . . . . . . . . . . . . . . <======>. . B212 18 1925 1992 68

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. . . . . . . . . . . . . . . . . <=========>. . B241 29 1890 1992 103

. . . . . . . . . . . . . . . . <==============>. . B291 30 1840 1992 153

. . . . . . . . . . . . . . . . <=============>. . B252 31 1852 1992 141

. . . . . . . . . . . . . . . . .<============>. . B292 32 1865 1992 128

. . . . . . . . . . . . . . . . . <===========>. . B281 33 1874 1992 119

. . . . . . . . . . . . . . . . . .<=======>. . B361 34 1910 1992 83

. . . . . . . . . . . . . . . . <================>. . B352 35 1822 1992 171

. . . . . . . . . . . . . . . . . <========>. . B321 36 1900 1992 93

. . . . . . . . . . . . . . . . . . <======>. . B312 37 1928 1992 65

. . . . . . . . . . . . . . . . .<============>. . B351 38 1869 1992 124

. . . . . . . . . . . . . . . . . <=========>. . B381 39 1898 1992 95

. . . . . . . . . . . . . . . . . .<=======>. . B392 40 1910 1992 83

. . . . . . . . . . . . . . . . . <===========>. . B311 41 1870 1992 123

. . . . . . . . . . . . . . . . . <==========>. . B341 42 1889 1992 104

. . . . . . . . . . . . . . . . .<============>. . B322 43 1861 1992 132

. . . . . . . . . . . . . . . . <=============>. . B331 44 1857 1992 136

. . . . . . . . . . . . . . . . <===============>. . B332 45 1832 1992 161

. . . . . . . . . . . . . . . . <==============>. . B391 46 1845 1992 148

. . . . . . . . . . . . . . . . <==============>. . B371 47 1843 1992 150

. . . . . . . . . . . . . . . . . . <=====>. . B362 48 1930 1992 63

. . . . . . . . . . . . . . . . <=============>. . B471 49 1850 1993 144

. . . . . . . . . . . . . . . . . <==========>. . B491 50 1887 1993 107

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1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050

PART 2: TIME PLOT OF TREE-RING SERIES: Red Spruce, Kossuth, ME (KT Smith) 14:50 Mon 20 Apr 2020 Page 3

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1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 Ident Seq Time-span Yrs

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. . . . . . . . . . . . . . . . <==============>. . B451 54 1847 1993 147

. . . . . . . . . . . . . . . . . <========>. . B452 55 1906 1993 88

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. . . . . . . . . . . . . . . . . <========>. . B432 59 1907 1993 87

. . . . . . . . . . . . . . . . <===============>. . B411 60 1831 1993 163

. . . . . . . . . . . . . . . . <===============>. . B412 61 1834 1993 160

. . . . . . . . . . . . . . . . <===============>. . B422 62 1833 1993 161

. . . . . . . . . . . . . . . . <================>. . B421 63 1826 1993 168

. . . . . . . . . . . . . . . . <===============>. . B461 64 1834 1993 160

. . . . . . . . . . . . . . . . . <===========>. . B462 65 1872 1993 122

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1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050

PART 3: Master Dating Series: Red Spruce, Kossuth, ME (KT Smith) 14:50 Mon 20 Apr 2020 Page 4

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Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab Year Value No Ab

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1850 0.732 12 1900 -0.340 45 1<< 1950 -0.775 65

1851 1.002 12 1901 -1.481 45 1951 0.962 65

1852 -1.145 13 1902 -0.791 45 1952 -0.719 65

1853 -0.257 13 1903 -0.524 45 1953 1.102 65

1854 -0.736 14 1904 -1.017 47 1954 1.312 65

1855 0.621 14 1905 -0.540 48 1955 1.412 65

1856 -0.209 14 1906 -0.555 49 1956 0.671 65

1857 0.795 15 1907 0.241 50 1957 1.425 65

1858 0.030 15 1908 -0.241 50 1958 2.441 65

1859 -1.306 15 1909 1.326 51 1959 0.834 65

1860 -1.177 15 1910 1.411 55 1960 0.289 65

1861 -0.613 16 1911 0.389 56 1961 -0.712 65

1862 -0.742 16 1912 1.730 56 1962 -1.044 65

1863 -0.757 16 1913 3.278 56 1963 0.225 65

1864 -1.031 16 1914 1.104 56 1964 -0.824 65

1865 0.086 18 1915 0.049 56 1965 -2.090 65

1866 -0.012 18 1916 -0.962 56 1966 -1.985 65

1867 0.524 18 1917 -1.133 56 1967 -1.231 65

1868 -0.490 19 1918 -0.826 56 1968 -1.221 65

1869 0.298 20 1919 -1.156 56 1 1969 0.461 65

1870 2.210 22 1920 -1.229 56 3 1970 0.366 65

1871 1.603 22 1921 -1.731 56 2 1971 0.587 65

1822 -1.959 1 1872 0.323 23 1922 -0.688 57 1 1972 1.218 65

1823 0.306 1 1873 0.770 23 1923 -1.329 57 1 1973 0.879 65

1824 -1.063 1 1874 1.125 24 1924 -0.307 57 1974 0.019 65

1825 -0.228 1 1875 0.527 24 1925 -0.549 58 1975 0.864 65

1826 0.540 2 1876 -0.490 25 1926 -0.712 58 1976 0.233 65

1827 2.284 2 1877 -0.202 26 1927 0.639 58 1977 -1.848 65

1828 2.707 2 1878 -0.270 26 1928 0.165 59 1978 0.119 65

1829 -1.041 2 1879 -1.074 27 1929 -0.128 60 1979 0.440 65

1830 -0.755 2 1880 -1.204 29 1930 -0.532 64 1980 0.679 65

1831 -1.405 3 1881 0.252 31 1931 0.939 64 1981 0.067 65

1832 0.296 4 1882 -0.720 33 1932 1.151 64 1982 -0.338 65

1833 0.951 5 1883 -0.833 33 1 1933 0.432 64 1983 -1.273 65

1834 -0.351 7 1884 -0.087 34 1934 0.257 65 1984 -1.994 65

1835 0.944 7 1885 -0.310 35 1935 -0.645 65 1985 0.261 65

1836 -0.864 7 1886 1.196 35 1936 -0.070 65 1986 0.313 65

1837 1.704 7 1887 0.882 36 1937 -0.449 65 1987 1.280 65

1838 -0.787 7 1888 1.052 36 1938 0.953 65 1988 -0.566 65

1839 -0.218 7 1889 1.683 37 1939 0.001 65 1989 -0.526 65

1840 -0.384 8 1890 1.110 38 1940 -0.239 65 1990 1.059 65

1841 -0.619 8 1891 0.983 38 1941 1.282 65 1991 -0.377 65

1842 1.299 8 1892 1.083 38 1942 0.100 65 1992 1.292 50

1843 0.119 9 1893 -0.973 40 1943 -0.964 65 1993 1.362 17

1844 0.154 9 1894 0.629 40 1944 -0.964 65

1845 0.690 10 1895 -1.532 41 1945 0.732 65

1846 0.076 10 1896 0.029 42 1946 -1.373 65

1847 -1.301 11 1897 -0.255 42 1947 -0.211 65

1848 0.359 11 1898 0.256 43 1948 -1.411 65

1849 -1.193 11 1899 -0.670 44 1949 -0.696 65

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PART 4: Master Bar Plot: Red Spruce, Kossuth, ME (KT Smith) 14:50 Mon 20 Apr 2020 Page 5

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Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value Year Rel value

1850--------C 1900----a 1950--c

1851---------D 1901f 1951--------D

1852-e 1902--c 1952--c

1853----a 1903---b 1953---------D

1854--c 1904-d 1954---------E

1855-------B 1905---b 1955----------F

1856----a 1906---b 1956--------C

1857--------C 1907------A 1957----------F

1858-----@ 1908----a 1958----------J

1859e 1909---------E 1959--------C

1860-e 1910----------F 1960------A

1861---b 1911-------B 1961--c

1862--c 1912----------G 1962-d

1863--c 1913----------M 1963------A

1864-d 1914---------D 1964--c

1865-----@ 1915-----@ 1965h

1866-----@ 1916-d 1966h

1867-------B 1917-e 1967-e

1868---b 1918--c 1968-e

1869------A 1919-e 1969-------B

1870----------I 1920-e 1970-------A

1871----------F 1921g 1971-------B

1822h 1872------A 1922--c 1972---------E

1823------A 1873--------C 1923e 1973--------D

1824-d 1874---------E 1924----a 1974-----@

1825----a 1875-------B 1925---b 1975--------C

1826-------B 1876---b 1926--c 1976------A

1827----------I 1877----a 1927-------C 1977g

1828----------K 1878----a 1928------A 1978-----@

1829-d 1879-d 1929-----a 1979-------B

1830--c 1880-e 1930---b 1980--------C

1831f 1881------A 1931--------D 1981-----@

1832------A 1882--c 1932---------E 1982----a

1833--------D 1883--c 1933-------B 1983e

1834----a 1884-----@ 1934------A 1984h

1835--------D 1885----a 1935---c 1985------A

1836--c 1886---------E 1936-----@ 1986------A

1837----------G 1887--------D 1937---b 1987---------E

1838--c 1888---------D 1938--------D 1988---b

1839----a 1889----------G 1939-----@ 1989---b

1840----b 1890---------D 1940----a 1990---------D

1841---b 1891--------D 1941---------E 1991----b

1842---------E 1892---------D 1942-----@ 1992---------E

1843-----@ 1893-d 1943-d 1993---------E

1844------A 1894-------C 1944-d

1845--------C 1895f 1945--------C

1846-----@ 1896-----@ 1946e

1847e 1897----a 1947----a

1848-------A 1898------A 1948f

1849-e 1899---c 1949--c

PART 5: CORRELATION OF SERIES BY SEGMENTS: Red Spruce, Kossuth, ME (KT Smith) 14:50 Mon 20 Apr 2020 Page 5

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Correlations of 50-year dated segments, lagged 25 years

Flags: A = correlation under 0.3281 but highest as dated; B = correlation higher at other than dated position

Seq Series Time\_span 1825 1850 1875 1900 1925 1950

1874 1899 1924 1949 1974 1999

--- -------- --------- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----

1 B152 1934 1991 .65 .67

2 B122 1881 1991 .63 .57 .44 .40

3 B181 1877 1991 .48 .72 .75 .74

4 B112 1904 1991 .65 .67 .74

5 B121 1885 1991 .65 .60 .55 .53

6 B141 1882 1991 .55 .50 .40 .66

7 B182 1884 1991 .57 .65 .63 .75

8 B171 1893 1991 .60 .70 .70 .78

9 B151 1893 1991 .66 .56 .58 .65

10 B131 1881 1991 .76 .61 .49 .63

11 B111 1880 1991 .50 .61 .74 .79

12 B132 1876 1991 .69 .63 .42 .48

13 B172 1899 1991 .70 .77 .71 .71

14 B161 1896 1991 .27B .40B .54 .51

15 B162 1880 1991 .56 .57 .35 .40

16 B222 1930 1992 .59 .72

17 B261 1909 1992 .50 .64 .63

18 B212 1925 1992 .68 .81

19 B221 1929 1992 .59 .68

20 B211 1930 1992 .67 .78

21 B262 1904 1992 .62 .57 .54

22 B271 1882 1992 .56 .61 .51 .67

23 B231 1910 1992 .58 .58 .62

24 B242 1870 1992 .74 .78 .74 .69 .67

25 B282 1895 1992 .62 .59 .76 .68

26 B272 1865 1992 .40 .47 .54 .49 .55

27 B251 1868 1992 .34 .41 .70 .76 .89

28 B232 1879 1992 .72 .70 .69 .75

29 B241 1890 1992 .76 .77 .74 .77

30 B291 1840 1992 .66 .68 .65 .59 .56 .67

31 B252 1852 1992 .11B .53 .65 .65 .73

32 B292 1865 1992 .61 .65 .59 .57 .60

33 B281 1874 1992 .73 .71 .61 .54 .53

34 B361 1910 1992 .60 .63 .66

35 B352 1822 1992 .18B .67 .76 .70 .67 .78

36 B321 1900 1992 .63 .68 .79

37 B312 1928 1992 .79 .73

38 B351 1869 1992 .73 .73 .53 .53 .80

39 B381 1898 1992 .56 .57 .64 .80

40 B392 1910 1992 .68 .66 .77

41 B311 1870 1992 .31B .46 .75 .78 .71

42 B341 1889 1992 .60 .60 .60 .59

43 B322 1861 1992 .60 .62 .61 .58 .68

44 B331 1857 1992 .62 .61 .65 .73 .80

45 B332 1832 1992 .48 .59 .76 .70 .59 .68

46 B391 1845 1992 .41 .46 .72 .59 .52 .61

47 B371 1843 1992 .66 .64 .58 .59 .57 .62

48 B362 1930 1992 .59 .65

49 B471 1850 1993 .26B .41 .53 .62 .67

50 B491 1887 1993 .72 .71 .61 .60

51 B492 1905 1993 .69 .58 .60

52 B441 1854 1993 .66 .60 .62 .56 .47

53 B442 1911 1993 .68 .59 .64

54 B451 1847 1993 .55 .53 .64 .69 .69 .73

55 B452 1906 1993 .72 .69 .75

56 B481 1922 1993 .61 .58 .64

57 B482 1930 1993 .42 .46

58 B431 1910 1993 .59 .67 .66

59 B432 1907 1993 .59 .70 .67

60 B411 1831 1993 .52 .59 .66 .57 .68 .87

61 B412 1834 1993 .39 .53 .55 .60 .75 .82

62 B422 1833 1993 .48 .54 .74 .72 .61 .58

63 B421 1826 1993 .42 .59 .77 .64 .61 .72

64 B461 1834 1993 .67 .67 .66 .59 .58 .63

65 B462 1872 1993 .65 .67 .68 .67 .75

Av segment correlation 0.49 0.55 0.62 0.63 0.62 0.67

PART 6: POTENTIAL PROBLEMS: Red Spruce, Kossuth, ME (KT Smith) 14:50 Mon 20 Apr 2020 Page 6

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For each series with potential problems the following diagnostics may appear:

[A] Correlations with master dating series of flagged 50-year segments of series filtered with 32-year spline,

at every point from ten years earlier (-10) to ten years later (+10) than dated

[B] Effect of those data values which most lower or raise correlation with master series

Symbol following year indicates value in series is greater (>) or lesser (<) than master series value

[C] Year-to-year changes very different from the mean change in other series

[D] Absent rings (zero values)

[E] Values which are statistical outliers from mean for the year

====================================================================================================================================

B152 1934 to 1991 58 years Series 1

[B] Entire series, effect on correlation ( 0.666) is:

Lower 1955<-0.042 1950<-0.024 1946>-0.020 1943>-0.012 1940>-0.012 1944>-0.010 Higher 1977 0.031 1958 0.019

====================================================================================================================================

B122 1881 to 1991 111 years Series 2

[B] Entire series, effect on correlation ( 0.473) is:

Lower 1881<-0.026 1987<-0.025 1938<-0.022 1991>-0.022 1976>-0.015 1975<-0.013 Higher 1895 0.022 1913 0.018

====================================================================================================================================

B181 1877 to 1991 115 years Series 3

[B] Entire series, effect on correlation ( 0.620) is:

Lower 1888<-0.035 1893>-0.020 1879>-0.016 1877<-0.014 1882>-0.011 1985<-0.010 Higher 1895 0.017 1946 0.011

====================================================================================================================================

B112 1904 to 1991 88 years Series 4

[B] Entire series, effect on correlation ( 0.721) is:

Lower 1953<-0.044 1938<-0.025 1929>-0.012 1949>-0.007 1991>-0.007 1977>-0.007 Higher 1958 0.013 1946 0.011

====================================================================================================================================

B121 1885 to 1991 107 years Series 5

[B] Entire series, effect on correlation ( 0.566) is:

Lower 1983>-0.020 1900>-0.018 1975<-0.014 1897>-0.013 1938<-0.012 1976>-0.012 Higher 1895 0.020 1913 0.019

====================================================================================================================================

B141 1882 to 1991 110 years Series 6

[B] Entire series, effect on correlation ( 0.565) is:

Lower 1948>-0.025 1882>-0.022 1938<-0.019 1909<-0.015 1887<-0.010 1899>-0.010 Higher 1913 0.034 1977 0.018

====================================================================================================================================

B182 1884 to 1991 108 years Series 7

[B] Entire series, effect on correlation ( 0.640) is:

Lower 1887<-0.024 1885>-0.017 1909<-0.012 1931<-0.011 1936>-0.011 1937>-0.009 Higher 1913 0.025 1958 0.011

====================================================================================================================================

B171 1893 to 1991 99 years Series 8

[B] Entire series, effect on correlation ( 0.703) is:

Lower 1899>-0.017 1909<-0.014 1938<-0.013 1958<-0.012 1986<-0.008 1982>-0.008 Higher 1913 0.013 1951 0.009

====================================================================================================================================

B151 1893 to 1991 99 years Series 9

[B] Entire series, effect on correlation ( 0.652) is:

Lower 1946>-0.023 1940>-0.019 1990<-0.014 1951<-0.009 1899>-0.009 1982>-0.009 Higher 1895 0.015 1941 0.011

[D] 1 Absent rings: Year Master N series Absent

1920 -1.229 56 3

====================================================================================================================================

B131 1881 to 1991 111 years Series 10

[B] Entire series, effect on correlation ( 0.638) is:

Lower 1938<-0.027 1991>-0.022 1888<-0.015 1928<-0.009 1942>-0.009 1946>-0.009 Higher 1913 0.022 1977 0.017

====================================================================================================================================

B111 1880 to 1991 112 years Series 11

[B] Entire series, effect on correlation ( 0.647) is:

Lower 1902>-0.027 1938<-0.012 1991>-0.011 1887<-0.011 1886<-0.010 1888<-0.009 Higher 1958 0.012 1977 0.012

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1881 +3.3 SD; 1902 +3.7 SD

====================================================================================================================================

B132 1876 to 1991 116 years Series 12

[B] Entire series, effect on correlation ( 0.549) is:

Lower 1960>-0.025 1939>-0.021 1951<-0.018 1966>-0.012 1975<-0.012 1931<-0.011 Higher 1913 0.023 1958 0.022

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1960 +3.1 SD

====================================================================================================================================

B172 1899 to 1991 93 years Series 13

[B] Entire series, effect on correlation ( 0.684) is:

Lower 1899>-0.028 1972<-0.024 1977>-0.010 1902>-0.010 1981>-0.009 1982>-0.009 Higher 1946 0.012 1913 0.010

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B161 1896 to 1991 96 years Series 14

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1896 1945 -7 .18 .08 .16 .32\*-.07 .06 -.11 -.15 .25 .02 .27| .04 .08 -.10 .09 -.30 -.03 -.12 -.12 -.26 -.07

1900 1949 -1 -.11 -.07 -.10 .15 -.14 -.03 -.17 .16 .20 .42\* .40| .13 .13 .06 .10 -.22 -.04 -.21 -.15 -.44 -.17

[B] Entire series, effect on correlation ( 0.396) is:

Lower 1896>-0.061 1984>-0.024 1899>-0.022 1991>-0.010 1939>-0.010 1943>-0.009 Higher 1958 0.016 1941 0.014

1896 to 1945 segment:

Lower 1896>-0.059 1899>-0.037 1927<-0.017 1912<-0.015 1939>-0.015 1943>-0.015 Higher 1901 0.031 1941 0.030

1900 to 1949 segment:

Lower 1939>-0.039 1900<-0.033 1943>-0.032 1940>-0.032 1947<-0.019 1927<-0.018 Higher 1941 0.049 1913 0.042

[C] Year-to-year changes diverging by over 4.0 std deviations:

1896 1897 -4.9 SD

[D] 3 Absent rings: Year Master N series Absent

1919 -1.156 56 1

1920 -1.229 56 3

1921 -1.731 56 2

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1896 +6.7 SD; 1899 +3.6 SD

====================================================================================================================================

B162 1880 to 1991 112 years Series 15

[B] Entire series, effect on correlation ( 0.464) is:

Lower 1954<-0.024 1958<-0.018 1968>-0.017 1961>-0.014 1985<-0.014 1886<-0.012 Higher 1941 0.014 1984 0.014

[D] 3 Absent rings: Year Master N series Absent

1920 -1.229 56 3

1921 -1.731 56 2

1922 -0.688 57 1

[E] Outliers 3 3.0 SD above or -4.5 SD below mean for year

1894 +3.2 SD; 1947 +4.0 SD; 1968 +3.2 SD

====================================================================================================================================

B222 1930 to 1992 63 years Series 16

[B] Entire series, effect on correlation ( 0.638) is:

Lower 1941<-0.039 1935>-0.034 1968>-0.020 1977>-0.013 1962>-0.012 1945<-0.011 Higher 1984 0.015 1990 0.015

====================================================================================================================================

B261 1909 to 1992 84 years Series 17

[B] Entire series, effect on correlation ( 0.541) is:

Lower 1978<-0.023 1923>-0.022 1982>-0.017 1968>-0.013 1919>-0.013 1915>-0.013 Higher 1977 0.020 1913 0.018

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1924 +3.2 SD

====================================================================================================================================

B212 1925 to 1992 68 years Series 18

[B] Entire series, effect on correlation ( 0.728) is:

Lower 1938<-0.023 1974>-0.017 1932>-0.017 1934<-0.010 1982<-0.008 1945<-0.007 Higher 1977 0.016 1958 0.014

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1932 +3.2 SD

====================================================================================================================================

B221 1929 to 1992 64 years Series 19

[B] Entire series, effect on correlation ( 0.614) is:

Lower 1962>-0.028 1941<-0.026 1943>-0.025 1954<-0.021 1974>-0.018 1931<-0.018 Higher 1965 0.024 1958 0.018

====================================================================================================================================

B211 1930 to 1992 63 years Series 20

[B] Entire series, effect on correlation ( 0.728) is:

Lower 1934<-0.019 1972<-0.018 1943>-0.014 1947<-0.013 1953<-0.012 1938<-0.011 Higher 1977 0.019 1958 0.018

====================================================================================================================================

B262 1904 to 1992 89 years Series 21

[B] Entire series, effect on correlation ( 0.548) is:

Lower 1928<-0.026 1968>-0.020 1955<-0.017 1910<-0.016 1991>-0.014 1919>-0.013 Higher 1913 0.037 1912 0.019

====================================================================================================================================

B271 1882 to 1992 111 years Series 22

[B] Entire series, effect on correlation ( 0.596) is:

Lower 1887>-0.044 1888<-0.020 1889<-0.013 1950>-0.010 1941<-0.008 1927<-0.008 Higher 1913 0.028 1895 0.016

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1887 +4.5 SD; 1951 +3.1 SD

====================================================================================================================================

B231 1910 to 1992 83 years Series 23

[B] Entire series, effect on correlation ( 0.593) is:

Lower 1921>-0.030 1943>-0.023 1973<-0.019 1990<-0.018 1955<-0.015 1975<-0.014 Higher 1958 0.022 1977 0.020

====================================================================================================================================

B242 1870 to 1992 123 years Series 24

[B] Entire series, effect on correlation ( 0.674) is:

Lower 1977>-0.017 1966>-0.014 1955<-0.012 1930>-0.012 1870<-0.011 1990<-0.008 Higher 1958 0.011 1965 0.009

====================================================================================================================================

B282 1895 to 1992 98 years Series 25

[B] Entire series, effect on correlation ( 0.646) is:

Lower 1905>-0.041 1981>-0.021 1910<-0.011 1934<-0.010 1980>-0.009 1975<-0.009 Higher 1913 0.015 1992 0.011

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1905 +4.3 SD; 1981 +3.5 SD

====================================================================================================================================

B272 1865 to 1992 128 years Series 26

[B] Entire series, effect on correlation ( 0.489) is:

Lower 1945<-0.023 1961>-0.016 1886<-0.014 1896>-0.013 1876>-0.012 1884<-0.011 Higher 1913 0.028 1941 0.013

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1896 +3.7 SD; 1980 +3.0 SD

====================================================================================================================================

B251 1868 to 1992 125 years Series 27

[B] Entire series, effect on correlation ( 0.586) is:

Lower 1877>-0.060 1897>-0.051 1870<-0.037 1939>-0.012 1881<-0.008 1930>-0.008 Higher 1913 0.032 1977 0.014

[C] Year-to-year changes diverging by over 4.0 std deviations:

1896 1897 4.1 SD

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1877 +5.2 SD; 1897 +4.8 SD

====================================================================================================================================

B232 1879 to 1992 114 years Series 28

[B] Entire series, effect on correlation ( 0.716) is:

Lower 1899>-0.014 1990<-0.012 1983>-0.011 1892<-0.010 1943>-0.010 1973<-0.009 Higher 1913 0.017 1977 0.012

====================================================================================================================================

B241 1890 to 1992 103 years Series 29

[B] Entire series, effect on correlation ( 0.769) is:

Lower 1988>-0.015 1930>-0.013 1927<-0.012 1937>-0.007 1890>-0.006 1939<-0.004 Higher 1913 0.017 1946 0.008

====================================================================================================================================

B291 1840 to 1992 153 years Series 30

[B] Entire series, effect on correlation ( 0.623) is:

Lower 1844>-0.023 1981>-0.011 1969<-0.010 1927<-0.010 1953<-0.008 1850<-0.008 Higher 1870 0.015 1977 0.012

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1844 +3.3 SD

====================================================================================================================================

B252 1852 to 1992 141 years Series 31

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1852 1901 3 -.12 .14 -.21 -.04 -.16 -.26 .20 -.18 .08 .16 .11| .16 .06 .23\* .00 -.09 .05 -.15 -.02 -.30 -.10

[B] Entire series, effect on correlation ( 0.478) is:

Lower 1854>-0.029 1852>-0.026 1968>-0.017 1859>-0.016 1873<-0.015 1868>-0.015 Higher 1913 0.018 1958 0.016

1852 to 1901 segment:

Lower 1854>-0.054 1852>-0.053 1859>-0.031 1873<-0.031 1868>-0.029 1901>-0.021 Higher 1886 0.063 1895 0.047

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1854 +3.5 SD; 1898 +3.7 SD

====================================================================================================================================

B292 1865 to 1992 128 years Series 32

[B] Entire series, effect on correlation ( 0.582) is:

Lower 1984>-0.023 1950>-0.019 1865<-0.012 1867<-0.012 1942>-0.012 1915>-0.011 Higher 1913 0.022 1946 0.015

[D] 1 Absent rings: Year Master N series Absent

1923 -1.329 57 1

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1915 +3.1 SD

====================================================================================================================================

B281 1874 to 1992 119 years Series 33

[B] Entire series, effect on correlation ( 0.592) is:

Lower 1977>-0.025 1943>-0.019 1904>-0.011 1952>-0.009 1975<-0.009 1990<-0.009 Higher 1913 0.029 1909 0.012

====================================================================================================================================

B361 1910 to 1992 83 years Series 34

[B] Entire series, effect on correlation ( 0.581) is:

Lower 1927<-0.022 1919>-0.021 1918>-0.018 1961>-0.011 1936>-0.011 1988>-0.010 Higher 1913 0.028 1958 0.019

====================================================================================================================================

B352 1822 to 1992 171 years Series 35

[\*] Early part of series cannot be checked from 1822 to 1825 -- not matched by another series

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1826 1875 -1 - - - - - - -.02 -.09 -.21 .34\* .18| .00 .23 -.47 .17 .12 -.28 .16 -.18 .04 -.11

[B] Entire series, effect on correlation ( 0.507) is:

Lower 1831>-0.061 1838>-0.027 1828>-0.027 1848<-0.016 1842<-0.010 1843>-0.009 Higher 1870 0.020 1958 0.013

1826 to 1875 segment:

Lower 1831>-0.124 1838>-0.054 1828>-0.049 1848<-0.031 1843>-0.018 1842<-0.016 Higher 1870 0.101 1829 0.040

[C] Year-to-year changes diverging by over 4.0 std deviations:

1827 1828 4.4 SD 1830 1831 4.4 SD

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1828 +3.0 SD; 1831 +4.0 SD

====================================================================================================================================

B321 1900 to 1992 93 years Series 36

[B] Entire series, effect on correlation ( 0.660) is:

Lower 1910<-0.020 1912<-0.012 1958<-0.011 1952>-0.011 1919>-0.010 1928<-0.010 Higher 1992 0.011 1951 0.009

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1909 +4.1 SD

====================================================================================================================================

B312 1928 to 1992 65 years Series 37

[B] Entire series, effect on correlation ( 0.692) is:

Lower 1981>-0.034 1978<-0.015 1984>-0.013 1932<-0.012 1929>-0.011 1937<-0.011 Higher 1977 0.018 1946 0.017

====================================================================================================================================

B351 1869 to 1992 124 years Series 38

[B] Entire series, effect on correlation ( 0.697) is:

Lower 1938<-0.017 1941<-0.014 1932<-0.014 1915>-0.011 1887>-0.010 1869<-0.009 Higher 1913 0.017 1870 0.016

====================================================================================================================================

B381 1898 to 1992 95 years Series 39

[B] Entire series, effect on correlation ( 0.689) is:

Lower 1906>-0.031 1983>-0.014 1931<-0.013 1928<-0.011 1937>-0.011 1973>-0.007 Higher 1977 0.019 1958 0.012

====================================================================================================================================

B392 1910 to 1992 83 years Series 40

[B] Entire series, effect on correlation ( 0.690) is:

Lower 1926>-0.021 1934>-0.020 1978<-0.016 1941<-0.015 1937<-0.013 1980<-0.011 Higher 1913 0.028 1946 0.015

====================================================================================================================================

B311 1870 to 1992 123 years Series 41

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1870 1919 -1 -.26 -.23 -.23 -.20 -.23 -.22 .10 -.02 .11 .39\* .31| .29 .31 .12 .15 .03 .07 -.06 -.28 -.14 -.12

[B] Entire series, effect on correlation ( 0.567) is:

Lower 1882>-0.048 1870<-0.036 1983>-0.015 1992<-0.012 1894<-0.012 1872>-0.009 Higher 1977 0.023 1913 0.012

1870 to 1919 segment:

Lower 1882>-0.125 1870<-0.077 1894<-0.027 1872>-0.024 1874<-0.014 1886<-0.012 Higher 1913 0.072 1912 0.040

[C] Year-to-year changes diverging by over 4.0 std deviations:

1881 1882 4.0 SD

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1882 +3.3 SD

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B341 1889 to 1992 104 years Series 42

[B] Entire series, effect on correlation ( 0.591) is:

Lower 1977>-0.031 1992<-0.015 1934>-0.013 1979<-0.012 1964>-0.010 1935>-0.009 Higher 1913 0.019 1893 0.013

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1978 +3.6 SD

====================================================================================================================================

B322 1861 to 1992 132 years Series 43

[B] Entire series, effect on correlation ( 0.625) is:

Lower 1881<-0.026 1981>-0.019 1953<-0.013 1880>-0.012 1932<-0.011 1861<-0.009 Higher 1870 0.022 1977 0.017

====================================================================================================================================

B331 1857 to 1992 136 years Series 44

[B] Entire series, effect on correlation ( 0.682) is:

Lower 1988>-0.019 1978<-0.012 1885<-0.011 1931<-0.011 1896<-0.010 1886<-0.008 Higher 1913 0.022 1870 0.018

====================================================================================================================================

B332 1832 to 1992 161 years Series 45

[B] Entire series, effect on correlation ( 0.610) is:

Lower 1836>-0.025 1858>-0.014 1932<-0.013 1835<-0.013 1846<-0.011 1873>-0.011 Higher 1913 0.020 1870 0.015

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1858 +3.4 SD

====================================================================================================================================

B391 1845 to 1992 148 years Series 46

[B] Entire series, effect on correlation ( 0.547) is:

Lower 1861>-0.026 1867>-0.019 1988>-0.017 1918>-0.015 1874<-0.010 1870<-0.009 Higher 1913 0.030 1852 0.011

[E] Outliers 2 3.0 SD above or -4.5 SD below mean for year

1861 +3.6 SD; 1867 +3.7 SD

====================================================================================================================================

B371 1843 to 1992 150 years Series 47

[B] Entire series, effect on correlation ( 0.592) is:

Lower 1983>-0.016 1954<-0.015 1953<-0.013 1990<-0.012 1928>-0.012 1894<-0.011 Higher 1977 0.018 1870 0.016

[D] 1 Absent rings: Year Master N series Absent

1900 -0.340 45 1 >> WARNING: Ring is not usually narrow

====================================================================================================================================

B362 1930 to 1992 63 years Series 48

[B] Entire series, effect on correlation ( 0.572) is:

Lower 1930>-0.046 1985<-0.016 1941<-0.016 1987<-0.014 1944>-0.012 1986<-0.012 Higher 1946 0.022 1953 0.018

====================================================================================================================================

B471 1850 to 1993 144 years Series 49

[A] Segment High -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10

--------- ---- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

1850 1899 2 -.01 .03 -.11 -.31 .14 .22 -.21 .18 .22 .11 .26|-.01 .33\*-.17 .00 -.01 .08 -.05 -.11 -.31 .12

[B] Entire series, effect on correlation ( 0.503) is:

Lower 1857<-0.019 1879>-0.019 1870<-0.016 1923>-0.015 1876>-0.014 1856>-0.011 Higher 1977 0.017 1941 0.012

1850 to 1899 segment:

Lower 1857<-0.054 1879>-0.050 1870<-0.039 1876>-0.036 1856>-0.027 1872>-0.018 Higher 1852 0.052 1895 0.045

[D] 1 Absent rings: Year Master N series Absent

1883 -0.833 33 1

====================================================================================================================================

B491 1887 to 1993 107 years Series 50

[B] Entire series, effect on correlation ( 0.656) is:

Lower 1993<-0.013 1970>-0.012 1972<-0.012 1988>-0.011 1933<-0.011 1985<-0.011 Higher 1913 0.017 1977 0.013

====================================================================================================================================

B492 1905 to 1993 89 years Series 51

[B] Entire series, effect on correlation ( 0.622) is:

Lower 1987<-0.019 1938<-0.018 1986<-0.016 1942>-0.014 1933<-0.013 1972<-0.012 Higher 1913 0.030 1965 0.017

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B441 1854 to 1993 140 years Series 52

[B] Entire series, effect on correlation ( 0.580) is:

Lower 1992<-0.031 1977>-0.012 1895>-0.011 1980<-0.009 1949>-0.008 1945<-0.008 Higher 1870 0.019 1965 0.012

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B442 1911 to 1993 83 years Series 53

[B] Entire series, effect on correlation ( 0.658) is:

Lower 1945<-0.030 1964>-0.019 1981>-0.018 1980<-0.015 1972<-0.013 1934>-0.009 Higher 1977 0.022 1965 0.018

====================================================================================================================================

B451 1847 to 1993 147 years Series 54

[B] Entire series, effect on correlation ( 0.642) is:

Lower 1937>-0.016 1853>-0.015 1990<-0.011 1861>-0.009 1873>-0.009 1855<-0.008 Higher 1977 0.014 1870 0.009

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1886 +3.3 SD

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B452 1906 to 1993 88 years Series 55

[B] Entire series, effect on correlation ( 0.723) is:

Lower 1923>-0.014 1987<-0.013 1984>-0.012 1993<-0.010 1928<-0.009 1931<-0.009 Higher 1913 0.023 1977 0.016

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B481 1922 to 1993 72 years Series 56

[B] Entire series, effect on correlation ( 0.608) is:

Lower 1945<-0.027 1925>-0.024 1974>-0.019 1989>-0.013 1987<-0.010 1984>-0.010 Higher 1977 0.019 1992 0.015

====================================================================================================================================

B482 1930 to 1993 64 years Series 57

[B] Entire series, effect on correlation ( 0.465) is:

Lower 1964>-0.038 1971<-0.032 1969<-0.028 1932<-0.024 1986<-0.022 1972<-0.019 Higher 1958 0.037 1985 0.020

====================================================================================================================================

B431 1910 to 1993 84 years Series 58

[B] Entire series, effect on correlation ( 0.597) is:

Lower 1910<-0.028 1987<-0.015 1978<-0.014 1922>-0.012 1925>-0.010 1954<-0.009 Higher 1965 0.014 1990 0.013

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1938 +3.2 SD

====================================================================================================================================

B432 1907 to 1993 87 years Series 59

[B] Entire series, effect on correlation ( 0.612) is:

Lower 1907<-0.017 1951<-0.014 1922>-0.013 1989>-0.011 1988>-0.011 1917>-0.009 Higher 1912 0.015 1990 0.012

====================================================================================================================================

B411 1831 to 1993 163 years Series 60

[B] Entire series, effect on correlation ( 0.657) is:

Lower 1834>-0.020 1941<-0.013 1851<-0.011 1884>-0.009 1931<-0.008 1876>-0.007 Higher 1837 0.009 1958 0.009

====================================================================================================================================

B412 1834 to 1993 160 years Series 61

[B] Entire series, effect on correlation ( 0.580) is:

Lower 1835>-0.015 1931<-0.013 1844<-0.011 1885>-0.009 1913<-0.008 1849>-0.007 Higher 1958 0.012 1946 0.010

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1835 +3.3 SD

====================================================================================================================================

B422 1833 to 1993 161 years Series 62

[B] Entire series, effect on correlation ( 0.579) is:

Lower 1967>-0.016 1977>-0.015 1972<-0.011 1835<-0.010 1843>-0.010 1988>-0.009 Higher 1913 0.018 1837 0.011

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1865 +3.9 SD

====================================================================================================================================

B421 1826 to 1993 168 years Series 63

[B] Entire series, effect on correlation ( 0.581) is:

Lower 1828<-0.045 1829>-0.018 1935>-0.014 1857<-0.014 1972<-0.012 1927<-0.010 Higher 1977 0.013 1870 0.010

[C] Year-to-year changes diverging by over 4.0 std deviations:

1827 1828 -4.5 SD 1828 1829 5.0 SD

====================================================================================================================================

B461 1834 to 1993 160 years Series 64

[B] Entire series, effect on correlation ( 0.632) is:

Lower 1928>-0.014 1869<-0.010 1846>-0.010 1862>-0.009 1893>-0.008 1945<-0.008 Higher 1977 0.015 1958 0.011

[E] Outliers 1 3.0 SD above or -4.5 SD below mean for year

1928 +3.3 SD

====================================================================================================================================

B462 1872 to 1993 122 years Series 65

[B] Entire series, effect on correlation ( 0.673) is:

Lower 1925>-0.014 1895>-0.012 1978<-0.009 1953<-0.009 1959>-0.007 1893>-0.006 Higher 1977 0.012 1946 0.008

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PART 7: DESCRIPTIVE STATISTICS: Red Spruce, Kossuth, ME (KT Smith) 14:50 Mon 20 Apr 2020 Page 7

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Corr //-------- Unfiltered --------\\ //---- Filtered -----\\

No. No. No. with Mean Max Std Auto Mean Max Std Auto AR

Seq Series Interval Years Segmt Flags Master msmt msmt dev corr sens value dev corr ()

--- -------- --------- ----- ----- ----- ------ ----- ----- ----- ----- ----- ----- ----- ----- --

1 B152 1934 1991 58 2 0 0.666 1.74 3.31 0.618 0.866 0.155 0.40 0.203 0.013 2

2 B122 1881 1991 111 4 0 0.473 1.32 3.24 0.685 0.920 0.188 0.67 0.310 -0.035 1

3 B181 1877 1991 115 4 0 0.620 1.23 2.74 0.511 0.855 0.195 0.65 0.273 -0.006 1

4 B112 1904 1991 88 3 0 0.721 1.52 3.27 0.698 0.904 0.201 0.77 0.292 -0.002 1

5 B121 1885 1991 107 4 0 0.566 1.24 2.92 0.578 0.872 0.196 0.71 0.310 0.006 2

6 B141 1882 1991 110 4 0 0.565 1.10 2.61 0.626 0.920 0.208 0.73 0.266 0.017 3

7 B182 1884 1991 108 4 0 0.640 1.14 2.59 0.563 0.901 0.197 0.67 0.269 0.051 1

8 B171 1893 1991 99 4 0 0.703 1.44 3.74 0.700 0.853 0.240 0.85 0.335 -0.028 1

9 B151 1893 1991 99 4 0 0.652 1.31 3.28 0.669 0.903 0.234 0.91 0.345 -0.075 1

10 B131 1881 1991 111 4 0 0.638 1.10 2.72 0.643 0.945 0.200 0.62 0.267 -0.013 1

11 B111 1880 1991 112 4 0 0.647 1.17 2.68 0.586 0.911 0.191 1.01 0.317 -0.033 1

12 B132 1876 1991 116 4 0 0.549 1.53 3.43 0.740 0.923 0.176 0.77 0.284 -0.060 1

13 B172 1899 1991 93 4 0 0.684 1.59 4.03 0.852 0.898 0.243 0.83 0.304 0.022 1

14 B161 1896 1991 96 4 2 0.396 1.24 3.10 0.696 0.952 0.192 2.19 0.364 0.161 2

15 B162 1880 1991 112 4 0 0.464 1.08 1.97 0.465 0.889 0.213 1.13 0.363 -0.028 1

16 B222 1930 1992 63 2 0 0.638 2.20 3.50 0.639 0.789 0.160 0.53 0.217 -0.001 1

17 B261 1909 1992 84 3 0 0.541 1.67 3.55 0.866 0.907 0.184 0.47 0.222 0.022 1

18 B212 1925 1992 68 2 0 0.728 2.02 4.36 0.673 0.822 0.159 0.62 0.218 0.045 1

19 B221 1929 1992 64 2 0 0.614 2.22 3.25 0.529 0.767 0.141 0.40 0.183 -0.046 1

20 B211 1930 1992 63 2 0 0.728 2.11 4.37 0.723 0.836 0.159 0.43 0.211 0.026 1

21 B262 1904 1992 89 3 0 0.548 1.96 5.25 1.144 0.924 0.204 0.70 0.266 0.008 1

22 B271 1882 1992 111 4 0 0.596 0.98 4.67 0.805 0.889 0.261 1.99 0.475 0.024 1

23 B231 1910 1992 83 3 0 0.593 1.52 2.72 0.594 0.754 0.247 0.81 0.332 0.018 1

24 B242 1870 1992 123 5 0 0.674 1.52 16.27 1.708 0.627 0.247 1.40 0.436 0.021 1

25 B282 1895 1992 98 4 0 0.646 1.47 5.18 1.058 0.906 0.237 1.04 0.330 0.011 1

26 B272 1865 1992 128 5 0 0.489 1.26 3.81 0.977 0.901 0.251 1.80 0.466 0.000 1

27 B251 1868 1992 125 5 0 0.586 1.06 3.71 0.986 0.927 0.287 2.11 0.505 -0.002 1

28 B232 1879 1992 114 4 0 0.716 1.15 3.26 0.613 0.870 0.221 0.99 0.315 0.017 1

29 B241 1890 1992 103 4 0 0.769 1.29 4.33 0.955 0.901 0.269 1.23 0.487 -0.060 1

30 B291 1840 1992 153 6 0 0.623 1.06 3.90 1.008 0.960 0.228 1.20 0.472 -0.002 2

31 B252 1852 1992 141 5 1 0.478 1.14 4.38 1.107 0.948 0.272 1.42 0.403 -0.006 1

32 B292 1865 1992 128 5 0 0.582 1.31 4.61 1.226 0.946 0.267 1.88 0.627 0.065 1

33 B281 1874 1992 119 5 0 0.592 1.32 4.61 1.167 0.956 0.228 0.81 0.303 -0.044 1

34 B361 1910 1992 83 3 0 0.581 2.01 5.27 1.192 0.890 0.226 0.83 0.294 -0.004 4

35 B352 1822 1992 171 6 1 0.507 0.94 3.98 0.830 0.896 0.279 1.65 0.462 0.014 1

36 B321 1900 1992 93 3 0 0.660 1.34 3.79 0.974 0.946 0.231 1.58 0.384 -0.050 1

37 B312 1928 1992 65 2 0 0.692 2.36 5.28 1.142 0.828 0.225 0.88 0.325 -0.030 1

38 B351 1869 1992 124 5 0 0.697 1.32 6.45 1.354 0.944 0.257 1.55 0.420 0.033 1

39 B381 1898 1992 95 4 0 0.689 1.89 5.01 1.175 0.893 0.234 0.87 0.375 -0.010 1

40 B392 1910 1992 83 3 0 0.690 1.91 4.66 1.036 0.930 0.191 0.62 0.247 -0.013 1

41 B311 1870 1992 123 5 1 0.567 1.52 4.90 1.446 0.933 0.232 1.06 0.355 -0.012 1

42 B341 1889 1992 104 4 0 0.591 1.57 4.19 1.029 0.897 0.219 1.18 0.381 -0.016 1

43 B322 1861 1992 132 5 0 0.625 1.10 3.88 0.889 0.929 0.242 1.23 0.339 -0.006 1

44 B331 1857 1992 136 5 0 0.682 1.22 5.12 1.108 0.948 0.253 1.07 0.336 0.019 1

45 B332 1832 1992 161 6 0 0.610 1.14 5.33 0.996 0.889 0.233 1.03 0.346 0.006 1

46 B391 1845 1992 148 6 0 0.547 1.18 5.17 1.082 0.909 0.262 1.45 0.408 -0.016 1

47 B371 1843 1992 150 6 0 0.592 1.00 3.27 0.800 0.920 0.293 0.97 0.423 -0.008 2

48 B362 1930 1992 63 2 0 0.572 2.31 6.87 1.322 0.885 0.218 1.20 0.392 -0.080 1

PART 7: DESCRIPTIVE STATISTICS: Red Spruce, Kossuth, ME (KT Smith) 14:50 Mon 20 Apr 2020 Page 8

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Corr //-------- Unfiltered --------\\ //---- Filtered -----\\

No. No. No. with Mean Max Std Auto Mean Max Std Auto AR

Seq Series Interval Years Segmt Flags Master msmt msmt dev corr sens value dev corr ()

--- -------- --------- ----- ----- ----- ------ ----- ----- ----- ----- ----- ----- ----- ----- --

49 B471 1850 1993 144 5 1 0.503 0.98 3.93 0.990 0.943 0.251 0.99 0.367 0.013 2

50 B491 1887 1993 107 4 0 0.656 1.79 3.78 0.993 0.895 0.204 0.66 0.259 0.042 1

51 B492 1905 1993 89 3 0 0.622 2.06 4.39 0.825 0.822 0.190 0.67 0.255 0.052 1

52 B441 1854 1993 140 5 0 0.580 1.69 4.41 1.283 0.923 0.227 0.86 0.363 0.010 2

53 B442 1911 1993 83 3 0 0.658 2.07 4.34 0.981 0.850 0.212 0.60 0.257 -0.036 1

54 B451 1847 1993 147 6 0 0.642 1.20 3.95 0.798 0.862 0.260 1.00 0.318 -0.017 1

55 B452 1906 1993 88 3 0 0.723 2.38 3.98 0.654 0.626 0.194 0.65 0.248 0.026 1

56 B481 1922 1993 72 3 0 0.608 1.41 2.88 0.583 0.871 0.169 0.60 0.236 -0.012 1

57 B482 1930 1993 64 2 0 0.465 1.50 3.61 0.921 0.870 0.231 0.73 0.274 -0.025 1

58 B431 1910 1993 84 3 0 0.597 1.81 3.62 0.669 0.695 0.203 0.91 0.279 0.025 2

59 B432 1907 1993 87 3 0 0.612 1.73 3.74 0.804 0.722 0.235 0.79 0.335 -0.029 1

60 B411 1831 1993 163 6 0 0.657 1.03 3.76 0.803 0.933 0.237 0.90 0.355 -0.051 1

61 B412 1834 1993 160 6 0 0.580 1.14 3.18 0.744 0.913 0.222 1.16 0.349 0.022 2

62 B422 1833 1993 161 6 0 0.579 1.12 3.25 0.973 0.956 0.222 0.92 0.328 0.011 2

63 B421 1826 1993 168 6 0 0.581 0.94 3.38 0.743 0.949 0.208 0.74 0.289 0.012 2

64 B461 1834 1993 160 6 0 0.632 0.66 3.63 0.616 0.905 0.278 1.10 0.395 0.010 2

65 B462 1872 1993 122 5 0 0.673 1.26 4.14 1.064 0.886 0.284 1.05 0.397 0.005 1

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Total or mean: 7162 266 6 0.608 1.37 16.27 0.892 0.891 0.228 2.19 0.347 0.000

- = [ COFECHA RS\_B COF ] = -