User's Manual for the DLL version of ORGANON 10.0

The ORGRUN.DLL import file was created using the MinGW compiler. Two subroutines have been exposed for usage by other programs: EXECUTE and GET\_ORGRUN\_EDITION

SUBROUTINE EXECUTE(CYCLG,VERSION,NPTS,NTREES1,STAGE,BHAGE,TREENO,

PTNO,SPECIES,USER,INDS,DBH1,HT1,CR1,SCR1,

EXPAN1,MGEXP,RVARS,ACALIB,PN,YSF,BABT,BART,

YST,NPR,PRAGE,PRLH,PRDBH,PRHT,PRCR,PREXP,

BRCNT,BRHT,BRDIA,JCORE,SERROR,TERROR,SWARNING,

TWARNING,IERROR,DGRO,HGRO,CRCHNG,SCRCHNG,

MORTEXP,NTREES2,DBH2,HT2,CR2,SCR2,EXPAN2,STOR)

DIMENSIONS TREENO(2000),PTNO(2000),SPECIES(2000),USER(2000),

INDS(30),DBH1(2000),HT1(2000),CR1(2000),SCR1(2000),

EXPAN1(2000),MGEXP(2000),RVARS(30),ACALIB(3,18),

PN(5),YSF(5),BART(5),YST(5),NPR(2000),PRAGE(2000,3),

PRLH(2000,3),PRDBH(2000,3),PRHT(2000,3),PRCR(2000,3),

PREXP(2000,3),BRCNT(2000,3),BRHT(2000,40),

BRDIA(2000,40),JCORE(2000,40),SERROR(35),

TERROR(2000,6),SWARNING(9),TWARNING(2000),DGRO(2000),

HGRO(2000),CRCHNG(2000),SCRCHNG(2000),MORTEXP(2000),

NTREES2,DBH2(2000),HT2(2000),CR2(2000),SCR2(2000),

EXPAN2(2000),STOR(30)

The following variables will include a classification describing whether each variable is strictly an “INPUT” variable (i.e., it is entered into the DLL and is not modified by the DLL), strictly an “OUTPUT” variable (i.e., it is created with in the DLL and then outputted by the DLL), or a combination “INPUT/OUTPUT” variable (i.e., it is entered into the DLL, modified by the DLL, and the modified variable is outputted by the DLL).

Description of Variables

CYCLG INTEGER\*4 Total number of five-year growth cycles previously grown in ORGANON. (INPUT/OUTPUT variable)

VERSION INTEGER\*4 Version of ORGANON to be used: 1 = Southwest Oregon (SWO), 2 = Northwest Oregon (NWO), 3 = Stand Management Cooperative (SMC) (INPUT variable)

NPTS INTEGER\*4 Total number of sample plots/points used to collect the tree list data. Include all treeless plots/points in the count.(INPUT variable)

NTREES1 INTEGER\*4 Total number of sample trees measured in the stand at the start of the growth period (NTREES1 cannot exceed 2000). The total number of sample trees in the stand would increase over the run if tripling or ingrowth is used. (INPUT/OUTPUT variable)

STAGE INTEGER\*4 Total stand age at the start of the current growth cycle(s). ORGANON will update this value during projections. STAGE should be 0 for an uneven-aged stand. (INPUT/OUTPUT variable)

BHAGE INTEGER\*4 Breast height stand age at the start of the current growth cycle(s). ORGANON will update this value during projections. BHAGE should be 0 for an uneven-aged stand. (INPUT/OUTPUT variable)

TREENO(I) INTEGER\*4 Tree number for the Ith sample tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period. (INPUT variable)

PTNO(I) INTEGER\*4 Point number for the Ith sample tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period. (INPUT variable)

SPECIES(I) INTEGER\*4 Species code for the Ith sample tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period. (INPUT variable)

USER(I) INTEGER\*4 User code for the Ith sample tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period. (INPUT variable)

INDS(1) INTEGER\*4 1 = Use height/DBH calibration factors for the projection; 0 = Do not use height/DBH calibration factors for the projection. (INPUT variable)

INDS(2) INTEGER\*4 1 = Use crown ratio calibration factors for the projection; 0 = Do not use crown ratio calibration factors for the projection. (INPUT variable)

INDS(3) INTEGER\*4 1 = Use diameter growth rate calibration factors for the projection; 0 = Do not use diameter growth rate ratio calibration factors for the projection. (INPUT variable)

INDS(4) INTEGER\*4 1 = Stand is even-aged; 0 = Stand is uneven-aged. (INPUT variable)

INDS(5) INTEGER\*4 1 = Triple the sample tree list during projection (if possible); 0 = Do not triple the sample tree list during projection. Tripling will continue until a maximum of 2000 sample trees is achieved. NTREES2 will be larger than NTREES1 if tripling is selected and if it can be applied to the run (because NTREES1 is small enough).(INPUT variable)

INDS(6) INTEGER\*4 1 = Stand has been pruned either at the start of this growth cycle(s) or in the past; 0 = Stand has never been pruned. (INPUT variable)

INDS(7) INTEGER\*4 1 = Stand has been partially cut either at the start of this growth cycle(s) or in the past; 0 = Stand has never been partially cut. (INPUT variable)

INDS(8) INTEGER\*4 1 = Stand has been fertilized either at the start of this growth cycle(s) or in the past; 0 = Stand has never been fertilized. (INPUT variable)

INDS(9) INTEGER\*4 1 = Use limit of maximum SDI; 0 = Do not use limit of maximum SDI. (INPUT variable)

INDS(10) INTEGER\*4 1 = Wood quality variables are being computed; 0 = Wood quality variables are not being computed. (INPUT variable)

INDS(11) INTEGER\*4 1 = Overstory trees were removed at the start of the current growth cycle; 0 = Overstory trees were not removed at the start of the current growth cycle. (INPUT variable)

INDS(12) INTEGER\*4 1 = Ingrowth was added at the start of the current growth cycle; 0 = Ingrowth was not added at the start of the current growth cycle. (INPUT variable)

INDS(13) INTEGER\*4 1 = Major conifer trees were cut at the start of the current growth cycle; 0 = Major conifer trees were not cut at the start of the current growth cycle. For the southwest Oregon version of ORGANON, major conifer species are Douglas-fir, white fir, grand fir, ponderosa pine, sugar pine, and incense-cedar. For the northwest Oregon and Stand Management Cooperative versions of ORGANON, major conifer species are Douglas-fir, grand fir, and western hemlock. (INPUT variable)

INDS(14) INTEGER\*4 1 = The even-aged stand has been planted with genetically improved Douglas-fir; 0 = The even-aged stand was not planted with genetically improved Douglas-fir. (INPUT variable)

INDS(15) INTEGER\*4 1 = The Douglas-fir in the stand have been infected with Swiss needle cast; 0 = The Douglas-fir in the stand have not been infected with Swiss needle cast. Only applicable to the NWO and SMC versions of ORGANON. (INPUT variable)

INDS(16+) INTEGER\*4 Currently not used, set to 0. (INPUT variable)

DBH1(I) REAL\*4 DBH for the Ith sample tree at the start of the growth period, 1 ≤ I ≤ NTREES1 (maximum of 2000). (INPUT variable)

HT1(I) REAL\*4 Total height for the Ith sample tree at the start of the growth period, 1 ≤ I ≤ NTREES1 (maximum of 2000). (INPUT variable)

CR1(I) REAL\*4 Crown ratio for the Ith sample tree at the start of the growth period, 1 ≤ I ≤ NTREES1 (maximum of 2000) (INPUT variable).

SCR1(I) REAL\*4 Shadow crown ratio for the Ith sample tree at the start of the growth period, 1 ≤ I ≤ NTREES1 (maximum of 2000). Shadow crown ratio is used for pruned trees and it is the crown ratio of the tree if it had not been pruned. ORGANON will update shadow crown ratios. Therefore, it is strongly recommended that stands which had been pruned before the measurement of the input tree listing not be projected in ORGANON. For unpruned stands, set SCR1 to zero. For the first pruning conducted in ORGANON, set SCR1 for each pruned tree to the CR before pruning. For a subsequent pruning in ORGANON, set SCR1 for each newly pruned tree to either the CR before the subsequent pruning or to the previous SCR value, whichever is larger. (INPUT variable)

EXPAN1(I) REAL\*4 The plot/point level expansion factor for the Ith sample tree at the start of the growth period (i.e., the expansion factors should NOT be divided by the total number of plots/points measured in the stand), 1 ≤ I ≤ NTREES1 (maximum of 2000). (INPUT variable)

MGEXP(I) REAL\*4 The plot/point level expansion factor for the Ith sample tree at the start of the growth period that was removed by cutting just prior to the start of the current growth period (i.e., do not include trees cut at the start of previous growth periods), 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period. Again, the expansion factors should NOT be divided by the total number of plots/points measured in the stand. (INPUT variable)

RVARS(1) REAL\*4 The value of SITE\_1: Douglas-fir site index: Hann and Scriviani (1987) for the SWO version, and Bruce (1981) for the NWO and SMC. Red alder site index: Weiskittel et al. (2009) for the RAP version. For the SWO, NWO, and SMC versions, ORGANON will calculate this value from SITE\_2 if it is set to zero. For the RAP version, SITE\_1 must be entered. (INPUT variable)

RVARS(2) REAL\*4 Other site index (SITE\_2): Hann and Scriviani (1987) ponderosa pine site index for the SWO version and Flewelling's site index for western hemlock in the NWO and SMC versions. For the RAP version, Bruce (1981) Douglas-fir site index. For the SWO, NWO, and SMC versions, ORGANON will calculate this value from SITE\_1 if it is set to zero. For the RAP version, it will be reset to 115 if not entered by the user. (INPUT variable)

RVARS(3) REAL\*4 Maximum stand density index of Douglas-fir for the SWO, NWO, and SMC versions. Maximum stand density index of red alder for the RAP version. A value of 0 will result in the version specific default value being used. (INPUT variable)

RVARS(4) REAL\*4 Maximum stand density index of white fir and/or grand fir for the SWO, NWO, and SMC versions. Maximum stand density index of Douglas-fir for the RAP version. A value of 0 will result in the version specific default value being used. (INPUT variable)

RVARS(5) REAL\*4 Maximum stand density index of ponderosa pine for the SWO version and western hemlock in the NWO, SMC, and RAP versions. A value of 0 will result in the version specific default value being used. (INPUT variable)

RVARS(6) REAL\*4 Douglas-fir genetic worth value for diameter growth rate. Only applicable to even-aged stands. (INPUT variable)

RVARS(7) REAL\*4 Douglas-fir genetic worth value for height growth rate. Only applicable to even-aged stands. (INPUT variable)

RVARS(8) REAL\*4 Douglas-fir foliage retention as a result of infection by Swiss needle cast. Only applicable to the NWO and SMC versions of ORGANON. (INPUT variable)

RVARS(9) REAL\*4 For RAP-ORGANON, the starting number of red alder trees per acre (i.e., planting density) for the plantation. Must be specified for RAP-ORGANON only, otherwise it is set to zero. (INPUT variable)

RVARS(10+) REAL\*4 Currently unused, set to 0.(INPUT variable)

ACALIB(I,J) REAL\*4 Actual calibration values for the Ith attribute (when I=1, the height/DBH equation; I=2, the crown ratio equation; and I=3, the diameter growth rate equation); and the Jth species group depending upon the version of ORGANON, 1 ≤ J ≤ 18. Species groups are calculated in the DLL based upon version and species for the tree. (INPUT variable)

PN(I) REAL\*4 Number of pounds of nitrogen applied per acre at the Ith application, 1 ≤ I ≤ 5. I=1 for the most recent application, I=2 for the next most recent application, etc. PN must be ≤ 400. The whole array should be set to 0 if no fertilization has occurred. As an example, a stand was fertilized with 100 lbs. of nitrogen 7 years before the stand was measured, a second fertilization of 200 lbs. of nitrogen was conducted at the start of the run, and a third fertilization of 300 lbs. of nitrogen was conducted after two growth cycles: PN(1)=300.0, PN(2)=200.0, PN(3)=100.0, PN(4)=0.0, PN(5)=0.0. (INPUT variable)

YSF(I) REAL\*4 Number of years since start of the run that the Ith application of nitrogen fertilizer was applied, 1 ≤ I ≤ 5. I=1 for the most recent application, I=2 for the next most recent application, etc. The whole array should be set to 0.0 if no fertilization has occurred. For fertilizations conducted before the stand was measured, YSF(I)=-(number of years from the Ith fertilization to when the stand was measured). For fertilizations conducted in ORGANON, YSF(I)=5(the value of CYCLG at the time of fertilization). As an example, a stand was fertilized 7 years before the stand was measured, a second time at the start of the run, and a third time after two growth cycles: YSF(1)=10.0 (i.e., 5x2), YSF(2)=0.0 (i.e., 5x0), YSF(3)=-7.0, YSF(4)=0.0, YSF(5)=0.0. (INPUT variable)

BABT REAL\*4 Basal area per acre of the stand just before the most recent removal of trees. BABT should be set to 0.0 if no tree removal has occurred. (INPUT variable)

BART(I) REAL\*4 Basal area per acre cut at the Ith removal of trees, 1 ≤ I ≤ 5. I=1 for the most recent removal, I=2 for the next most recent removal, etc. The whole array should be set to 0 if no tree removal has occurred. As an example, a stand had 50.0 ft2 removed 7 years before the stand was measured, a second thinning removed 100.0 ft2 at the start of the run, and a third thinned removed 150.0 ft2 after two growth cycles: BART(1)=150.0, BART(2)=100.0, BART(3)=50.0, BART(4)=0.0, BART(5)=0.0. (INPUT variable)

YST(I) REAL\*4 Number of years since the start of the run that the Ith removal of trees occurred, 1 ≤ I ≤ 5. I=1 for the most recent removal, I=2 for the next most recent removal, etc. The whole array should be set to 0.0 if no thinning has occurred. For thinnings conducted before the stand was measured, YST(I)=-(number of years from the Ith thinning to when the stand was measured). For thinnings conducted in ORGANON, YST(I)=5(the value of CYCLG at the time of thinning). As an example, a stand was thinned 7 years before the stand was measured, a second time at the start of the run, and a third time after two growth cycles: YST(1)=10.0 (i.e., 5x2), YST(2)=0.0 (i.e., 5x0), YST(3)=-7.0, YST(4)=0.0, YST(5)=0.0. (INPUT variable)

NPR(I) INTEGER\*4 Number of prunings conducted on the Ith tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period. A maximum of three prunings are allowed on a tree. (INPUT variable)

PRAGE(I,J) INTEGER\*4 Age of the Ith tree when the Jth pruning was conducted on the tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period, 1 ≤ J ≤ 3. (INPUT variable)

PRLH(I,J) REAL\*4 Lift height, in feet, for the Ith tree when the Jth pruning was conducted on the tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period, 1 ≤ J ≤ 3. (INPUT variable)

PRDBH(I,J) REAL\*4 DBH of the Ith tree when the Jth pruning was conducted on the tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period, 1 ≤ J ≤ 3. (INPUT variable)

PRHT(I,J) REAL\*4 Total height of the Ith tree when the Jth pruning was conducted on the tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period, 1 ≤ J ≤ 3. (INPUT variable)

PRCR(I,J) REAL\*4 Crown ratio of the Ith tree when the Jth pruning was conducted on the tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period, 1 ≤ J ≤ 3. (INPUT variable)

PREXP(I,J) REAL\*4 Plot/point level expansion factor of the Ith tree when the Jth pruning was conducted on the tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period, 1 ≤ J ≤ 3. (INPUT variable)

BRCNT(I,J) INTEGER\*4 Wood quality branch count of type J for the Ith tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period, 1 ≤ J ≤ 3. (INPUT variable)

BRHT(I,J) INTEGER\*4 Height to the Jth branch on the Ith tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period, 1 ≤ J ≤ 40. (INPUT variable)

BRDIA(I,J) INTEGER\*4 Branch diameter of the Jth branch on the Ith tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period, 1 ≤ J ≤ 40. (INPUT variable)

JCORE(I,J) INTEGER\*4 Diameter of the juvenile wood core at the Jth branch on the Ith tree, 1 ≤ I ≤ NTREES1 (maximum of 2000) at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period, 1 ≤ J ≤ 40. (INPUT variable)

SERROR(I) INTEGER\*4 If SERROR(I)=1 (1 ≤ I ≤ 35), then a stand level error of type "I" has occurred (a value of 0 indicated no error). See the following tables for a description of the particular errors. (OUTPUT variable)

TERROR(I,J) INTEGER\*4 If TERROR(I,J)=1 (1 ≤ I ≤ NTREES1, 1 ≤ J ≤ 6), then a tree level error of type "J" has occurred for the Ith tree (a value of 0 indicated no error). See the following tables for a description of the particular errors. (OUTPUT variable)

SWARNING(I) INTEGER\*4 If SWARNING(I)=1 (1 ≤ I ≤ 9), then a stand level warning of type "I" has occurred (a value of 0 indicated no error). See the following tables for a description of the particular warnings. (OUTPUT variable)

TWARNING(I) INTEGER\*4 If TWARNING(I)=1 (1 ≤ I ≤ NTREES1), then a tree warning has occurred for the Ith tree (a value of 0 indicated no error). See the following tables for a description of the particular warnings. (OUTPUT variable)

IERROR INTEGER\*4 If IERROR=1, then a stand or tree level error has occurred and the error must be corrected before proceeding. (OUTPUT variable)

DGRO(I) REAL\*4 The 5-year diameter growth rate for the Ith sample tree, 1 ≤ I ≤ NTREES2 (maximum of 2000). (OUTPUT variable)

HGRO(I) REAL\*4 The 5-year height growth rate for the Ith sample tree, 1 ≤ I ≤ NTREES2 (maximum of 2000). (OUTPUT variable)

CRCHNG(I) REAL\*4 The 5-year change in crown ratio for the Ith sample, 1 ≤ I ≤ NTREES2 (maximum of 2000). (OUTPUT variable)

SCRCHNG(I) REAL\*4 The 5-year change in the shadow crown ratio for the Ith sample tree, 1 ≤ I ≤ NTREES2 (maximum of 2000). (OUTPUT variable)

MORTEXP(I) REAL\*4 The plot/point level expansion factor for 5-year mortality on the Ith sample tree, 1 ≤ I ≤ NTREES1 at the start of the growth period and 1 ≤ I ≤ NTREES2 at the end of the growth period (maximum of 2000). The expansion factors have NOT been divided by the total number of plots/points measured in the stand (OUTPUT variable)

NTREES2 INTEGER\*4 Total number of sample trees measured in the stand at the end of the growth period (NTREES2 cannot exceed 2000). NTREES2 would be larger than NTREES1 if tripling or ingrowth are used, otherwise it is the same as NTREES1. (INPUT/OUTPUT variable)

DBH2(I) REAL\*4 DBH for the Ith sample tree at the end of the growth period, 1 ≤ I ≤ NTREES2 (maximum of 2000). (INPUT variable)

HT2(I) REAL\*4 Total height for the Ith sample tree at the end of the growth period, 1 ≤ I ≤ NTREES2 (maximum of 2000). (INPUT variable)

CR2(I) REAL\*4 Crown ratio for the Ith sample tree at the end of the growth period, 1 ≤ I ≤ NTREES2 (maximum of 2000) (INPUT variable).

SCR2(I) REAL\*4 Shadow crown ratio for the Ith sample tree at the end of the growth period, 1 ≤ I ≤ NTREES2 (maximum of 2000). See the description of SCR1 for more details. (INPUT variable)

EXPAN2(I) REAL\*4 The plot/point level expansion factor for the Ith sample tree at the end of the growth period (i.e., the expansion factors should NOT be divided by the total number of plots/points measured in the stand), 1 ≤ I ≤ NTREES2 (maximum of 2000). (INPUT variable)

STOR(I) REAL\*4 An array of 30 internal variables used by ORGANON which must not change over multiple calls of the ORGANON DLL. Initialize to zero before the first call to the ORGANON DLL. ORGANON will then calculate these values when CYCLG=0. The resulting values should not be modified by the DLL user in subsequent continued projections of the tree list. (OUTPUT variable)

Descriptions of the SERROR(I) Array

I Description of the Error

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1 NTREES < 1 or NTREES > 2000

2 VERSION < 1 or VERSION > 4

3 NPTS < 1

4 Both SITE\_1 and SITE\_2 are set to 0

5 There are no major tree species for the VERSION

6 BHAGE has been set to 0 for an uneven-aged stand

7 BHAGE > 0 for an uneven-aged stand

8 STAGE is too small for the BHAGE

9 An uneven-aged stand cannot be fertilized

10 YSF and/or PN variables are not zero for an unfertilized stand

11 The implied stand age of fertilization (based on YSF) must be less than or equal to current stand age or less than or equal to 70 years.

12 PN < 0 or PN > 400 lbs per acre.

13 BART(1) ≥ BABT

14 YST and/or BART variables are not zero for an uncut stand

15 For an even-aged stand, the implied stand age of cutting (based on YST) must be less than or equal to current stand age.

16 For multiple cuttings in which YST ≠ 0, BART ≤ 0

17 BABT < 0 for a stand with cuttings

18 Some MGEXP values must be > 0 in a stand that has been cut at the start of the growth period

19 CYCLG < 0

20 ACALIB < 0.5 or ACALIB > 2.0

21 MSDI\_1, MSDI\_2, and/or MSDI\_3 > 1000

22 Stand not even-aged so genetic gain cannot be applied

23 A genetic worth value cannot be < 0%

24 A genetic worth value must be ≤ 20%

25 A genetic worth value is > 0% when no genetic gain is indicated

26 Swiss needle cast cannot be applied to this version of ORGANON

27 Swiss needle cast cannot be applied to an unevenaged stand

28 Foliage retention cannot be < 0.85

29 Foliage retention cannot be > 7.0

30 Fertilization cannot be applied to a stand with foliage retention < 3.0

31 Foliage retention is ≥ 0.85 when no Swiss needle cast impact is indicated

32 SITE\_1 is set to 0 for RAP-ORGANON

33 PDEN is set to zero for RAP-ORGANON

34 Stand must be even-aged for RAP-ORGANON

35 Stand must have at least 90% of basal area in red

alder for RAP-ORGANON

Descriptions of the TERROR(I,J) Array

J Description of the Error

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1 Illegal species code for the VERSION

2 DBH ≤ 0.0

3 HT ≤ 4.5

4 CR ≤ 0.0 or CR > 1.0

5 EXPAN < 0.0

6 SCR < 0.0 or SCR > 1.0

Descriptions of the SWARNING(I) Array

I Description of the Error

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1 SITE\_1 is out of range for the VERSION

2 SITE\_2 is out of range for the VERSION

3 Tree heights are too large for the site index value

4 BHAGE is too young for the VERSION

5 Amount of minor species is higher than recommended for the VERSION

6 Number of sample trees is below recommended minimum

7 Majority of the input stand is over the upper age recommended for the VERSION

8 Majority of the projected stand is now over the upper age recommended for the VERSION

9 Number of cycles to be projected will make the resulting stand older than that recommended for the VERSION.

Descriptions of the TWARNING(I) Array

J Description of the Error

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1 HT to DBH ratio is too large for the species