APPENDIX D. (Cont'd.)

225 IF ( REPYR .GE. REGYR(IST) .AND. REGYR(IST) .GT. 0) THEN
! YES the stand was cut!
AGE = REPYR - REGYR(IST)
TP = MT(IST) ! USE Management Type.
ELSE
! Stand was not cut.
IF (BD(IST) .EQ. 0 ) THEN
AGE = 0
ELSE
AGE=REPYR-(BD(IST)+1000) ! USE Birth Date.
ENDIF
TP=FT(IST) ! USE Forest Type.
ENDIF

C Determine the treatment type and years since of treatment.
C
C When no thinning or burning has been done the Treatment is
c coded as TRT=1. When a REPORTING year is 0 to 5 years
C following the Thinning year then treatment is recorded as
C TRT=2. Example: Thin in 1995 and report in 2001 uses the
C regular coefficients (TRT=1) by a Thin year of 1995 with a
C Reporting year of 1999 will use the basic coefficients
C augmented by the thinning coefficients TRT=2.
C Burning works the same way but uses a 0 to 3 year effective
C time span (TRT=3). If Thin and Burn are both effective
C within the reporting period, then TRT=4.

TRT = 1 ! Use Basic Coefficients.
TYRS = REPYR - THNYR(IST)
BYRS = REPYR - BRNYR(IST)
IF (TYRS.GE.0 .AND. TYRS.LE.5) TRT = 2 ! THIN
IF (BYRS.GE.0 .AND. BYRS.LE.3) TRT = 3 ! BURN
IF (TYRS.GE.0 .AND. TYRS.LE.5 .AND.
    BYRS.GE.0 .AND. BYRS.LE.3) TRT = 4 ! BOTH

IF (BUG) WRITE( 6,888) AGE, REPYR, THNYR(IST), BRNYR(IST),TRT
888 FORMAT( ' AGE, REPYR, THNYR, BRNYR, TRT=', 5I8)
IF (BUG) Call Pause

C This is old code that did not work right.
C
C * IF ( BRNYR(IST).EQ.REPYR .AND. BRNYR(IST).NE.THNYR(IST))
C * TRT=3
C * IF ( THNYR(IST).EQ.REPYR .AND. BRNYR(IST).NE.THNYR(IST))
C * TRT=2
C * IF ( BRNYR(IST).EQ.REPYR .AND. BRNYR(IST).EQ.THNYR(IST))
C * TRT=4
C * IF (BRNYR(IST).NE.REPYR .AND. THNYR(IST).NE.REPYR)
C * TRT=1

C Use Sub GETAC to allocate acres by Age, Working Group and
C Treatment and return ACARY(AGE,WG,TRT).

45
APPENDIX D. (Cont'd.)

CALL GETAC (ACARY,TP,AC(IST),ACOP(IST),AGE,kbd,WG,TRT,MAXAGE)

C If the forest type or management type is invalid, print an
C error messages and reenter all data for this stand.

IF (WG .EQ. 0) THEN ! invalid FT or MT.
    PRINT 112, IST
112   FORMAT(' <bel> Invalid forest type or management type. ',
        *     'Re-enter data for band # ',I3,/')
    GOTO 8
ELSE ! valid FT or MT
     WRITE the info for this stand to the data file.
     IF(FLAG.EQ.0)
     *     WRITE (10,800) IST, FT(IST), AC(IST), ACOP(IST), BD(IST),
     *                     MT(IST), REGYR(IST), BRNYR(IST), THNYR(IST)
     IST=IST+1 ! calculate the number for the next stand
     when not all stands are entered and data is being
     entered on the screen:
     IF ((IST .LE. NSTND) .AND. (FLAG.EQ.0)) GOTO 8
     when not all stand info has been read from the data file:
     IF ((IST .LE. NSTND) .AND. (FLAG.EQ.1)) GOTO 80
     IST = NSTND     ! RESTORE TO MAXIMUM VALUE.
     ENDIF

C Calculate the total acres for this unit

DO 16 I = 1, 7
   TAC = TAC + ACARY(I,1,1)
16 CONTINUE

PRINT *
*   <FF> Do you want your output to go to the listfile? (Y/N) - '
READ (kbd,101) ANS
IF (ANS .EQ. YES) THEN
   out = lst
ELSE
   out = scr
END IF

C Calculate the capability index for each species

DO 22 S = 1, 8 ! for each species
   CAP(S) = 0.0 ! Initialize summation variable.
   IF (BUG) WRITE(*,1001) S, SPECIE(S)
1001 Format('/' Computing CAP Index for Species (S)='.I3','.',A)
   DO 20 F = 1, 7 ! for each type
   DO 20 A = 1, MAXAGE ! for each age class
   DO 20 T=1, 4 ! For each Treatment.
      IF (ACARY(A,F,T) .EQ. 0.) GOTO 20 ! SKIP WHEN THERE ARE NO
      ACRES.
APPENDIX D. (Cont'd.)

C = COEFS(A,F,S,1)  ! Always use basic coefficient
If (T.EQ.2)  C = C + COEFS(A,F,S,2)  ! Add in thin coefficient
If (T.EQ.3)  C = C + COEFS(A,F,S,3)  ! Add in burn coefficient
If (T.EQ.4)  C = C + COEFS(A,F,S,2) + COEFS(A,F,S,3)  ! Both.

CAP(S)= CAP(S) + ACARY(A,F,T)* C

IF (BUG) WRITE(*,891) A,F,S,T,ACARY(A,F,T),
               (COEFS(A,F,S,TT),TT=1,3), C

891 FORMAT(/' Age=',I2,' Working Group=',I2,
     * ' Species=',I2,' Treatment=',I2,' ACARY(A,F,T)='F9.0/
     * ' COEFS(A,F,S,1)=',F7.3,' COEFS(...,2)=',F7.3,
     * ' COEFS(...,3)=',F7.3,' C=',F11.3)

C If there's been a thin and a burn, add the capability indexes
C
C IF (T.EQ.4) THEN ! DO THIN AND BURN.
C CAP(S)= CAP(S) +ACARY(A,F,T) *( COEFS(A,F,S,1) +
C * COEFS(A,F,S,2) + COEFS(A,F,S,3) )
C WRITE(*,896) A,F,S,T,ACARY(A,F,T),
C COEFS(A,F,S,2), COEFS(A,F,S,3), CAP(S)
C 896 FORMAT(/' Age=',I2,' Working Group=',I2,
C * ' Species=',I2,' Treatment=',I2,
C * ' ACARY(A,F,T)='F9.0,
C * ' COEFS(A,F,S,2)='F7.3,
C * ' COEFS(A,F,S,3)='F7.3,
C * ' CAP(S)='F9.2)
C
C DO 18 TT= 2, 3
C CAP(S)= CAP(S) +ACARY(A,F,TT) * COEFS(A,F,S,TT)
C WRITE(*,899) A,F,S,TT,ACARY(A,F,TT),
C COEFS(A,F,S,TT), CAP(S)
C 18 CONTINUE

C ELSE ! DO STANDARD, OR THIN, OR BURN.
C CAP(S) = CAP(S) + ACARY(A,F,T) * COEFS(A,F,S,T)
C
C WRITE(*,899) A,F,S,T,ACARY(A,F,T),
C COEFS(A,F,S,T), CAP(S)
C 899 FORMAT(/' Age=',I2,' Working Group=',I2,
C * ' Species=',I2,' Treatment=',I2,
C * ' ACARY(A,F,T)='F9.0,' COEFS(A,F,S,T)='F7.3,
C * ' CAP(S)='F9.3)
C
C ENDIF
C CONTINUE

C Calculate the number of animals or pounds per square mile.

DENS(S)= ((CAP(S) / TAC) * 640.) + .5
IF (BUG) WRITE(*,900) S,CAP(S),DENS(S),TAC
900 FORMAT(/' Species=',I2,' CAP(S)='F6.1,' DENS(S)='F6.1,
     * ' TAC='F6.1)

22 CONTINUE
APPENDIX D. (Cont'd.)

IF (BUG) Call Pause

C Sum the acres that have been thinned or burned.

DO 205 F = 1, 7 ! for each type
DO 205 A = 1, MAXAGE ! for each age class.
DO 205 T = 2, 4 ! for each treatment.
    IF ( ACARY(A,F,T) .EQ. 0.) GOTO 205
    ACT(T) = ACT(T) + ACARY(A,F,T)
205 CONTINUE

* Calculate WFUDS and stuff

* DO 26 I = 1, 8
    WFDAY(I) = CAP(I) * UDAY(I)
    WFDAY(9) = WFDAY(9) + WFDAY(I)
    PRINT*,I,CAP(I),UDAY(I),WFDAY(I)
26 CONTINUE

DO 28 I = 1, 8
    WFUDVA(I) = WFDAY(I) * RPAVAL(I)
    WFUDVA(9) = WFUDVA(9) + WFUDVA(I)
28 CONTINUE

!---------------------------------------------!
! Print it out                                !
!---------------------------------------------!

WRITE (out,103) ANAREA, IST, IFIX(TAC), REPYR, FTSPEC
103 FORMAT( '<FF>', 78('-')/
    * 'HABITAT CAPABILITY FOR ANALYSIS: A/
    * 'Number of stands - I6,' NUMBER OF ACRES - I6/
    * 'REPORTING YEAR - I6,' FEATURED SPECIES - A14/
    * , 78('-')/
    * 'SPECIES HABITAT CAP WFUDS'
    * ', ANIMALS (#/SQ MI)/
    * ', 78('-'))

DO 30 I=1, 8
    WRITE (out,104) SPECIE(I), IFIX(CAP(I)+0.5), DENS(I),
    * IFIX(WFDAY(I)+0.5)
104 FORMAT (' ',A17,I8,F9.0,I8)
30 CONTINUE

WRITE (out,105) IFIX(WFUDVA(9)+0.5)
105 FORMAT( ' TOTAL $ OF WFUDS = I11)

IF( ELEV < LT. 1200) WRITE (out,106)
106 FORMAT (' GROUSE ARE LIMITED BY ELEVATION')

DO 350 T= 1, 4
    IF ( ACT(T) .EQ. 0.) GOTO 350
    WRITE (out,109) ACT(T), TMENT(T)
350 CONTINUE
APPENDIX D. (Cont'd.)

109 FORMAT(/'ACRES ' ,A7,' THIS REPORTING PERIOD')
350 CONTINUE

WRITE (out,115)
115 FORMAT(/' SUMMARY OF ACRES FOR THIS ANALYSIS UNIT: ')

DO 32 F = 1, 7
DO 32 A = 1, MAXAGE
   DO 320 T = 1, 4
      IF ( ACARY(A,F,T) .GT. 0.) GOTO 327
320 CONTINUE
GOTO 32
327 WRITE (out,107) FTYPE(F), CLASS(A), ACARY(A,F,T)
107 FORMAT(' ', A14, 2X, A7, F11.0)
32 CONTINUE

IF (out .EQ. scr) Call Pause
PRINT *, 'DO YOU WANT TO PRINT ANOTHER REPORTING YEAR (Y/N)? ',
READ(kbd,'(A1)') REPANS

REPSW=(REPANS.EQ.'Y').OR.(REPANS.EQ.'y')
IF(.NOT.REPSW) THEN
   PRINT *, '<FF> ALL DONE<004>'
   STOP
ENDIF

C ZERO OUT THE SUMS BEFORE DOING THE NEXT REPORTING YEAR.

FLAG = 1
IST = 1
TAC = 0.
DO 175 T=1,4
   ACT(T)=0
175 CONTINUE
DO 40 I=1,17
DO 40 J=1,7
DO 40 K=1,4
40 ACARY(I,J,K)=0.
DO 170 K=1,8
170 CAP(K)=0.
DO 185 K=1,9
   WFDAY(K)=0.
185 WFUDVA(K)=0.
CLOS (10)
GO TO 5       ! return to perform calculations for new year.

*       *       *       *       *       Formats       *       *       *       *

100 FORMAT ('1')