Historic, Archive Document

Do not assume content reflects current
scientific knowledge, policies, or practices.

0001
A48 Reserve

Selfsta MS

United States
Department of
Agriculture

Forest Service

Intermountain
Research Station
Ogden, UT 84401

General Technical
Report INT-196

December 1985

User's Guide to the Event Monitor: An Addition to the Prognosis Model

Nicholas L. Crookston

SEVEN
CURRENT SERIAL RECORDS

MAR 17 '86

USDA
NATL AGRIC LIBRARY
PENDING

IF

PAI LT MAI

Then harvest, prepare site,
and plant Douglas-fir

THE AUTHOR

NICHOLAS L. CROOKSTON is an Operations Research Analyst at the Intermountain Research Station, Forestry Sciences Laboratory, in Moscow, ID. During the time this work was completed, Mr. Crookston was a research associate, College of Forestry, Wildlife and Range Sciences, University of Idaho, working on the Canada/U.S. Spruce Budworms Program under a cooperative agreement between the Pacific Northwest Forest and Range Experiment Station and the University of Idaho. Mr. Crookston received his B.S. in botany in 1973 from Weber State College and his M.S. in forest resources in 1977 from the University of Idaho. His principal professional activities have concerned the dynamics of the mountain pine beetle/ lodgepole ecosystem, the Douglas-fir tussock moth/ forest ecosystem, and the western spruce budworm/ forest ecosystem.

ACKNOWLEDGMENTS

Discussions with A. R. Stage led to the development of the Event Monitor. I thank him for providing me with ideas, support, and encouragement. Reviews by W. R. Wykoff, D. E. Ferguson, R. L. Dezellem, R. J. Johnson, R. G. Buchman, and D. Schroeder are gratefully acknowledged.

The developments reported here were financed by the Canada/U.S. Spruce Budworms Program-West and the Intermountain Research Station, Forest Service, U.S. Department of Agriculture.

RESEARCH SUMMARY

The Event Monitor is a programmed procedure for dynamically invoking management activities to be simulated by the Prognosis Model. Activities include simulated thinnings, harvesting, plantings, or any other activity that the simulation model can mimic. The Event Monitor accepts policy statements expressed as conditions to be met and a set of activities to be simulated after the conditions are met. Thus, policy statements may be evaluated using Prognosis Model without users foretelling the development of each stand in an analysis and manually scheduling activities.

The Event Monitor enhances control of the Prognosis Model and the operation of several model extensions, notably the Regeneration Establishment Model and the Parallel Processing Extensions (PPE). As a part of the PPE, the monitor can generate decision trees of management alternatives.

CONTENTS

	Page
Introduction	1
Using the Event Monitor	2
Overview	2
IF, THEN, and ENDIF	2
Generating Decision Trees	5
Detailed Instructions	7
Keyword Summary	7
Order of Computations	7
Coding Logical Expressions	10
Summary	11
References	11
Appendix: Output Examples	12

User's Guide to the Event Monitor: An Addition to the Prognosis Model

Nicholas L. Crookston

INTRODUCTION

The decision to perform a management activity in a stand is often contingent upon several factors. Thinning may be called for if the stand is too dense, or spraying may be required if an insect population is causing too much damage. Usually, users of stand-growth simulation models must foretell when stand conditions that require management action will occur and preschedule the program options that represent those actions.

The Event Monitor offers an alternative method of scheduling activities: You specify a set of conditions that must occur, or thresholds that must be reached. During the simulation, the specified conditions are monitored and, in the event they occur, the management activities you specify are scheduled. For example, suppose you wish to schedule a thinning only if the stand crown competition factor (Krajicek and others 1961) exceeds 150, trees per acre exceed 500, and age is greater than 20 and less than 60 years. Using the Event Monitor, the conditions are specified via a logical expression followed by the activities (represented by Prognosis Model options) that are to be invoked when that expression is true.

Taken together, an event and the management activities may be viewed as a policy statement. Thus, policy statements may be evaluated using Prognosis Model without users foretelling the development of each stand in an analysis and manually scheduling activities.

The monitor is part of Version 5 of the Prognosis Model (Stage 1973; Wykoff and others 1982); as a component of that model, it serves the following purposes:

- Permits the inclusion of policy statements in a simulation run. Thus emphasis may be placed on the specification of a policy applicable to a class of stands, rather than on a prescription for individual stands.
- Offers an additional mechanism to control the operation of extensions to the Prognosis Model such as the Regeneration Establishment Model (Ferguson and Crookston 1984).
- Provides a way to create decision trees within the Parallel Processing Extension (Crookston in preparation). Decision trees are useful for systematically evaluating the response of forest growth to random catastrophic events (insect epidemics or forest fires, for example) and alternative management practices given equal starting conditions.

Specific examples will show how to use the program. The rules that govern its operation are implicitly presented in the examples and then explicitly presented in a subsequent section. This order is designed to give you a general understanding of the program's use before you are presented with specific

details. How you apply the rules to your own problems is left to your imagination. Be bold! If you can't find an example that meets your requirements, invent one.

I assume that you are familiar with the Prognosis Model. Terms, operational rules, and concepts explained in the Prognosis Model user's guide (Wykoff and others 1982) are used here without explanation.

USING THE EVENT MONITOR

Overview

An event is designated by an IF keyword record, followed by a logical expression. The expression is coded on one or more supplemental data records. It may contain constants, arithmetic operators, parentheses, relational and logical operators (greater than (GT), less than (LT), equal (EQ), AND, OR, etc.), and certain variables. Following the logical expression, a THEN keyword record is entered; it signals the end of the logical expression and the beginning of the activities that will be scheduled only when the expression is true. Any Prognosis Model keyword-option (including those found in extensions) that can be scheduled by entering a cycle number or year in the first numeric field can be scheduled by the Event Monitor. The value in Field 1 of the activity keyword record is added to the year the event occurs, the sum becomes the year the activity is scheduled to occur. An ENDIF keyword is entered to signal that normal activity processing should resume.

Example 1.—The example presented in the Introduction is elaborated on in the context of a complete Prognosis Model keyword file. The policy for this example is as follows: If before-thinning crown competition factor (BCCF) is greater than 150, before-thinning trees per acre (BTPA) is greater than 500, and age is greater than 20 and less than 60, then thin from below to a residual stand density of 300 trees per acre.

Reference line	Keyword record							
	Keyword	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7
1	STANDID							
2	EXAMPLE1	EVENT MONITOR USER'S GUIDE EXAMPLE 1.						
3	INVYEAR	1972.						
4	NUMCYCLE	10.						
5	IF	999.						
6		BCCF	GT 150	AND	BTPA	GT 500	AND	AGE &
7		GT 20	AND	AGE	LT 60			
8	THEN							
9	THINBTA	0.	300.					
10	ENDIF							
11	STDINFO	18.	710.	10.	4.	5.	56.	
12	PROCESS							
13	STOP							

Some of the output created by running this example is in the appendix; further explanation of the input file follows:

Lines 1 and 2: Enter the stand identification and a run title.

Line 3: Specify the inventory year.

Line 4: Specify the number of cycles.

Line 5: IF signals that a logical expression follows and that the minimum delay time between responses to this event is 999 years.

Lines 6 and 7: The logical expression is coded “free form” (that is, characters need not be placed in specific columns) on one or more supplemental data records that follow the IF keyword. The ampersand (“&”) at the end of line 6 signals that the expression is continued on the following record.

Line 8: THEN signals that the activities (options specified by date or cycle) that follow will not be scheduled until after the event happens; that is, when the logical expression is true.

Line 9: THINBTA is a thinning option that will be scheduled in the same year that the event happens; thus, a zero is coded in field 1. The residual trees per acre are coded in field 2.

Line 10: ENDIF marks the end of the conditionally specified options.

Line 11: Enter data specific to the stand such as the forest code.

Line 12: Signals that all of the keywords have been entered and that the stand should be processed.

Line 13: Stop the Prognosis Model.

Minimum delay time.—It is possible to specify a logical expression that could remain true for several consecutive cycles. If you intend to schedule a response to the event on longer intervals than each succeeding cycle, you may enter a minimum number of years between responses in field 1 of the IF keyword.

Example 2.—This example illustrates:

- the Event Monitor’s use with the Regeneration Establishment Model (Ferguson and Crookston 1984) and, by implication, other Prognosis Model extensions;
- that more than one activity may be specified after a THEN keyword;
- that more than one policy statement may be specified; and
- that the minimum delay time can be set to control the frequency at which activities are scheduled.

The first policy statement concerns the regeneration harvest guides and reads as follows: When the culmination of mean annual increment (MAI) is reached, clearcut the stand, broadcast burn the next year, and, in the second year after harvest, plant 300 spruce and 300 larch per acre. The date of culmination is detected by monitoring periodic annual increment (PAI, 10-year period) and MAI. When periodic annual increment (PAI) is less than MAI, the stand has reached culmination of MAI.

The second policy statement concerns scheduling some thinnings to control density: When the stand basal area (BBA) exceeds 150 ft² per acre, thin from below to 130 ft². These thinnings should not occur more frequently than every 20 years.

The keyword file used to run this example is listed below; output is in the appendix.

Reference line	Keyword record						
	Keyword	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6
1	STANDID						
2	EXAMPLE2	EVENT	MONITOR	USER'S	GUIDE,	EXAMPLE	2
3	INVEAR	1972.					
4	NUMCYCLE	15.					
5	IF	999.					
6	PAI LT MAI						
7	THEN						
8	THINATA	0.	0.	1.			
9	ESTAB						
10	BURNPREP	1.	80.				
11	MECHPREP	1.	20.				
12	PLANT	2.	2.	300.	90.		
13	PLANT	2.	8.	300.	90.		
14	STOCKADJ	9.	-1.				
15	RESETAGE	0.	0.				
16	END						
17	ENDIF						
18	IF	20.					
19	BBA GT150	AND	AGE	LT	130		
20	THEN						
21	THINBBA	0.	130.				
22	ENDIF						
23	STDINFO	18.	680.	150.	8.	5.	53.
24	PROCESS						
25	STOP						

Lines 1 to 4: Like example 1.

Line 5: Specify that the logical expression follows and that the minimum delay time between responses to this event is 999 years.

Lines 6 and 7: Specify the event: IF the PAI is less than the MAI, THEN.

Line 8: The management activity is to cut (using a Prognosis Model thinning option) all of the trees. Note that the residual stand density coded in field 2 is zero, and that the cutting effectiveness coded in field 3 is 1.0.

Line 9: Signals the Prognosis Model that Regeneration Establishment Model options follow.

Lines 10 through 15: Specify the site preparation assumptions and the plantings. Line 14 contains a command that limits establishment of trees to only those planted. Line 15 causes the stand age to be reset to zero years (the number coded in field 2). Consult Ferguson and Crookston (1984) for a complete description of these keywords.

Line 16: Signals the Establishment Model that Prognosis Model options follow.

Line 17: Signals the end of the activities that will only be scheduled when PAI is less than MAI.

Lines 18 to 22: A second policy is entered with a minimum delay time between responses set to 20 years (field 1 of line 18). The before-thin basal area is compared to 150, area is compared to 130 (line 19), and a thinning from below to 130 ft² is requested in line 21.

Generating Decision Trees

Decision trees are used to evaluate several different management responses to one event. For a description of this and other applications of decision trees see Stage (1975), Talerico and others (1978), Crookston (1978), Stage and others (in press), and the Parallel Processing Extension user's guide (PPE) (Crookston in preparation). Because the creation of decision trees (fig. 1) in the PPE is controlled by the Event Monitor, an example has been included to illustrate how to use the PPE and the Event Monitor together.

The branches of the decision tree are defined by specifying more than one group of activities following a single logical expression. The first activity (or activity group) follows the THEN keyword record; each subsequent group of activities follows an ALSOTRY keyword record. Each alternative group defines a branch of the decision tree. You may specify one to nine alternative groups of activities for each event. Remember, this option may only be used with the PPE.

Figure 1.—The decision tree generated by the PPE when the logical expression in example 3 is true. The black circle is the **node**; in this case three **branches** stem from the node.

Example 3: ALSOTRY.—Let's reconsider example 1. A thinning from below to 300 trees per acre will be scheduled when the event happens. Using the PPE in conjunction with the Event Monitor you may ALSOTRY another alternative, say thinning from below to 400 trees per acre. A third alternative is not to thin at all. The PPE simulates and reports the results of trying all three alternatives. Keyword records needed to accomplish this objective are as follows (those needed in addition to example 1 are at lines 0.1, 9.1-9.3, and 12.1-12.3):

Reference line	Keyword	Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7
0.1	ADDSTAND							
1	STANDID							
2	EXAMPLE3	EVENT	MONITOR	USER'S	GUIDE	EXAMPLE	3.	
3	INVEAR	1972.						
4	NUMCYCLE	10.						
5	IF	999.						
6		BCCF GT 150	AND BTPA GT 500	AND AGE &				
7		GT 20	AND AGE LT 60					
8	THEN							
9	THINBTA	0.	300.					
9.1	ALSOTRY							
9.2	THINBTA	0.	400.					
9.3	ALSOTRY							
10	ENDIF							
11	STDINFO	18.	710.	10.	4.	5.	56.	
12	PROCESS							
12.1	PROJECT							
12.2	NOCOMPOS							
12.3	YIELDS							
13	STOP							

Output created by running this example may be found in the appendix.
An explanation of the input file follows:

Line 0.1: ADDSTAND is a PPE keyword that signals that Prognosis Model keywords follow. See Crookston (in preparation) for an additional explanation.

Lines 1 through 9: Like example 1.

Line 9.1: ALSOTRY signals that another group of activity keywords follows.

Line 9.2: THINBTA is entered with a residual of 400 trees per acre.

Line 9.3: Another ALSOTRY that is followed immediately by an ENDIF signals that one alternative is no management.

Lines 10 through 12: Same as in example 1.

Line 12.1: PROJECT is a PPE keyword that signals that all of the stands (in this case there is only one stand) have been entered and the projection may start.

Line 12.2: NOCOMPOS is a PPE keyword that suppresses the calculation of the composite yield table.

Line 12.3: YIELDS is a PPE keyword that triggers the printing of the yield statistics.

Line 13: Same as in example 1.

You can see the results of the branching and scheduling by carefully reading the Activity Summary tables printed by the PPE for the three management alternatives (output is in the appendix). Each summary table corresponds to one branch of the decision tree (fig. 1). The Activity Summaries list the activities that were scheduled and accomplished and correspond with the Summary Statistics tables printed above them. Consult Wykoff and others (1982) for an additional description of these tables, and Crookston (in preparation) for a description of the PPE.

DETAILED INSTRUCTIONS

The first section of this report describes the purpose and potential use of the Event Monitor and its position within the Prognosis Model. The following section offers additional details that will enable you to make full use of the Event Monitor.

This section is organized as follows: a keyword summary describes the keywords used by the event monitor. A section titled "Order of Computations" will help you understand how the order of calculations within the Prognosis Model influences the Event Monitor. The rules you need to follow when coding logical expressions are described in a section called "Coding Logical Expressions."

Keyword Summary

IF	Signals that the logical expression follows on one or more supplemental data records. You may enter several policies by entering a set of IF, THEN, activity keywords, and an ENDIF for each policy. Field 1: The minimum waiting time before the event may happen again, default is zero years.
THEN	Signals that the activities that follow will be scheduled when the event happens. ¹
ALSOTRY	Used in conjunction with the PPE to generate decision trees. Signals that a second or subsequent group of activities follow. ¹
ENDIF	Signals the end of a set of Event Monitor keywords.

Several program options that represent activities may follow one THEN or ALSOTRY keyword. (The actual number depends on many factors; a realistic upper limit is about 100.)

Any Prognosis Model options that may be scheduled (that is, a date or cycle is entered in field 1 of the keyword record), may alternatively be entered as conditional activities, that is, they may follow a THEN or ALSOTRY. Prognosis Model options that do not contain a date in field 1 may not be made conditional. For example, a NUMCYCLE keyword entered between a THEN and an ENDIF keyword will be processed normally.

Order of Computations

When expressions are evaluated.—The Event Monitor evaluates all logical expressions at each of two different times during a growth cycle (see fig. 1 in Wykoff and others 1982): once at the beginning of the growth cycle prior to thinnings, and once after thinnings. Therefore, a logical expression that tests on before-thin density can be used to trigger a thinning during the same cycle.

The Regeneration Establishment Model is called near the end of a cycle. Thus, it is possible to trigger a regeneration tally as a response to a before-thin or an after-thin density.

You can schedule a thinning in response to detecting that a thinning has occurred. However, the conditionally scheduled thinning cannot be simulated during the same cycle the event is detected because the event is, itself, another thinning. You can specify that the conditionally scheduled thinning be scheduled 10 years after the event occurs by coding "10" in field 1 of the desired thinning keyword record. If the cycle length is 10 years, the conditionally scheduled thinning will thus be simulated in the following cycle.

¹The numeric fields on the THEN and ALSOTRY keywords are reserved for future use by the PPE.

When Event Monitor variables are defined.—The variables that can be used in logical expressions are divided into four groups (table 1) depending on when the variables are defined. If any variable is undefined when the expression is evaluated, the expression is deemed false.

Table 1.—Variables that can be used within logical expressions

Variable name	Description
Group 1, always defined	
YEAR	Beginning year of a cycle
AGE	Age at beginning of a cycle
BTPA	Before-thin trees per acre
BTCUFT	Before-thin total cubic foot volume
BMCUFT	Before-thin merchantable cubic foot volume
BBDF	Before-thin Scribner board foot volume
BBA	Before-thin basal area per acre
BCCF	Before-thin crown competition factor
BCCFWP	Before-thin crown competition factor for white pine
BCCFL	Before-thin crown competition factor for larch
BCCFDF	Before-thin crown competition factor for Douglas-fir
BCCFGF	Before-thin crown competition factor for grand fir
BCCFWH	Before-thin crown competition factor for western hemlock
BCCFC	Before-thin crown competition factor for western redcedar
BCCFLP	Before-thin crown competition factor for lodgepole pine
BCCFS	Before-thin crown competition factor for spruce
BCCFAF	Before-thin crown competition factor for alpine fir
BCCFPP	Before-thin crown competition factor for ponderosa pine
BCCFOTR	Before-thin crown competition factor for other species
BTOPHT	Before-thin average top height
BADBH	Before-thin quadratic mean d.b.h.
RANN	A random number between 0 and 1
YES	The constant 1.
NO	The constant 0.
NUMTREES	Number of tree records stored by the model
CYCLE	Cycle number
Group 2, defined only after thinning each cycle	
ATPA	After-thin trees per acre
ATCUFT	After-thin total cubic foot volume
AMCUFT	After-thin merchantable cubic foot volume
ABDF	After-thin Scribner board foot volume
ABA	After-thin basal area per acre
ACCF	After-thin crown competition factor
ACCFWP	After-thin crown competition factor for white pine
ACCFL	After-thin crown competition factor for larch
ACCFDF	After-thin crown competition factor for Douglas-fir
ACCFGF	After-thin crown competition factor for grand fir
ACCFWH	After-thin crown competition factor for western hemlock
ACCFC	After-thin crown competition factor for western redcedar
ACCFLP	After-thin crown competition factor for lodgepole pine
ACCFS	After-thin crown competition factor for spruce
ACCFAF	After-thin crown competition factor for alpine fir
ACCFPP	After-thin crown competition factor for ponderosa pine
ACCFOTR	After-thin crown competition factor for other species
ATOPHT	After-thin average top height
AADBH	After-thin quadratic mean d.b.h.
RTPA	Removed trees per acre
RTCUFT	Removed total cubic foot volume
RMBDF	Removed Scribner board foot volume

(con.)

Table 1. (Con.)

Variable name	Description
Group 3, defined when cycle 2 starts	
ACC	Accretion from last cycle, cubic feet/acre/year
MORT	Mortality from last cycle, cubic feet/acre/year
PAI	Periodic annual increment last cycle, cubic feet per acre
MAI	Mean annual increment last cycle, cubic feet
DTPA	Number of trees per acre at the beginning of current cycle minus the number at the beginning of previous cycle
DTPA%	Trees per acre at the beginning of current cycle divided by the number at the beginning of previous cycle; then multiplied times 100
DBA	Basal area per acre at the beginning of current cycle minus the basal area at the beginning of previous cycle
DBA%	Basal area per acre at the beginning of current cycle divided by the basal area at the beginning of previous cycle; then multiplied times 100
DCCF	Crown competition factor at the beginning of current cycle minus the factor at the beginning of previous cycle
DCCF%	Crown competition factor at the beginning of current cycle divided by the factor at the beginning of previous cycle; then multiplied times 100
Group 4, defined by extensions to the Prognosis Model	
TM%STND	The stand average tree defoliation level caused by the Douglas-fir tussock moth during the previous cycle (Monserud and Crookston 1982)
TM%DF	The average tree defoliation on Douglas-fir
TM%GF	The average tree defoliation on grand fir
MPBTPAK	The number of trees per acre killed by the mountain pine beetle during the previous cycle
BW%STND	The stand defoliation level caused by the western spruce budworm during the previous cycle
SELECTED	Takes on the value YES if the stand has been selected for harvest by the PPE's harvest allocation logic. The value is NO if the stand has not been selected.

Variables listed in group 1 are always known; you can include them in logical expressions either by themselves or with those listed in the other groups.

Group 2 variables are only known after thinning. They are correctly defined even though no thinnings are done in a given cycle, but they are undefined when the Event Monitor evaluates expressions prior to thinnings each cycle.

Group 3 variables are not defined until after the first cycle. For example, the stand accretion is computed after the second time the Event Monitor evaluates logical expressions each cycle. Therefore, the stand accretion variable is assigned the accretion from the previous cycle. Variables that measure change, such as DBA (delta basal area, the change in basal area from cycle to cycle), are computed by the monitor by subtracting the value stored from the previous cycle from the current value. These variables are also undefined until the beginning of the second Prognosis Model cycle. After the second cycle starts, group 3 variables can be used any time.

Group 4 variables are assigned values by Prognosis Model extensions. The value of these variables remains unknown unless the appropriate extension is being used.

Coding Logical Expressions

Logical expressions consist of variables (table 1), constants, parentheses, and logical and arithmetic operators (table 2). When coding logical expressions, follow these rules:

- Variable names, constants, and function names must be separated from logical operators by one or more blanks or parentheses.
- A parenthesis, constant, or variable must separate two arithmetic operators: AGE*-2.5 is invalid, AGE*(-2.5) is valid, -2.5*AGE is also valid.
- Operators are executed in order of precedence given in table 2, or parentheses may be used to control the precedence of evaluation.
- When equally ranked operations are found, evaluation proceeds from left to right.
- Constants are treated as floating point numbers whether or not a decimal point is coded. A value coded as an integer is converted to floating point by adding decimal point: 300 is converted to 300.0.
- An ampersand (&) signals that the expression is continued on the next line. Characters that follow the ampersand are ignored and may be used to enter comments.

The following are **valid** (and equivalent) expressions:

```
(BTPA*2 GE 1000 OR AGE GT 50.)
(NOT BTPA LT 500) OR (NOT AGE LE 50.0)
NOT (BTPA LT 500 AND AGE LE 50)
```

The following are **invalid**:

```
(ATPA .LT. 500.)—the inclusion of the periods before and after the less-than
operator is valid in FORTRAN but not in the Event Monitor.
(NOT ((BTPA LT 50))—unbalanced parentheses.
```

Table 2.—Operators that can be used in logical expressions

Precedence ¹	Operator	Description	Example of usage
Arithmetic functions			
1 st	SQRT	Square root	SQRT(A)
1 st	EXP	e raised to power A	EXP(A)
1 st	ALOG	Natural logarithm	ALOG(A)
1 st	ALOG10	Common logarithm	ALOG10(A)
1 st	INT	Truncate fractional part ²	INT(A/B)
1 st	FRAC	Truncate integer part ³	FRAC(A/B)
Arithmetic operators			
2 nd	-	Change sign	- A
3 rd	**	Exponentiate	A ** B
4 th	*	Multiply	A * B
4 th	/	Divide	A / B
5 th	+	Add	A + B
5 th	-	Subtract	A - B
Logical operators			
6 th	EQ	Equal	A EQ B
6 th	NE	Not equal	A NE B
6 th	LT	Less than	A LT B
6 th	GT	Greater than	A GT B
6 th	LE	Less than or equal	A LE B
6 th	GE	Greater than or equal	A GE B
7 th	NOT	Logical not	NOT (A GT B)
8 th	AND	Logical and	(A GT B) AND (A LT C)
9 th	OR	Logical or	(A GT B) OR (A LT C)

¹Operators are executed in order of precedence within parenthetical groups. For example consider the following: ALOG(A)**2. + 5/C, the log is taken first, the result is raised to the power of 2, then 5 is divided by C and added to the previous result.

²For example: INT(3.4) is equal to 3.0.

³For example: FRAC(3.4) is equal to 0.4.

SUMMARY

Using the Event Monitor, logical relations between stand variables generated by the Prognosis Model can be evaluated during the simulation. When the logical relation is true, activities which the model is capable of simulating will be invoked.

This document describes how to use the Event Monitor to schedule Prognosis Model options such as thinnings and Establishment Model options and how to create decision trees using the PPE.

REFERENCES

- Crookston, N. L. User's guide to the Parallel Processing Extension of the Stand Prognosis Model. 1984. Draft manuscript on file with Project Leader, RWU 1351, at: U.S. Department of Agriculture, Forest Service, Intermountain Research Station, Forestry Sciences Laboratory, Moscow, ID.
- Crookston, N. L.; Roelke, R. C.; Burnell, D. G.; Stage, A. R. Evaluation of management alternatives for lodgepole pine stands by using a stand projection model. In: Berryman, A. A. [and others], eds. Mountain pine beetle-lodgepole pine management: proceedings of a symposium; 1978 April 25-27; Pullman, WA. Moscow, ID: University of Idaho, Forestry, Wildlife and Range Experiment Station; 1978: 114-122.
- Ferguson, D.; Crookston, N. L. User's guide to the Regeneration Establishment Model—a Prognosis Model Extension. General Technical Report INT-161. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station; 1984. 23 p.
- Krajicek, J.; Brinkman, K.; Gingrich, S. Crown competition—a measure of density. *Forest Science*. 7(1): 35-42; 1961.
- Monserud, R. A.; Crookston, N. L. A user's guide to the combined Stand Prognosis and Douglas-fir Tussock Moth Outbreak Model. General Technical Report INT-127. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station; 1982. 49 p.
- Stage, A. R. Prognosis model for stand development. Research Paper INT-137. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station; 1973. 32 p.
- Stage, A. R. Forest stand prognosis in the presence of pests: developing the expectations. In: Baumgartner, D. M., ed. Management of lodgepole pine ecosystems. Pullman, WA: Washington State University, Cooperative Extension Service; 1975: 233-245.
- Stage, A. R.; Johnson, R.; Colbert, J. J. Selecting management tactics. Chapter 5. In: Brookes, Martha H.; Colbert, J. J.; Mitchell, Russel G.; Stark, R. W., eds. Managing trees and stands susceptible to western spruce budworm. Technical Bulletin 1695. Washington, DC: U.S. Department of Agriculture, Forest Service; [in press].
- Talerico, R. L.; Newton, C. M.; Valentine, H. T. Pest control decisions by decision-tree analysis. *Journal of Forestry*. 76(1): 16-19; 1978.
- Wykoff, W. R.; Crookston, N. L.; Stage, A. R. User's guide to the Stand Prognosis Model. General Technical Report INT-133. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station; 1982. 112 p.

APPENDIX: OUTPUT EXAMPLES

Example 1.

STAND GROWTH PROGNOSIS SYSTEM VERSION 5.0 -- INLAND EMPIRE (TEST)

OPTIONS SELECTED BY INPUT

PARAMETERS:

STDID= EXAMPLE1 EVENT MONITOR USER'S GUIDE EXAMPLE 1.

INVENTORY YEAR= 1972

NUMBER OF CYCLES= 10

MINIMUM DELAY TIME BETWEEN RESPONSES TO THE EVENT = 999

BCCF GT 150 AND BTPA GT 500 AND AGE &
GT 20 AND AGE LT 60

ACTIVITIES WHICH FOLLOW WILL NOT BE SCHEDULED UNTIL THE EVENT HAPPENS (WHEN THE LOGICAL EXPRESSION IS TRUE).

DATE/CYCLE= 0; RESIDUAL= 300.00; PROPORTION OF SELECTED TREES REMOVED= 0.980
DBH OF REMOVED TREES WILL RANGE FROM 0.0 TO 999.0 INCHES

ACTIVITIES WHICH FOLLOW WILL BE SCHEDULED.

FOREST CODE= 18; HABITAT TYPE=710; AGE= 10; ASPECT CODE= 4.; SLOPE CODE= 5.
ELEVATION(100'S FEET)= 56.0; SITE INDEX= 0.

PROCESS THE STAND.

OPTIONS SELECTED BY DEFAULT

(23X,14,3X, F2.0,11, A3,F3.1,F2.1,3X,F3.0,163,F3.0 ,T60,F3.1,T48, 11,3X, 12,
211,166,211,13, 211)

BASAL AREA FACTOR= 40.0; INVERSE OF FIXED PLOT AREA= 300.0; BREAK DBH= 5.0
NUMBER OF PLOTS= 18; NON-STOCKABLE PLOTS= 7; STAND SAMPLING WEIGHT= 18.00000
STAND ATTRIBUTES ARE CALCULATED PER ACRE OF STOCKABLE AREA. STAND STATISTICS
IN SUMMARY TABLE ARE MULTIPLIED BY 0.611 TO INCLUDE TOTAL STAND AREA.

ACTIVITY SCHEDULE

STAND ID= EXAMPLE1 MANAGEMENT ID= NONE EVENT MONITOR USER'S GUIDE EXAMPLE 1.

CYCLE DATE EXTENSION KEYWORD DATE PARAMETERS:

1 1972
2 1982
3 1992
4 2002
5 2012
6 2022
7 2032
8 2042
9 2052
10 2062

CALIBRATION STATISTICS:

	LP	WP	AF	--	S
NUMBER OF RECORDS PER SPECIES	2	5	19	5	2
NUMBER OF RECORDS CODED AS RECENT MORTALITY	0	0	0	0	0
NUMBER OF RECORDS WITH MISSING HEIGHTS	0	0	1	1	0
NUMBER OF RECORDS WITH BROKEN OR DEAD TOPS	0	0	0	0	0
NUMBER OF RECORDS WITH MISSING CROWN RATIOS	0	0	0	0	0
NUMBER OF RECORDS AVAILABLE FOR SCALING THE DIAMETER INCREMENT MODEL	0	0	1	0	1
RATIO OF STANDARD ERRORS (INPUT DBH GROWTH DATA : MODEL)	1.00	1.00	1.00	1.00	1.00
WEIGHT GIVEN TO THE INPUT GROWTH DATA WHEN DBH GROWTH MODEL SCALE FACTORS WERE COMPUTED	0.00	0.00	0.00	0.00	0.00
INITIAL SCALE FACTORS FOR THE DBH INCREMENT MODEL	1.00	1.00	1.00	1.00	1.00
NUMBER OF RECORDS AVAILABLE FOR SCALING THE SMALL TREE HEIGHT INCREMENT MODEL	0	0	0	0	0
INITIAL SCALE FACTORS FOR THE SMALL TREE HEIGHT INCREMENT MODEL	1.00	1.00	1.00	1.00	1.00

(con.)

Example 1. (Con.)

STAND GROWTH PROGNOSIS SYSTEM VERSION 5.0 -- INLAND EMPIRE (TEST)

STAND ID: EXAMPLE1

MANAGEMENT CODE: NONE

EVENT MONITOR USER'S GUIDE EXAMPLE 1.

STAND COMPOSITION (BASED ON STOCKABLE AREA)														
YEAR	STAND ATTRIBUTES	PERCENTILE POINTS IN THE DISTRIBUTION OF STAND ATTRIBUTES BY DBH								TOTAL/ACRE OF STAND ATTRIBUTES	DISTRIBUTION OF STAND ATTRIBUTES BY SPECIES AND 3 USER-DEFINED SUBCLASSES			
		(DBH IN INCHES)												
		10	30	50	70	90	100							
1972	TREES	0.1	0.1	0.1	0.1	0.1	19.9	19.9	1916.	TREES	70. % AF2,	11. % AF1,	4. % --1,	4. % WP1
	VOLUME:													
	TOTAL	11.2	11.2	19.9	19.9	19.9	19.9	19.9	161.	CUFT	63. % S2,	37. % AF2,	0. % AF1,	0. % --1
	MERCH	11.2	11.2	19.9	19.9	19.9	19.9	19.9	137.	CUFT	62. % S2,	38. % AF2,	0. % --1,	0. % --1
	MERCH	11.2	19.9	19.9	19.9	19.9	19.9	19.9	777.	BDFT	70. % S2,	30. % AF2,	0. % --1,	0. % --1
	ACCRETION	0.1	0.1	3.2	11.2	19.9	19.9	19.9	14.	CUFT/YR	62. % AF2,	34. % S2,	1. % AF1,	1. % --2
	MORTALITY	0.1	0.1	0.1	3.2	19.9	19.9	19.9	0.	CUFT/YR	72. % AF2,	21. % S2,	6. % AF1,	0. % --1
	TREES	0.1	0.7	0.8	1.2	1.5	23.1	23.1	1654.	TREES	70. % AF2,	11. % AF1,	4. % --1,	4. % WP1
	VOLUME:													
1982	TOTAL	1.4	6.2	12.8	21.4	23.1	23.1	23.1	297.	CUFT	50. % S2,	49. % AF2,	1. % AF1,	0. % --2
	MERCH	12.8	14.6	20.6	21.4	23.1	23.1	23.1	188.	CUFT	57. % S2,	43. % AF2,	0. % --1,	0. % --1
	MERCH	12.8	14.6	21.4	21.4	23.1	23.1	23.1	1095.	BDFT	65. % S2,	35. % AF2,	0. % --1,	0. % --1
	ACCRETION	0.9	1.4	1.5	4.0	12.8	23.1	23.1	35.	CUFT/YR	72. % AF2,	21. % S2,	2. % AF1,	2. % WP2
	MORTALITY	0.7	0.9	1.2	1.5	12.8	23.1	23.1	1.	CUFT/YR	75. % AF2,	12. % S2,	6. % AF1,	2. % --2
	TREES	0.8	1.2	2.0	2.4	3.6	26.2	26.2	1401.	TREES	72. % AF2,	11. % AF1,	4. % --1,	4. % WP1
1992	VOLUME:													
	TOTAL	2.2	3.3	6.6	15.3	23.7	26.2	26.2	644.	CUFT	61. % AF2,	34. % S2,	2. % AF1,	1. % WP2
	MERCH	8.2	14.4	16.2	22.9	24.6	26.2	26.2	287.	CUFT	59. % S2,	41. % AF2,	0. % --1,	0. % --1
	MERCH	13.5	16.1	22.1	22.9	24.6	26.2	26.2	1583.	BDFT	64. % S2,	36. % AF2,	0. % --1,	0. % --1
	ACCRETION	1.6	2.7	3.3	3.6	14.4	26.2	26.2	56.	CUFT/YR	75. % AF2,	16. % S2,	2. % AF1,	2. % WP2
	MORTALITY	1.2	2.2	3.3	3.6	21.3	26.2	26.2	3.	CUFT/YR	68. % AF2,	18. % S2,	5. % AF1,	2. % --2
(con.)														

(con.)

2002	TREES	1.5	2.2	3.2	4.0	5.2	27.5	1222.	TREES	73. %	AF2,	10. %	AF1,	3. %	--1,	3. %	WP1
	VOLUME:																
	TOTAL	3.2	4.9	5.2	10.8	25.1	27.5	1175.	CUFT	68. %	AF2,	26. %	S2,	2. %	AF1,	2. %	WP2
	MERCH	8.2	14.3	19.3	24.0	25.3	27.5	434.	CUFT	63. %	S2,	37. %	AF2,	0. %	---	0. %	---
2012	MERCH	10.3	15.7	19.6	25.1	25.3	27.5	2332.	BDFT	64. %	S2,	36. %	AF2,	0. %	---	0. %	---
	ACCRETION	3.2	3.8	4.9	5.7	11.8	27.5	80.	CUFT/YR	78. %	AF2,	14. %	S2,	4. %	WP2,	2. %	AF1
	MORTALITY	2.3	3.3	4.9	6.4	19.6	27.5	10.	CUFT/YR	69. %	AF2,	19. %	S2,	4. %	AF1,	3. %	WP2
	TREES	1.9	2.8	4.3	5.8	6.3	28.6	1047.	TREES	75. %	AF2,	9. %	AF1,	3. %	WP1,	3. %	--1
2022	VOLUME:																
	TOTAL	4.3	5.8	5.9	9.6	22.6	28.6	1879.	CUFT	72. %	AF2,	21. %	S2,	2. %	WP2,	2. %	AF1
	MERCH	8.6	9.6	14.3	21.1	26.3	28.6	761.	CUFT	52. %	AF2,	48. %	S2,	0. %	---	0. %	---
	MERCH	9.6	12.2	17.5	22.6	26.6	28.6	3982.	BDFT	51. %	S2,	49. %	AF2,	0. %	---	0. %	---
2032	REMOVAL	2.1	3.0	4.3	5.7	5.9	6.3	747.	TREES	92. %	AF2,	4. %	WP2,	3. %	--2,	1. %	LP2
	VOLUME:																
	TOTAL	3.4	5.1	5.7	5.9	5.9	6.3	870.	CUFT	94. %	AF2,	5. %	WP2,	1. %	LP2,	0. %	--2
	MERCH	0.0	0.0	0.0	0.0	0.0	6.3	0.	CUFT	0. %	---	0. %	---	0. %	---	0. %	---
2002	MERCH	0.0	0.0	0.0	0.0	0.0	6.3	0.	BDFT	0. %	---	0. %	---	0. %	---	0. %	---
	RESIDUAL	1.6	2.4	3.3	6.6	9.6	28.6	300.	TREES	33. %	AF1,	32. %	AF2,	12. %	WP1,	10. %	--1
	ACCRETION	4.4	9.6	9.6	9.6	14.3	28.6	75.	CUFT/YR	68. %	AF2,	20. %	S2,	6. %	AF1,	3. %	WP1
	MORTALITY	2.8	5.2	9.6	14.3	25.0	28.6	5.	CUFT/YR	41. %	AF2,	29. %	S2,	12. %	AF1,	8. %	WP1
2022	TREES	2.7	4.1	5.5	7.9	15.4	30.7	253.	TREES	37. %	AF2,	31. %	AF1,	10. %	WP1,	10. %	S2
	VOLUME:																
	TOTAL	7.7	12.5	15.4	15.4	26.2	30.7	1714.	CUFT	60. %	AF2,	31. %	S2,	4. %	AF1,	2. %	WP1
	MERCH	9.0	15.4	15.4	15.6	28.2	30.7	1425.	CUFT	64. %	AF2,	35. %	S2,	0. %	AF1,	0. %	WP2
2032	MERCH	11.1	15.4	15.4	18.3	28.2	30.7	7415.	BDFT	60. %	AF2,	39. %	S2,	0. %	AF1,	0. %	WP2
	ACCRETION	4.9	9.0	15.1	15.4	16.4	30.7	62.	CUFT/YR	57. %	AF2,	25. %	S2,	9. %	AF1,	5. %	WP1
	MORTALITY	5.3	9.0	15.4	15.4	23.8	30.7	9.	CUFT/YR	58. %	AF2,	26. %	S2,	7. %	AF1,	4. %	LP1
	TREES	3.6	5.3	7.1	11.4	17.0	31.8	230.	TREES	38. %	AF2,	31. %	AF1,	10. %	S2,	10. %	WP1
2002	VOLUME:																
	TOTAL	7.5	14.1	17.0	17.0	24.6	31.8	2248.	CUFT	59. %	AF2,	29. %	S2,	6. %	AF1,	3. %	WP1
	MERCH	8.7	16.3	17.0	17.0	27.4	31.8	1920.	CUFT	63. %	AF2,	32. %	S2,	2. %	AF1,	1. %	LP1
	MERCH	11.4	16.5	17.0	17.0	29.0	31.8	10096.	BDFT	60. %	AF2,	38. %	S2,	1. %	AF1,	1. %	LP1
2022	ACCRETION	6.2	8.7	16.5	17.0	17.0	31.8	81.	CUFT/YR	70. %	AF2,	14. %	S2,	10. %	AF1,	4. %	WP1
	MORTALITY	6.0	8.7	16.9	17.0	23.8	31.8	18.	CUFT/YR	59. %	AF2,	24. %	S2,	8. %	AF1,	5. %	WP1
																	(con.)

Example 1. (Con.)

2042	TREES VOLUME: TOTAL MERCH MERCH	4.7	6.4	9.2	13.8	19.2	32.2	200. TREES	39. % AF2,	30. % AF1,	11. % S2,	10. % WP1
		8.1	14.3	19.2	19.2	24.9	32.2	2873. CUFT	62. % AF2,	25. % S2,	7. % AF1,	3. % WP1
		11.0	14.7	19.2	19.2	25.2	32.2	2528. CUFT	66. % AF2,	27. % S2,	3. % AF1,	2. % LP1
		11.9	15.2	19.2	19.2	28.6	32.2	13325. BDFT	63. % AF2,	32. % S2,	3. % AF1,	1. % WP1
	ACCRETION. MORTALITY	7.8 6.7	13.8 11.9	19.2 17.5	19.2 19.2	19.2 24.9	32.2 32.2	86. CUFT/YR 24. CUFT/YR	70. % AF2, 56. % AF2,	14. % S2, 24. % S2,	10. % AF1, 9. % AF1,	3. % WP1 6. % WP1
2052	TREES VOLUME: TOTAL MERCH MERCH	5.9	7.6	11.0	15.6	21.6	33.4	176. TREES	41. % AF2,	30. % AF1,	12. % S2,	9. % WP1
		9.3	15.6	21.6	21.6	25.1	33.4	3496. CUFT	65. % AF2,	23. % S2,	7. % AF1,	3. % WP1
		11.0	16.4	21.6	21.6	25.7	33.4	3178. CUFT	67. % AF2,	23. % S2,	5. % AF1,	2. % WP1
		12.7	18.3	21.6	21.6	25.7	33.4	19178. BDFT	69. % AF2,	24. % S2,	4. % AF1,	1. % WP1
	ACCRETION. MORTALITY	8.9 7.8	15.6 12.7	21.6 19.0	21.6 21.6	21.6 23.2	33.4 33.4	99. CUFT/YR 35. CUFT/YR	71. % AF2, 61. % AF2,	13. % S2, 20. % S2,	10. % AF1, 9. % AF1,	3. % WP1 5. % WP1
2062	TREES VOLUME: TOTAL MERCH MERCH	6.6	8.9	12.0	18.2	24.3	35.1	152. TREES	42. % AF2,	30. % AF1,	12. % S2,	8. % WP1
		10.8	18.1	24.3	24.3	24.3	35.1	4141. CUFT	66. % AF2,	20. % S2,	8. % AF1,	3. % WP1
		12.0	18.2	24.3	24.3	24.3	35.1	3851. CUFT	68. % AF2,	21. % S2,	7. % AF1,	2. % WP1
		12.3	18.2	24.3	24.3	24.3	35.1	22021. BDFT	68. % AF2,	23. % S2,	5. % AF1,	2. % WP1
	ACCRETION. MORTALITY	9.9 8.3	15.6 13.8	18.3 20.4	24.3 24.3	24.3 24.3	35.1 35.1	82. CUFT/YR 33. CUFT/YR	68. % AF2, 60. % AF2,	14. % S2, 18. % S2,	12. % AF1, 11. % AF1,	3. % WP1 6. % WP1
2072	TREES VOLUME: TOTAL MERCH MERCH	7.6	10.3	13.3	20.0	25.7	35.7	134. TREES	44. % AF2,	29. % AF1,	13. % S2,	8. % WP1
		11.5	18.8	25.7	25.7	25.7	35.7	4624. CUFT	67. % AF2,	19. % S2,	8. % AF1,	3. % WP1
		12.4	19.4	25.7	25.7	25.7	35.7	4357. CUFT	68. % AF2,	20. % S2,	8. % AF1,	2. % WP1
		13.2	20.0	25.7	25.7	25.7	35.7	24626. BDFT	68. % AF2,	22. % S2,	6. % AF1,	2. % WP1

(con.)

STAND GROWTH PROGNOSIS SYSTEM										VERSION 5.0 -- INLAND EMPIRE (TEST)				
STAND ID; EXAMPLE1		MANAGEMENT CODE: NONE		EVENT MONITOR USER'S GUIDE EXAMPLE 1.										

ATTRIBUTES OF SELECTED SAMPLE TREES														
INITIAL TREES/A		DBH	HEIGHT	LIVE	PAST	BASAL	TREES	ADDITIONAL STAND ATTRIBUTES (BASED ON STOCKABLE AREA)						
YEAR	%TILE	SPECIES	(INCHES)	(FEET)	GROWN RATIO	GROWTH (INCHES)	AREA %TILE	PER ACRE	STAND AGE	QUADRATIC MEAN DBH (INCHES)	TREES PER ACRE	BASAL AREA (SQFT/A)	TOP HEIGHT LARGEST 40/A (FT)	CROWN COMP FACTOR

(10 YRS)														
1972	10	LP1	0.10	2.00	35	0.00	0.1	27.27						
	30	AF2	0.10	4.62	45	0.09	0.5	545.45						
	50	AF2	0.10	1.00	45	0.00	0.8	272.73						
	70	AF2	0.10	2.00	55	0.00	1.0	327.27						
	90	WP1	0.10	1.00	45	0.00	1.1	27.27						
	100	S2	19.90	70.00	65	2.30	100.0	1.68	10	0.9	1916.	9.	18.9	8.5
(10 YRS)														
1982	10	LP1	0.82	6.16	35	0.70	5.8	22.11						
	30	AF2	1.50	10.77	45	1.31	37.7	472.89						
	50	AF2	0.10	3.03	45	0.00	0.0	236.45						
	70	AF2	0.89	7.07	55	0.74	10.1	283.74						
	90	WP1	0.10	4.21	45	0.00	0.1	22.67						
	100	S2	21.44	73.62	65	1.48	94.2	1.68	20	1.5	1654.	21.	25.1	27.7
(10 YRS)														
1992	10	LP1	1.61	11.51	35	0.77	7.4	16.94						
	30	AF2	3.26	16.77	60	1.65	49.6	451.65						
	50	AF2	0.96	7.54	45	0.80	2.1	183.30						
	70	AF2	2.17	13.13	55	1.20	16.8	241.64						
	90	WP1	1.68	13.65	45	1.52	8.2	16.32						
	100	S2	22.91	77.02	65	1.40	95.5	1.68	30	2.7	1401.	54.	31.2	74.1
(10 YRS)														
2002	10	LP1	3.05	21.16	56	1.39	13.2	13.34						
	30	AF2	4.93	19.72	64	1.56	56.1	433.12						
	50	AF2	1.74	11.34	45	0.74	2.8	153.01						
	70	AF2	3.20	17.00	84	0.96	18.2	224.83						
	90	WP1	2.92	19.72	45	1.20	10.2	15.34						
	100	S2	25.06	80.66	66	2.06	97.7	1.64	40	3.9	1222.	101.	36.5	132.2
(10 YRS)														
2012	10	LP1	4.31	26.34	56	1.22	12.4	11.98						
	30	AF2	5.90	24.45	57	0.91	59.5	400.35						
	50	AF2	2.71	16.38	45	0.90	4.8	124.77						
	70	AF2	5.72	20.41	85	2.36	34.2	199.24						
	90	WP1	3.34	24.82	63	0.41	9.1	13.65						
	100	S2	26.32	83.61	59	1.20	98.5	1.55	50	5.2	1047.	152.	37.7	189.3
									RESIDUAL:	6.5	300.	69.	37.7	73.3
														(con.)

Example 1. (Con.)

2022	10	LP1	5.95	33.60	59	(10 YRS)		1.60	10.0	10.81	60	9.0	253.	113.	41.5	114.2
	30	AF2	6.46	28.94	60			0.52	11.5	7.28						
	50	AF2	3.68	18.43	46			0.91	2.5	2.19						
	70	AF2	7.28	27.71	87			1.46	12.0	3.84						
	90	WP1	4.96	32.30	66			1.56	7.6	9.80						
	100	S2	28.20	86.81	65			1.80	98.2	1.50						
2032	10	LP1	7.07	38.56	58	(10 YRS)		1.08	11.0	10.07	70	10.4	230.	137.	45.7	134.0
	30	AF2	7.48	33.84	57			0.96	12.4	5.99						
	50	AF2	5.26	24.00	44			1.49	4.5	1.90						
	70	AF2	11.97	34.44	90			4.39	29.5	3.61						
	90	WP1	5.96	39.15	64			0.96	7.7	9.13						
	100	S2	29.75	89.70	62			1.48	99.2	1.44						
2042	10	LP1	8.01	43.15	56	(10 YRS)		0.91	11.6	8.82	80	12.2	200.	162.	51.0	155.4
	30	AF2	8.12	38.66	53			0.60	12.0	5.39						
	50	AF2	6.51	27.32	42			1.17	5.5	1.75						
	70	AF2	13.72	40.07	86			1.64	28.7	3.40						
	90	WP1	6.52	44.89	62			0.54	6.1	7.86						
	100	S2	31.40	92.53	59			1.58	99.7	1.35						
2052	10	LP1	9.12	47.89	55	(10 YRS)		1.07	10.7	7.43	90	13.8	176.	182.	56.3	171.0
	30	AF2	8.72	43.20	50			0.56	9.1	4.49						
	50	AF2	6.89	31.65	38			0.36	3.7	1.58						
	70	AF2	15.87	46.01	84			2.02	34.3	3.14						
	90	WP1	7.17	49.85	61			0.62	5.1	5.96						
	100	S2	32.76	95.10	57			1.30	99.7	1.26						
2062	10	LP1	10.59	52.93	54	(10 YRS)		1.42	11.2	6.47	100	15.5	152.	200.	61.6	183.8
	30	AF2	9.68	48.23	48			0.90	8.3	3.69						
	50	AF2	7.62	35.50	36			0.68	2.8	1.18						
	70	AF2	18.09	51.90	82			2.08	33.3	2.87						
	90	WP1	7.70	55.34	60			0.51	3.2	4.64						
	100	S2	35.11	98.01	55			2.25	100.0	1.15						
2072	10	LP1	10.91	56.05	52	(10 YRS)		0.31	8.4	5.94	110	16.9	134.	210.	65.8	189.6 (con.)
	30	AF2	10.31	52.58	47			0.59	7.1	3.26						
	50	AF2	8.37	40.23	35			0.70	2.9	0.98						
	70	AF2	19.69	57.11	81			1.50	35.1	2.67						
	90	WP1	8.67	61.05	60			0.94	3.7	3.44						
	100	S2	35.72	99.95	54			0.59	100.0	1.07						

[illegible]

ACTIVITY SUMMARY

STAND ID=	EXAMPLE1	MANAGEMENT ID=	NONE	EVENT MONITOR	USER'S GUIDE	EXAMPLE 1.
CYCLE	DATE	EXTENSION	KEYWORD	DATE	ACTIVITY DISPOSITION	PARAMETERS:
1	1972					
2	1982					
3	1992					
4	2002					
5	2012	BASE	THINBTA	2012	DONE IN 2012	300.00 0.98 0.00 999.00
6	2022					
7	2032					
8	2042					
9	2052					
10	2062					

Example 2.

STAND GROWTH PROGNOSIS SYSTEM VERSION 5.1 -- INLAND EMPIRE

OPTIONS SELECTED BY INPUT

PARAMETERS:

STIDENT

STAND ID= EXAMPLE2

EVENT MONITOR USER'S GUIDE, EXAMPLE 2

INVYEAR

INVENTORY YEAR= 1972

NUMCYCLE

NUMBER OF CYCLES= 15

IF

MINIMUM DELAY TIME BETWEEN RESPONSES TO THE EVENT = 999

PAI LT MAI

THEN ACTIVITIES WHICH FOLLOW WILL NOT BE SCHEDULED UNTIL THE EVENT HAPPENS (WHEN THE LOGICAL EXPRESSION IS TRUE).

THINATA

DATE/CYCLE= 0; RESIDUAL= 0.00; PROPORTION OF SELECTED TREES REMOVED= 1.000
DBH OF REMOVED TREES WILL RANGE FROM 0.0 TO 999.0 INCHES

ESTAB

REGENERATION ESTABLISHMENT OPTIONS:

BURNPREP

DATE/CYCLE= 1; % GROUND= 80.0

MECHPREP

DATE/CYCLE= 1; % GROUND= 20.0

PLANT

DATE/CYCLE= 2; SPECIES= 2.; TREES/ACRE= 300.; % SURVIVAL= 90.00

PLANT

DATE/CYCLE= 2; SPECIES= 8.; TREES/ACRE= 300.; % SURVIVAL= 90.00

STOCKADJ

DATE/CYCLE= 9; MULTIPLIER= -1.00
NATURAL REGENERATION IS CANCELLED -- ONLY PLANTED TREES ARE TALLIED.

RESETAGE

DATE/CYCLE= 0; NEW AGE= 0.

END

REGENERATION TALLY ONE SCHEDULED FOR 9, AND TALLY TWO FOR 19 YEARS AFTER IF-EVENT IS TRUE.
END OF ESTABLISHMENT KEYWORDS

ENDIF

ACTIVITIES WHICH FOLLOW WILL BE SCHEDULED.

IF

MINIMUM DELAY TIME BETWEEN RESPONSES TO THE EVENT = 20

THEN

BBA GT 150 AND AGE LT 130

ACTIVITIES WHICH FOLLOW WILL NOT BE SCHEDULED UNTIL THE EVENT HAPPENS (WHEN THE LOGICAL EXPRESSION IS TRUE).

THINBBA

DATE/CYCLE= 0; RESIDUAL= 130.00; PROPORTION OF SELECTED TREES REMOVED= 0.980
DBH OF REMOVED TREES WILL RANGE FROM 0.0 TO 999.0 INCHES

ENDIF

ACTIVITIES WHICH FOLLOW WILL BE SCHEDULED.

STDINFO

FOREST CODE= 18; HABITAT TYPE=680; AGE= 150; ASPECT CODE= 8.; SLOPE CODE= 5.
ELEVATION(100'S FEET)= 53.0; SITE INDEX= 0.

PROCESS

PROCESS THE STAND.

(con.)

OPTIONS SELECTED BY DEFAULT

TREEFMT (23X,14,3X, F2.0,11, A3,F3.1,F2.1,3X,F3.0,T63,F3.0 ,T60,F3.1,T48, 11,3X, 12,
211,T66,211,13, 211)
DESIGN BASAL AREA FACTOR= 40.0; INVERSE OF FIXED PLOT AREA= 300.0; BREAK DBH= 5.0
NUMBER OF PLOTS= 9; NON-STOCKABLE PLOTS= 0; STAND SAMPLING WEIGHT= 9.00000

ACTIVITY SCHEDULE

STAND ID= EXAMPLE2 MANAGEMENT ID= NONE EVENT MONITOR USER'S GUIDE, EXAMPLE 2

CYCLE DATE EXTENSION KEYWORD DATE PARAMETERS:

- 1 1972
- 2 1982
- 3 1992
- 4 2002
- 5 2012
- 6 2022
- 7 2032
- 8 2042
- 9 2052
- 10 2062
- 11 2072
- 12 2082
- 13 2092
- 14 2102
- 15 2112

(con.)

Example 2. (Con.)

CALIBRATION STATISTICS:

	DF	WP	S	GF	AF	LP	L
	---	---	---	---	---	---	---
NUMBER OF RECORDS PER SPECIES	19	6	2	5	6	2	3
NUMBER OF RECORDS CODED AS RECENT MORTALITY	0	0	0	0	0	0	0
NUMBER OF RECORDS WITH MISSING HEIGHTS	0	0	0	0	0	0	0
NUMBER OF RECORDS WITH BROKEN OR DEAD TOPS	0	0	1	0	0	0	0
NUMBER OF RECORDS WITH MISSING CROWN RATIOS	0	0	0	0	0	0	0
NUMBER OF RECORDS AVAILABLE FOR SCALING THE DIAMETER INCREMENT MODEL	18	5	2	3	4	2	3
RATIO OF STANDARD ERRORS (INPUT DBH GROWTH DATA : MODEL)	1.12	1.17	1.00	1.00	1.00	1.00	1.00
WEIGHT GIVEN TO THE INPUT GROWTH DATA WHEN DBH GROWTH MODEL SCALE FACTORS WERE COMPUTED	0.73	0.89	0.00	0.00	0.00	0.00	0.00
INITIAL SCALE FACTORS FOR THE DBH INCREMENT MODEL	1.14	1.54	1.00	1.00	1.00	1.00	1.00
NUMBER OF RECORDS AVAILABLE FOR SCALING THE SMALL TREE HEIGHT INCREMENT MODEL	0	0	0	0	0	0	0
INITIAL SCALE FACTORS FOR THE SMALL TREE HEIGHT INCREMENT MODEL	1.00	1.00	1.00	1.00	1.00	1.00	1.00

(con.)

STAND COMPOSITION (BASED ON STOCKABLE AREA)

YEAR	STAND ATTRIBUTES	PERCENTILE POINTS IN THE DISTRIBUTION OF STAND ATTRIBUTES BY DBH						TOTAL/ACRE OF STAND ATTRIBUTES	DISTRIBUTION OF STAND ATTRIBUTES BY SPECIES AND 3 USER-DEFINED SUBCLASSES				
		(DBH IN INCHES)											
		10	30	50	70	90	100						
1972	TREES VOLUME: TOTAL MERCH MERCH	0.1	0.1	2.3	7.7	16.6	32.8	371.	TREES	22. % AF2,	20. % GF2,	14. % WP2,	12. % L1
		10.1	17.6	21.8	25.8	29.5	32.8	6229.	CUFT	39. % DF1,	18. % WP2,	13. % DF2,	7. % LP2
		11.3	18.8	21.9	25.8	29.5	32.8	5841.	CUFT	40. % DF1,	19. % WP2,	14. % DF2,	7. % LP2
		12.4	18.8	22.1	26.0	29.5	32.8	30364.	BDFI	42. % DF1,	18. % WP2,	15. % DF2,	6. % LP2
	ACCRETION MORTALITY	7.7	10.5	17.6	21.9	27.5	32.8	97.	CUFT/YR	32. % DF1,	18. % WP2,	9. % AF2,	7. % GF2
		7.7	14.2	19.0	22.7	27.5	32.8	28.	CUFT/YR	30. % DF1,	17. % WP2,	14. % LP2,	14. % DF2
1982	TREES VOLUME: TOTAL MERCH MERCH	0.1	1.9	7.1	11.0	19.7	33.9	280.	TREES	20. % AF2,	19. % GF2,	13. % L1,	12. % WP2
		11.1	17.9	22.3	26.0	30.4	33.9	6918.	CUFT	38. % DF1,	18. % WP2,	12. % DF2,	6. % GF2
		11.2	18.0	22.6	26.3	30.4	33.9	6619.	CUFT	39. % DF1,	18. % WP2,	13. % DF2,	6. % GF2
		12.2	19.6	22.8	26.3	30.4	33.9	34384.	BDFI	41. % DF1,	18. % WP2,	14. % DF2,	6. % GF2
	ACCRETION MORTALITY	9.0	12.2	17.1	22.7	28.3	33.9	98.	CUFT/YR	30. % DF1,	17. % WP2,	9. % AF2,	8. % GF1
		8.4	12.8	19.3	23.4	29.7	33.9	35.	CUFT/YR	30. % DF1,	17. % WP2,	14. % LP2,	12. % L1
1992	TREES VOLUME: TOTAL MERCH MERCH	0.1	2.3	8.9	12.9	22.2	34.8	218.	TREES	17. % AF2,	16. % GF2,	14. % L1,	13. % DF1
		12.0	18.1	23.1	26.5	31.2	34.8	7552.	CUFT	37. % DF1,	18. % WP2,	12. % DF2,	6. % GF2
		12.2	18.3	23.1	26.5	31.2	34.8	7271.	CUFT	38. % DF1,	18. % WP2,	12. % DF2,	6. % GF2
		12.9	18.8	23.5	26.8	31.4	34.8	38004.	BDFI	40. % DF1,	18. % WP2,	13. % DF2,	6. % GF2
	ACCRETION MORTALITY	10.6	13.3	17.7	23.5	28.5	34.8	93.	CUFT/YR	30. % DF1,	15. % WP2,	11. % AF2,	10. % GF1
		9.3	13.7	20.2	24.4	30.6	34.8	43.	CUFT/YR	30. % DF1,	17. % WP2,	12. % LP2,	11. % L1
2002	TREES VOLUME: TOTAL MERCH MERCH	0.9	7.8	11.6	14.8	23.9	35.4	177.	TREES	16. % AF2,	15. % DF1,	14. % GF2,	14. % L1
		13.0	18.6	23.4	27.1	31.9	35.4	8053.	CUFT	37. % DF1,	18. % WP2,	11. % DF2,	7. % GF2
		13.3	18.7	23.5	27.3	31.9	35.4	7798.	CUFT	37. % DF1,	18. % WP2,	11. % DF2,	7. % GF2
		13.4	18.9	23.9	27.4	31.9	35.4	41171.	BDFI	39. % DF1,	17. % WP2,	12. % DF2,	6. % GF2
	ACCRETION MORTALITY	10.0	13.4	16.7	23.2	29.4	35.4	95.	CUFT/YR	27. % DF1,	13. % GF1,	12. % WP2,	11. % S2
		9.5	14.5	21.2	25.5	31.6	35.4	50.	CUFT/YR	30. % DF1,	20. % WP2,	10. % LP2,	10. % DF2

(con.

(con.)

Example 2. (Con.)

2012	TREES	2.3	9.3	13.6	16.3	25.0	35.7	150.	TREES	17. %	DF1,	15. %	AF2,	13. %	L1,	13. %	GF2
	VOLUME:																
	TOTAL	13.8	18.8	24.1	27.6	32.8	35.7	8504.	CUFT	36. %	DF1,	17. %	WP2,	10. %	DF2,	7. %	GF2
	MERCH	14.0	19.1	24.1	27.7	33.0	35.7	8255.	CUFT	37. %	DF1,	17. %	WP2,	11. %	DF2,	7. %	GF2
		14.6	19.3	24.2	28.0	33.0	35.7	44133.	BDFT	38. %	DF1,	16. %	WP2,	11. %	DF2,	7. %	GF2
	ACCRETION	12.8	15.4	18.2	24.1	30.1	35.7	96.	CUFT/YR	26. %	DF1,	14. %	GF1,	13. %	WP2,	12. %	AF2
	MORTALITY	10.8	15.9	21.9	26.0	32.0	35.7	55.	CUFT/YR	30. %	DF1,	20. %	WP2,	9. %	DF2,	9. %	L1
2022	TREES	3.4	10.8	14.7	18.9	26.3	36.2	129.	TREES	18. %	DF1,	15. %	AF2,	13. %	S2,	12. %	L1
	VOLUME:																
	TOTAL	14.5	19.2	24.3	28.1	33.5	36.2	8912.	CUFT	36. %	DF1,	16. %	WP2,	10. %	DF2,	7. %	GF2
	MERCH	14.6	19.2	24.3	28.2	33.8	36.2	8665.	CUFT	36. %	DF1,	16. %	WP2,	10. %	DF2,	7. %	GF2
		15.0	19.4	24.6	28.3	33.8	36.2	46789.	BDFT	37. %	DF1,	15. %	WP2,	10. %	DF2,	7. %	S2
	REMOVAL	3.4	10.8	14.7	18.9	26.3	36.2	129.	TREES	18. %	DF1,	15. %	AF2,	13. %	S2,	12. %	L1
	VOLUME:																
	TOTAL	14.5	19.2	24.3	28.1	33.5	36.2	8912.	CUFT	36. %	DF1,	16. %	WP2,	10. %	DF2,	7. %	GF2
		14.6	19.2	24.3	28.2	33.8	36.2	8665.	CUFT	36. %	DF1,	16. %	WP2,	10. %	DF2,	7. %	GF2
	MERCH	15.0	19.4	24.6	28.3	33.8	36.2	46789.	BDFT	37. %	DF1,	15. %	WP2,	10. %	DF2,	7. %	S2
	RESIDUAL	7.5	7.5	7.5	7.5	7.5	7.5	0.	TREES	100. %	L1,	0. %	----	0. %	----	0. %	----
	ACCRETION	7.5	7.5	7.5	7.5	7.5	7.5	0.	CUFT/YR	100. %	L1,	0. %	----	0. %	----	0. %	----
	MORTALITY	7.5	7.5	7.5	7.5	7.5	7.5	0.	CUFT/YR	100. %	L1,	0. %	----	0. %	----	0. %	----
2032	TREES	0.3	0.4	0.4	0.4	0.4	8.9	540.	TREES	50. %	L1,	50. %	S1,	0. %	----	0. %	----
	VOLUME:																
	TOTAL	8.1	8.1	8.9	8.9	8.9	8.9	0.	CUFT	100. %	L1,	0. %	----	0. %	----	0. %	----
	MERCH	8.1	8.1	8.9	8.9	8.9	8.9	0.	CUFT	100. %	L1,	0. %	----	0. %	----	0. %	----
		8.1	8.1	8.9	8.9	8.9	8.9	0.	BDFT	100. %	L1,	0. %	----	0. %	----	0. %	----
	ACCRETION	0.3	0.4	0.4	0.4	0.4	8.9	3.	CUFT/YR	51. %	S1,	49. %	L1,	0. %	----	0. %	----
	MORTALITY	8.1	8.1	8.1	8.1	8.9	8.9	0.	CUFT/YR	100. %	L1,	0. %	----	0. %	----	0. %	----
2042	TREES	0.9	1.1	1.4	1.6	2.1	9.6	424.	TREES	56. %	S1,	44. %	L1,	0. %	----	0. %	----
	VOLUME:																
	TOTAL	1.1	1.4	1.7	2.1	2.3	9.6	34.	CUFT	51. %	S1,	49. %	L1,	0. %	----	0. %	----
	MERCH	9.2	9.2	9.6	9.6	9.6	9.6	0.	CUFT	100. %	L1,	0. %	----	0. %	----	0. %	----
		9.2	9.2	9.6	9.6	9.6	9.6	0.	BDFT	100. %	L1,	0. %	----	0. %	----	0. %	----
	ACCRETION	1.2	1.4	1.7	2.1	2.3	9.6	21.	CUFT/YR	57. %	L1,	43. %	S1,	0. %	----	0. %	----
	MORTALITY	0.9	1.2	1.4	1.7	2.1	9.6	0.	CUFT/YR	54. %	L1,	46. %	S1,	0. %	----	0. %	----

(con.)

2052	TREES	1.9	2.6	3.3	3.9	4.7	10.5	387.	TREES	56.%	S1,	44.%	L1,	0.%	---	0.%	---
	VOLUME:																
	TOTAL	2.8	3.7	4.0	4.5	5.3	10.5	245.	CUFT	56.%	L1,	44.%	S1,	0.%	---	0.%	---
	MERCH	10.1	10.1	10.5	10.5	10.5	10.5	0.	CUFT	100.%	L1,	0.%	---	0.%	---	0.%	---
		10.1	10.1	10.5	10.5	10.5	10.5	0.	BDF	100.%	L1,	0.%	---	0.%	---	0.%	---
	ACCRETION	2.5	3.2	3.8	4.2	5.1	10.5	54.	CUFT/YR	53.%	S1,	47.%	L1,	0.%	---	0.%	---
	MORTALITY	2.1	2.9	3.6	4.0	4.5	10.5	1.	CUFT/YR	65.%	L1,	35.%	S1,	0.%	---	0.%	---
2062	TREES	3.6	4.8	5.4	6.0	7.4	13.4	373.	TREES	57.%	S1,	43.%	L1,	0.%	---	0.%	---
	VOLUME:																
	TOTAL	4.7	5.5	6.0	6.9	7.5	13.4	778.	CUFT	50.%	S1,	50.%	L1,	0.%	---	0.%	---
	MERCH	7.2	7.4	7.5	7.7	8.0	13.4	169.	CUFT	66.%	S1,	34.%	L1,	0.%	---	0.%	---
		7.2	7.4	7.5	7.7	8.0	13.4	614.	BDF	63.%	S1,	37.%	L1,	0.%	---	0.%	---
	ACCRETION	4.3	5.3	5.8	6.9	7.9	13.4	93.	CUFT/YR	63.%	S1,	37.%	L1,	0.%	---	0.%	---
	MORTALITY	4.2	4.9	5.8	6.2	7.4	13.4	2.	CUFT/YR	68.%	L1,	32.%	S1,	0.%	---	0.%	---
2072	TREES	5.4	6.5	7.2	8.3	9.3	15.0	358.	TREES	58.%	S1,	42.%	L1,	0.%	---	0.%	---
	VOLUME:																
	TOTAL	6.3	7.2	8.2	9.1	10.1	15.0	1686.	CUFT	57.%	S1,	43.%	L1,	0.%	---	0.%	---
	MERCH	7.3	8.1	8.9	9.2	10.6	15.0	1071.	CUFT	60.%	S1,	40.%	L1,	0.%	---	0.%	---
		7.4	8.2	9.0	9.2	11.3	15.0	4400.	BDF	61.%	S1,	39.%	L1,	0.%	---	0.%	---
	ACCRETION	6.4	7.3	8.3	9.2	10.6	15.0	128.	CUFT/YR	73.%	S1,	27.%	L1,	0.%	---	0.%	---
	MORTALITY	5.8	6.7	7.7	8.8	9.8	15.0	9.	CUFT/YR	56.%	L1,	44.%	S1,	0.%	---	0.%	---
2082	TREES	6.5	7.7	8.9	10.0	12.2	16.7	336.	TREES	59.%	S1,	41.%	L1,	0.%	---	0.%	---
	VOLUME:																
	TOTAL	7.5	8.9	10.0	11.7	13.9	16.7	2879.	CUFT	65.%	S1,	35.%	L1,	0.%	---	0.%	---
	MERCH	8.0	9.5	10.5	11.7	13.9	16.7	2422.	CUFT	66.%	S1,	34.%	L1,	0.%	---	0.%	---
		8.2	9.5	10.9	12.2	15.6	16.7	11338.	BDF	69.%	S1,	31.%	L1,	0.%	---	0.%	---
	REMOVAL	5.5	6.7	7.3	7.6	8.0	8.3	128.	TREES	57.%	L1,	43.%	S1,	0.%	---	0.%	---
	VOLUME:																
	TOTAL	6.0	7.1	7.4	7.7	8.2	8.3	551.	CUFT	62.%	L1,	38.%	S1,	0.%	---	0.%	---
	MERCH	7.3	7.4	7.6	8.0	8.3	8.3	325.	CUFT	68.%	L1,	32.%	S1,	0.%	---	0.%	---
		7.3	7.4	7.6	8.0	8.3	8.3	1259.	BDF	70.%	L1,	30.%	S1,	0.%	---	0.%	---
	RESIDUAL	8.6	9.4	9.9	11.4	13.3	16.7	208.	TREES	68.%	S1,	32.%	L1,	0.%	---	0.%	---
	ACCRETION	8.7	9.7	11.4	12.2	13.9	16.7	114.	CUFT/YR	83.%	S1,	17.%	L1,	0.%	---	0.%	---
	MORTALITY	8.7	9.5	10.0	11.6	13.9	16.7	11.	CUFT/YR	57.%	S1,	43.%	L1,	0.%	---	0.%	---

(con.)

Example 2. (Con.)

2092	TREES	9.8	10.5	11.3	13.2	15.8	19.2	198.	TREES	69.%	S1,	31.%	L1,	0.%	---	0.%	---
	VOLUME:																
	TOTAL	10.2	11.2	13.1	14.4	18.5	19.2	3358.	CUFT	76.%	S1,	24.%	L1,	0.%	---	0.%	---
	MERCH	10.2	11.2	13.1	14.4	18.5	19.2	3101.	CUFT	76.%	S1,	24.%	L1,	0.%	---	0.%	---
	MERCH	10.3	11.6	13.3	14.6	18.5	19.2	16558.	BOFT	80.%	S1,	20.%	L1,	0.%	---	0.%	---
	ACCRETION	10.2	11.2	13.1	14.2	17.8	19.2	136.	CUFT/YR	86.%	S1,	14.%	L1,	0.%	---	0.%	---
	MORTALITY	9.9	10.6	11.5	13.5	17.8	19.2	25.	CUFT/YR	60.%	S1,	40.%	L1,	0.%	---	0.%	---
2102	TREES	11.0	11.8	13.4	14.9	19.1	21.5	182.	TREES	71.%	S1,	29.%	L1,	0.%	---	0.%	---
	VOLUME:																
	TOTAL	11.1	13.2	14.6	16.8	20.7	21.5	4469.	CUFT	80.%	S1,	20.%	L1,	0.%	---	0.%	---
	MERCH	11.1	13.2	14.8	16.8	20.7	21.5	4192.	CUFT	80.%	S1,	20.%	L1,	0.%	---	0.%	---
	MERCH	11.5	13.5	15.5	17.2	21.0	21.5	24100.	BOFT	85.%	S1,	15.%	L1,	0.%	---	0.%	---
	ACCRETION	11.7	14.1	14.9	16.8	21.0	21.5	143.	CUFT/YR	89.%	S1,	11.%	L1,	0.%	---	0.%	---
	MORTALITY	10.9	12.0	14.2	16.0	20.7	21.5	36.	CUFT/YR	68.%	S1,	32.%	L1,	0.%	---	0.%	---
2112	TREES	11.4	12.8	15.5	17.2	20.4	25.0	166.	TREES	72.%	S1,	28.%	L1,	0.%	---	0.%	---
	VOLUME:																
	TOTAL	12.3	14.9	17.1	18.9	23.8	25.0	5537.	CUFT	83.%	S1,	17.%	L1,	0.%	---	0.%	---
	MERCH	12.4	14.9	17.1	18.9	23.8	25.0	5243.	CUFT	83.%	S1,	17.%	L1,	0.%	---	0.%	---
	MERCH	12.4	15.6	17.2	19.0	23.8	25.0	31222.	BOFT	87.%	S1,	13.%	L1,	0.%	---	0.%	---
	REMOVAL	11.3	12.3	13.3	14.3	16.2	16.9	102.	TREES	55.%	S1,	45.%	L1,	0.%	---	0.%	---
	VOLUME:																
	TOTAL	11.3	12.4	13.5	14.9	16.6	16.9	2365.	CUFT	61.%	S1,	39.%	L1,	0.%	---	0.%	---
	MERCH	11.4	12.4	13.5	14.9	16.6	16.9	2221.	CUFT	61.%	S1,	39.%	L1,	0.%	---	0.%	---
	MERCH	11.7	12.6	13.7	15.5	16.6	16.9	11871.	BOFT	67.%	S1,	33.%	L1,	0.%	---	0.%	---
	RESIDUAL	17.0	17.2	17.8	19.0	23.8	25.0	64.	TREES	99.%	S1,	1.%	L1,	0.%	---	0.%	---
	ACCRETION	17.1	17.3	18.9	21.7	23.8	25.0	76.	CUFT/YR	100.%	S1,	0.%	L1,	0.%	---	0.%	---
	MORTALITY	17.0	17.3	18.9	21.7	23.8	25.0	8.	CUFT/YR	97.%	S1,	3.%	L1,	0.%	---	0.%	---
2122	TREES	17.9	18.6	19.6	20.5	26.3	26.3	63.	TREES	99.%	S1,	1.%	L1,	0.%	---	0.%	---
	VOLUME:																
	TOTAL	18.6	19.0	20.5	23.2	26.3	26.3	3857.	CUFT	99.%	S1,	1.%	L1,	0.%	---	0.%	---
	MERCH	18.6	19.0	20.5	23.2	26.3	26.3	3691.	CUFT	99.%	S1,	1.%	L1,	0.%	---	0.%	---
	MERCH	18.6	19.6	20.5	23.2	26.3	26.3	23940.	BOFT	100.%	S1,	0.%	L1,	0.%	---	0.%	---

(con.)

MANAGEMENT CODE: NONE EVENT MONITOR USER'S GUIDE, EXAMPLE 2

ATTRIBUTES OF SELECTED SAMPLE TREES										ADDITIONAL STAND ATTRIBUTES (BASED ON STOCKABLE AREA)				
YEAR	INITIAL TREES/A %TILE	SPECIES	DBH (INCHES)	HEIGHT (FEET)	LIVE CROWN RATIO	PAST DBH GROWTH (INCHES)	BASAL AREA %TILE	TREES PER ACRE	STAND AGE	QUADRATIC MEAN DBH (INCHES)	TREES PER ACRE	BASAL AREA (SQFT/A)	TOP HEIGHT LARGEST 40/A (FT)	CROWN COMP FACTOR
(10 YRS)														
1972	10	AF2	0.10	1.00	45	0.00	0.0	33.33						
	30	GF2	0.10	1.00	35	0.00	0.0	33.33						
	50	GF2	2.30	8.00	35	0.53	0.9	33.33						
	70	WP2	7.70	52.00	15	1.20	11.6	13.74						
	90	L1	16.60	105.00	25	0.60	41.1	2.96						
	100	DF2	32.80	149.00	35	0.90	100.0	0.76	150	9.1	371.	166.	114.6	146.0
(10 YRS)														
1982	10	AF2	0.10	3.05	45	0.00	0.0	18.16						
	30	GF2	0.10	2.93	35	0.00	0.0	19.60						
	50	GF2	2.30	10.68	35	0.00	0.6	25.07						
	70	WP2	8.35	59.04	14	0.63	10.2	13.12						
	90	L1	17.08	108.14	24	0.41	39.5	2.77						
	100	DF2	33.27	150.83	35	0.41	99.4	0.74	160	10.8	280.	179.	116.7	153.8
(10 YRS)														
1992	10	AF2	0.10	4.29	45	0.00	0.0	9.75						
	30	GF2	0.10	4.03	35	0.00	0.0	11.38						
	50	GF2	2.30	14.11	35	0.00	0.4	16.74						
	70	WP2	8.93	65.80	13	0.55	7.2	11.59						
	90	L1	17.53	111.12	23	0.38	39.2	2.47						
	100	DF2	33.72	152.58	35	0.39	98.9	0.71	170	12.7	218.	190.	119.3	160.4
(10 YRS)														
2002	10	AF2	0.73	5.67	45	0.59	0.0	5.18						
	30	GF2	0.86	6.28	35	0.70	0.0	6.54						
	50	GF2	2.47	17.69	35	0.15	0.2	11.02						
	70	WP2	9.25	69.50	12	0.31	5.8	10.00						
	90	L1	18.17	114.80	23	0.55	39.0	2.17						
	100	DF2	34.16	154.29	35	0.38	99.0	0.68	180	14.3	177.	197.	122.5	164.0
(10 YRS)														
2012	10	AF2	0.92	7.26	45	0.17	0.0	3.33						
	30	GF2	1.29	9.49	35	0.39	0.0	4.87						
	50	GF2	2.96	20.98	35	0.45	0.2	7.16						
	70	WP2	9.68	73.99	12	0.41	5.0	7.97						
	90	L1	18.63	117.69	23	0.39	39.7	1.96						
	100	DF2	34.54	155.85	35	0.33	98.7	0.64	190	15.8	150.	203.	124.8	166.8

(con.)

Example 2. (Con.)

2022	10	AF2	1.14	8.76	45	0.21	0.0	2.01	RESIDUAL: 0	17.2	129.	208.	126.4	168.1
	30	GF2	1.61	11.72	35	0.29	0.0	3.19		0.0				
	50	GF2	3.70	25.89	40	0.68	0.2	5.12						
	70	WP2	10.18	78.96	12	0.48	4.1	6.56						
	90	L1	18.96	120.02	22	0.28	37.1	1.70						
	100	DF2	34.88	157.31	35	0.30	98.7	0.61						
2032 **	10	L1	0.27	7.69	65	0.00	5.4	5.56	10	0.4	540.	0.	2.7	0.7
	30	S1	0.40	4.86	54	0.00	22.5	5.56						
	50	S1	0.40	2.52	86	0.00	44.4	6.11						
	70	L1	0.40	4.71	56	0.00	67.3	6.11						
	90	S1	0.40	1.62	66	0.00	89.4	5.56						
	100	L1	8.92	70.93	58	1.24	100.0	0.00						
2042 **	10	L1	0.92	6.30	78	0.44	2.9	3.92	20	1.5	424.	5.	19.5	6.5
	30	L1	1.13	8.54	76	0.62	12.3	3.92						
	50	S1	1.38	9.43	75	0.93	27.3	4.85						
	70	S1	1.64	10.95	74	1.19	47.1	4.85						
	90	L1	2.11	18.76	55	1.57	78.4	3.80						
	100	L1	9.56	79.45	56	0.54	100.0	0.00						
2052	10	L1	1.44	10.77	78	0.44	0.5	2.80	30	3.5	387.	26.	32.8	26.4
	30	L1	2.07	14.60	76	0.80	4.2	3.09						
	50	S1	3.84	19.19	87	2.36	45.0	4.62						
	70	S1	3.67	18.04	58	1.94	36.2	4.71						
	90	L1	4.41	30.46	41	1.96	70.0	3.68						
	100	L1	10.51	86.63	55	0.81	100.0	0.00						
2062	10	L1	2.61	18.64	78	1.00	0.7	1.89	40	5.6	373.	63.	35.9	58.6
	30	L1	3.19	21.45	50	0.95	1.2	2.56						
	50	S1	5.80	29.05	84	1.87	44.3	4.58						
	70	S1	5.76	25.64	59	2.00	42.0	4.64						
	90	L1	5.78	39.00	35	1.16	43.0	3.59						
	100	L1	12.45	96.76	55	1.65	100.0	0.00						
2072	10	L1	3.68	25.98	38	0.91	0.3	1.62	50	7.6	358.	113.	39.0	97.7 (con.)
	30	L1	3.79	30.34	44	0.52	0.5	2.20						
	50	S1	7.34	34.88	83	1.47	35.5	4.49						
	70	S1	9.20	37.33	62	3.29	76.8	4.56						
	90	L1	6.33	48.79	25	0.47	12.3	3.42						
	100	L1	13.97	104.57	55	1.29	100.0	0.00						

2082	10	L1	4.37	30.67	36	0.58	0.2	1.34	60 RESIDUAL:	9.5 10.7	336. 208.	164. 130.	49.4 49.4	135.5 104.6
	30	L1	4.27	34.91	40	0.41	0.1	1.56						
	50	S1	8.66	41.08	81	1.26	27.7	4.29						
	70	S1	12.18	48.44	61	2.85	77.9	4.39						
	90	L1	6.67	52.87	20	0.30	4.0	2.87						
	100	L1	14.38	107.59	54	0.35	92.9	0.00						
2092	10	L1	5.15	35.31	36	0.67	0.0	0.02	70	12.5	198.	167.	56.4	129.2
	30	L1	5.19	39.90	40	0.78	0.0	0.02						
	50	S1	10.46	48.31	80	1.72	17.8	4.09						
	70	S1	13.53	54.04	60	1.29	64.2	4.22						
	90	L1	7.37	59.77	20	0.59	0.1	0.04						
	100	L1	15.64	113.92	54	1.08	78.5	0.00						
2102	10	L1	5.49	39.46	35	0.29	0.0	0.02	80	14.3	182.	202.	64.5	148.3
	30	L1	5.68	44.34	39	0.42	0.0	0.02						
	50	S1	11.67	53.96	76	1.16	16.3	3.86						
	70	S1	14.24	57.51	54	0.68	44.5	3.97						
	90	L1	8.03	64.11	19	0.57	0.1	0.04						
	100	L1	16.31	117.80	52	0.56	69.0	0.00						
2112	10	L1	6.24	44.50	35	0.64	0.0	0.01	90 RESIDUAL:	16.0 19.3	166. 64.	231. 130.	70.5 70.5	162.4 84.9
	30	L1	5.82	46.24	38	0.12	0.0	0.01						
	50	S1	12.35	57.58	72	0.65	11.1	3.57						
	70	S1	15.49	62.47	50	1.19	33.5	3.65						
	90	L1	8.38	67.91	18	0.30	0.0	0.03						
	100	L1	17.76	124.25	50	1.24	65.0	0.00						
2122	10	L1	6.78	48.50	35	0.46	0.0	0.00	100	20.9	63.	149.	76.4	94.9
	30	L1	6.43	52.84	38	0.52	0.0	0.00						
	50	S1	13.21	61.72	77	0.82	0.3	0.07						
	70	S1	16.61	66.89	56	1.07	1.1	0.07						
	90	L1	9.72	76.72	18	1.14	0.0	0.00						
	100	L1	19.20	130.28	53	1.23	32.7	0.00						
** NOTE: DUE TO HARVEST, COMPRESSION, OR REGENERATION ESTABLISHMENT, NEW SAMPLE TREES WERE SELECTED.														
(con.)														

Example 2. (Con.)

VOLUME PER ACRE										REMOVALS PER ACRE										GROWTH										IDENTIFIERS																							
TREES /ACRE					TOTAL MERCH					TREES /ACRE					TOTAL MERCH					BA/					TOP					STAND					MGMT																		
YEAR	AGE	TREES	TOTAL	CU FT	CU FT	BD FT	CU FT	BD FT	CU FT	TOTAL	CU FT	BD FT	CU FT	BD FT	TOTAL	CU FT	BD FT	CU FT	BD FT	ACRE	SQFT	CCF	HT	FT	PRD YRS	ACC CUFT/YR	MOR	WEIGHT	STAND	MGMT																							
1972	150	371	6229	5841	30364	0	0	0	0	0	0	0	0	0	0	166	146	115	10	97	28	9	EXAMPLE2	NONE																													
1982	160	280	6918	6619	34384	0	0	0	0	0	0	0	0	0	0	179	154	117	10	98	35	9	EXAMPLE2	NONE																													
1992	170	218	7552	7271	38004	0	0	0	0	0	0	0	0	0	0	190	160	119	10	93	43	9	EXAMPLE2	NONE																													
2002	180	177	8053	7798	41171	0	0	0	0	0	0	0	0	0	0	197	164	122	10	95	50	9	EXAMPLE2	NONE																													
2012	190	150	8504	8255	44133	0	0	0	0	0	0	0	0	0	0	203	167	125	10	96	55	9	EXAMPLE2	NONE																													
2022	0	129	8912	8665	46789	129	8912	8665	46789	0	0	0	0	0	0	0	0	58	10	0	0	9	EXAMPLE2	NONE																													
2032	10	540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	10	3	0	9	EXAMPLE2	NONE																													
2042	20	424	34	0	0	0	0	0	0	0	0	0	0	0	0	5	6	19	10	21	0	9	EXAMPLE2	NONE																													
2052	30	387	245	0	0	0	0	0	0	0	0	0	0	0	0	26	26	33	10	54	1	9	EXAMPLE2	NONE																													
2062	40	373	778	169	614	0	0	0	0	0	0	0	0	0	0	63	59	36	10	93	2	9	EXAMPLE2	NONE																													
2072	50	358	1686	1071	4400	0	0	0	0	0	0	0	0	0	0	113	98	39	10	128	9	9	EXAMPLE2	NONE																													
2082	60	336	2879	2422	11338	128	551	325	1259	0	0	0	0	0	0	130	105	49	10	114	11	9	EXAMPLE2	NONE																													
2092	70	198	3358	3101	16558	0	0	0	0	0	0	0	0	0	0	167	129	56	10	136	25	9	EXAMPLE2	NONE																													
2102	80	182	4469	4192	24100	0	0	0	0	0	0	0	0	0	0	202	148	65	10	143	36	9	EXAMPLE2	NONE																													
2112	90	166	5537	5243	31222	102	2365	2221	11871	0	0	0	0	0	0	130	85	71	10	76	8	9	EXAMPLE2	NONE																													
2122	100	63	3857	3691	23940	0	0	0	0	0	0	0	0	0	0	149	95	76	0	0	0	9	EXAMPLE2	NONE																													
ACTIVITY SUMMARY																																																					
STAND ID= EXAMPLE2										MANAGEMENT ID= NONE										EVENT MONITOR USER'S GUIDE, EXAMPLE 2																																	
CYCLE	DATE	EXTENSION	KEYWORD	DATE	ACTIVITY	DISPOSITION	PARAMETERS:																																														
1	1972																																																				
2	1982																																																				
3	1992																																																				
4	2002																																																				
5	2012																																																				
6	2022	BASE	THINATA	2022	DONE IN 2022	0.00	1.00	0.00	999.00																																												
		ESTB	BURNPREP	2023	DONE IN 2023	80.00																																															
		ESTB	MECHPREP	2023	DONE IN 2023	20.00																																															
		ESTB	PLANT	2024	DONE IN 2024	2.00																																															
		ESTB	PLANT	2024	DONE IN 2024	8.00																																															
		ESTB	STOCKADJ	2031	DONE IN 2031	-1.00																																															
		ESTB	RESEIAGE	2022	DONE IN 2031	0.00																																															
		ESTB	TALLYONE	2031	DONE IN 2031	2022.00																																															
7	2032	ESTB	TALLYTWO	2041	DONE IN 2041	2022.00																																															
8	2042																																																				
9	2052																																																				
10	2062																																																				
11	2072																																																				
12	2082	BASE	THINBBA	2082	DONE IN 2082	130.00	0.98	0.00	999.00																																												
13	2092																																																				
14	2102																																																				
15	2112	BASE	THINBBA	2112	DONE IN 2112	130.00	0.98	0.00	999.00																																												

(con.)

(con.)

SPECIES	TREES /ACRE	% TOTAL	TREES /ACRE	% TOTAL	AVERAGE HEIGHT	TREES /ACRE	% TOTAL	SPECIES
WP	0.	0.	0.	0.	0.0	0.	0.	WP
L	0.	0.	0.	0.	0.0	188.	44.	L
DF	0.	0.	0.	0.	0.0	0.	0.	DF
GF	0.	0.	0.	0.	0.0	0.	0.	GF
WH	0.	0.	0.	0.	0.0	0.	0.	WH
C	0.	0.	0.	0.	0.0	0.	0.	C
LP	0.	0.	0.	0.	0.0	0.	0.	LP
S	0.	0.	0.	0.	0.0	236.	56.	S
AF	0.	0.	0.	0.	0.0	0.	0.	AF
PP	0.	0.	0.	0.	0.0	0.	0.	PP
	---	---	---	---	---	---	---	
	0.	0.		0.		424.		

Example 3.

STAND GROWTH PROGNOSIS SYSTEM VERSION 5.0 -- INLAND EMPIRE (TEST)
PARALLEL PROCESSING EXTENSION -- VERSION 1.0

OPTIONS SELECTED BY INPUT

PARAMETERS:

ADDSTAND ADD ONE STAND TO THE DATA BASE.

STDIDENT

STAND ID= EXAMPLE3 EVENT MONITOR USER'S GUIDE EXAMPLE 3.

INVEYEAR INVENTORY YEAR= 1972

NUMCYCLE NUMBER OF CYCLES= 10

IF MINIMUM DELAY TIME BETWEEN RESPONSES TO THE EVENT = 999

BCCF GT 150 AND BTPA GT 500 AND AGE &
GT 20 AND AGE LT 60

THEN ACTIVITIES WHICH FOLLOW WILL NOT BE SCHEDULED UNTIL THE EVENT HAPPENS (WHEN THE LOGICAL EXPRESSION IS TRUE).

THINBTA DATE/CYCLE= 0; RESIDUAL= 300.00; PROPORTION OF SELECTED TREES REMOVED= 0.980
DBH OF REMOVED TREES WILL RANGE FROM 0.0 TO 999.0 INCHES

ALSOTRY ACTIVITIES WHICH FOLLOW WILL NOT BE SCHEDULED UNTIL THE EVENT HAPPENS (WHEN THE LOGICAL EXPRESSION IS TRUE).

THINBTA DATE/CYCLE= 0; RESIDUAL= 400.00; PROPORTION OF SELECTED TREES REMOVED= 0.980
DBH OF REMOVED TREES WILL RANGE FROM 0.0 TO 999.0 INCHES

ALSOTRY ACTIVITIES WHICH FOLLOW WILL NOT BE SCHEDULED UNTIL THE EVENT HAPPENS (WHEN THE LOGICAL EXPRESSION IS TRUE).

ENDIF ACTIVITIES WHICH FOLLOW WILL BE SCHEDULED.

SIDINFO FOREST CODE= 18; HABITAT TYPE=710; AGE= 10; ASPECT CODE= 4.; SLOPE CODE= 5.
ELEVATION(100'S FEET)= 56.0; SITE INDEX= 0.

PROCESS PROCESS THE STAND.

OPTIONS SELECTED BY DEFAULT

TREEFMT (23X,14,3X, F2.0,11, A3,F3.1,F2.1,3X,F3.0,T63,F3.0 ,T60,F3.1,T48, 11,3X, 12,
211,T66,211,13, 211)

DESIGN BASAL AREA FACTOR= 40.0; INVERSE OF FIXED PLOT AREA= 300.0; BREAK DBH= 5.0
NUMBER OF PLOTS= 18; NON-STOCKABLE PLOTS= 7; STAND SAMPLING WEIGHT= 18.00000
STAND ATTRIBUTES ARE CALCULATED PER ACRE OF STOCKABLE AREA. STAND STATISTICS
IN SUMMARY TABLE ARE MULTIPLIED BY 0.611 TO INCLUDE TOTAL STAND AREA.

(con.)

ACTIVITY SCHEDULE

STAND ID= EXAMPLE3 MANAGEMENT ID= NONE EVENT MONITOR USER'S GUIDE EXAMPLE 3.

CYCLE DATE EXTENSION KEYWORD DATE PARAMETERS:

1 1972
2 1982
3 1992
4 2002
5 2012
6 2022
7 2032
8 2042
9 2052
10 2062

CALIBRATION STATISTICS:

	LP	WP	AF	--	S
NUMBER OF RECORDS PER SPECIES	2	5	19	5	2
NUMBER OF RECORDS CODED AS RECENT MORTALITY	0	0	0	0	0
NUMBER OF RECORDS WITH MISSING HEIGHTS	0	0	1	1	0
NUMBER OF RECORDS WITH BROKEN OR DEAD TOPS	0	0	0	0	0
NUMBER OF RECORDS WITH MISSING CROWN RATIOS	0	0	0	0	0
NUMBER OF RECORDS AVAILABLE FOR SCALING THE DIAMETER INCREMENT MODEL	0	0	1	0	1
RATIO OF STANDARD ERRORS (INPUT DBH GROWTH DATA : MODEL)	1.00	1.00	1.00	1.00	1.00
WEIGHT GIVEN TO THE INPUT GROWTH DATA WHEN DBH GROWTH MODEL SCALE FACTORS WERE COMPUTED	0.00	0.00	0.00	0.00	0.00
INITIAL SCALE FACTORS FOR THE DBH INCREMENT MODEL	1.00	1.00	1.00	1.00	1.00
NUMBER OF RECORDS AVAILABLE FOR SCALING THE SMALL TREE HEIGHT INCREMENT MODEL	0	0	0	0	0
INITIAL SCALE FACTORS FOR THE SMALL TREE HEIGHT INCREMENT MODEL	1.00	1.00	1.00	1.00	1.00

(con.)

Example 3. (Con.)

SUMMARY UP TO MASTER STARTING YEAR:

SUMMARY STATISTICS (BASED ON TOTAL STAND AREA)														
VOLUME PER ACRE			REMOVALS PER ACRE			GROWTH			IDENTIFIERS					
TRES			TRES			TOP			STAND					
/ACRE			/ACRE			HT			SAMPLE			STAND		
YEAR	AGE	CU FT	CU FT	BD FT	CU FT	CU FT	BD FT	CCF FT	HT	PRD	ACC	MOR	STAND	MGMT
1972	10	1171	98	84	475	0	0	0	5	19	0	0	0	EXAMPLE3 NONE

STAND GROWTH PROGNOSIS SYSTEM VERSION 5.0 -- INLAND EMPIRE (TEST)

PARALLEL PROCESSING EXTENSION -- VERSION 1.0

OPTIONS SELECTED BY INPUT

KEYWORD		PARAMETERS:	
PROJECT	THERE ARE 1 STANDS TO PROJECT.		
NOCOMPOS	COMPOSITE YIELD TABLES WILL NOT BE GENERATED.		
YIELDS	PROCESS YIELD TABLES.		

SUMMARY STATISTICS (BASED ON TOTAL STAND AREA)																
VOLUME PER ACRE			REMOVALS PER ACRE			GROWTH			IDENTIFIERS							
TRES			TRES			TOP			STAND							
/ACRE			/ACRE			HT			SAMPLE			STAND				
YEAR	AGE	CU FT	CU FT	BD FT	CU FT	CU FT	BD FT	CCF FT	HT	PRD	ACC	MOR	STAND	MGMT		
1972	10	1171	98	84	475	0	0	0	5	19	10	8	0	EXAMPLE3 NONE		
1982	20	1011	181	115	669	0	0	0	13	17	25	10	22	0	EXAMPLE3 NONE	
1992	30	856	393	175	967	0	0	0	33	45	31	10	34	2	EXAMPLE3 NONE	
2002	40	747	718	265	1425	0	0	0	62	81	36	10	49	6	EXAMPLE3 NONE	
2012	50	640	1149	465	2433	457	532	0	0	42	45	38	10	46	3	EXAMPLE3 NONE
2022	60	155	1048	871	4531	0	0	0	69	70	41	10	38	5	EXAMPLE3 NONE	
2032	70	141	1374	1173	6170	0	0	0	83	82	46	10	49	11	EXAMPLE3 NONE	
2042	80	122	1756	1545	8143	0	0	0	99	95	51	10	52	14	EXAMPLE3 NONE	
2052	90	108	2136	1942	11720	0	0	0	111	105	56	10	61	21	EXAMPLE3 NONE	
2062	100	93	2531	2354	13457	0	0	0	122	112	62	10	50	20	EXAMPLE3 NONE	
2072	110	82	2825	2663	15049	0	0	0	128	116	66	0	0	0	EXAMPLE3 NONE	

STAND GROWTH PROGNOSIS SYSTEM VERSION 5.0 -- INLAND EMPIRE (TEST)

NOTE: PROCESSING STAND NUMBER: 1; STAND ID: EXAMPLE3 MGMT ID: NONE SAMPLING WEIGHT: 18.00000

BRANCHING: NODE=1, BRCH=1

(con.)

STAND ID=	EXAMPLE3	MANAGEMENT ID=	NONE	EVENT MONITOR USER'S GUIDE	EXAMPLE 3.

CYCLE	DATE	EXTENSION	KEYWORD	DATE	ACTIVITY	DISPOSITION	PARAMETERS:
-------	------	-----------	---------	------	----------	-------------	-------------

	BASE	THINBTA	2012	DONE IN 2012	300.00	0.98	0.00	999.00
1 1972								
2 1982								
3 1992								
4 2002								
5 2012								
6 2022								
7 2032								
8 2042								
9 2052								
10 2062								

STAND GROWTH PROGNOSIS SYSTEM

NOTE: PROCESSING STAND NUMBER: 1; STAND ID: EXAMPLE3 MGMT ID: NONE SAMPLING WEIGHT: 18.00000
BRANCHING: NODE=1, BRCH=2

SUMMARY STATISTICS (BASED ON TOTAL STAND AREA)

YEAR	AGE	TREES /ACRE			VOLUME PER ACRE						REMOVALS PER ACRE						BA/ACRE			GROWTH			STAND		IDENTIFIERS	
		TREES /ACRE	TOTAL			MERCH			MERCH			TOTAL			MERCH			CCF	TOP HT	PRD YRS	ACC MOR	STAND WEIGHT	STAND	MGMT		
			CU	FT	BD	CU	FT	BD	CU	FT	BD	CU	FT	BD	CU	FT	BD								FT	ACC
1972	10	1171	98	84	475	0	0	0	0	0	0	0	0	0	5	5	19	10	8	0	18	EXAMPLE3	NONE			
1982	20	1011	181	115	669	0	0	0	0	0	0	0	0	0	13	17	25	10	22	0	18	EXAMPLE3	NONE			
1992	30	856	393	175	967	0	0	0	0	0	0	0	0	0	33	45	31	10	34	2	18	EXAMPLE3	NONE			
2002	40	747	718	265	1425	0	0	0	0	0	0	0	0	0	62	81	36	10	49	6	18	EXAMPLE3	NONE			
2012	50	640	1149	465	2433	396	407	0	0	0	0	0	0	0	54	61	38	10	49	5	18	EXAMPLE3	NONE			
2022	60	208	1181	865	4486	0	0	0	0	0	0	0	0	0	80	84	42	10	44	10	18	EXAMPLE3	NONE			
2032	70	179	1519	1304	6531	0	0	0	0	0	0	0	0	0	95	98	46	10	55	14	18	EXAMPLE3	NONE			
2042	80	156	1923	1701	8641	0	0	0	0	0	0	0	0	0	111	111	51	10	42	15	18	EXAMPLE3	NONE			
2052	90	137	2197	1994	10187	0	0	0	0	0	0	0	0	0	117	116	55	10	63	26	18	EXAMPLE3	NONE			
2062	100	117	2568	2380	13363	0	0	0	0	0	0	0	0	0	127	123	60	10	57	24	18	EXAMPLE3	NONE			
2072	110	103	2891	2710	14796	0	0	0	0	0	0	0	0	0	134	126	65	0	0	0	18	EXAMPLE3	NONE			

(con.)

ACTIVITY SUMMARY

[illegible]

	BASE	THINBTA	2012	DONE IN 2012	400.00	0.98	0.00	999.00
3 2012								

STAND GROWTH PROGNOSIS SYSTEM VERSION 5.0 -- INLAND EMPIRE (TEST)

NOTE: PROCESSING STAND NUMBER: 1; STAND ID: EXAMPLE3 MGMT ID: NONE SAMPLING WEIGHT: 18.00000
BRANCHING: NODE=1, BRCH=3

SUMMARY STATISTICS (BASED ON TOTAL STAND AREA)

YEAR	AGE	TREES /ACRE			VOLUME PER ACRE			REMOVALS PER ACRE			BA/ACRE		TOP		GROWTH			STAND SAMPLE WEIGHT	IDENTIFIERS	
		TOTAL	MERCH	MERCH	TOTAL	MERCH	MERCH	TOTAL	MERCH	MERCH	CU FT	BD FT	CU FT	BD FT	CU FT	BD FT	CU FT		BD FT	PRD YRS
1972	10	1171	98	84	475	0	0	0	0	0	5	5	19	10	8	0	18	EXAMPLE3	NONE	
1982	20	1011	181	115	669	0	0	0	0	0	13	17	25	10	22	0	18	EXAMPLE3	NONE	
1992	30	856	393	175	967	0	0	0	0	0	33	45	31	10	34	2	18	EXAMPLE3	NONE	
2002	40	747	718	265	1425	0	0	0	0	0	62	81	36	10	49	6	18	EXAMPLE3	NONE	
2012	50	640	1149	465	2433	0	0	0	0	0	93	116	38	10	63	16	18	EXAMPLE3	NONE	
2022	60	515	1621	914	4644	0	0	0	0	0	121	142	41	10	60	26	18	EXAMPLE3	NONE	
2032	70	407	1959	1490	6862	0	0	0	0	0	135	153	46	10	60	30	18	EXAMPLE3	NONE	
2042	80	325	2258	1866	8746	0	0	0	0	0	144	159	51	10	75	40	18	EXAMPLE3	NONE	
2052	90	258	2607	2274	11924	0	0	0	0	0	151	162	55	10	57	35	18	EXAMPLE3	NONE	
2062	100	212	2824	2517	13021	0	0	0	0	0	152	165	58	10	68	42	18	EXAMPLE3	NONE	
2072	110	174	3074	2798	14287	0	0	0	0	0	153	156	62	0	0	0	18	EXAMPLE3	NONE	

Crookston, Nicholas L. User's guide to the Event Monitor: an addition to the Prognosis Model. General Technical Report INT-196. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station; 1985. 36 p.

Describes how to use the Event Monitor for scheduling Prognosis Model (Wykoff and others 1982) and Establishment Model (Ferguson and Crookston 1984) options, and for creating decision trees using the Parallel Processing Extension (Crookston in preparation). The program monitors certain statistics within the Prognosis Model and, when specified values are reached, schedules options that represent management activities.

KEYWORDS: simulation, forest, management, policy, growth

The Intermountain Research Station, headquartered in Ogden, Utah, is one of eight Forest Service Research stations charged with providing scientific knowledge to help resource managers meet human needs and protect forest and range ecosystems.

The Intermountain Station's primary area includes Montana, Idaho, Utah, Nevada, and western Wyoming. About 231 million acres, or 85 percent, of the land area in the Station territory are classified as forest and rangeland. These lands include grasslands, deserts, shrublands, alpine areas, and well-stocked forests. They supply fiber for forest industries; minerals for energy and industrial development; and water for domestic and industrial consumption. They also provide recreation opportunities for millions of visitors each year.

Several Station research units work in additional western States, or have missions that are national in scope.

Field programs and research work units of the Station are maintained in:

Boise, Idaho

Bozeman, Montana (in cooperation with Montana State University)

Logan, Utah (in cooperation with Utah State University)

Missoula, Montana (in cooperation with the University of Montana)

Moscow, Idaho (in cooperation with the University of Idaho)

Ogden, Utah

Provo, Utah (in cooperation with Brigham Young University)

Reno, Nevada (in cooperation with the University of Nevada)