MODELING INTERIOR DOUGLAS-FIR GROWTH AND YIELD FOLLOWING THINNING AND FERTILIZATION TREATMENTS

Project Report I

By

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Development of New Basal Area Prediction Model

A compatible forest growth and yield prediction system has recently been developed for interior Douglas-fir. The core of the prediction system is a whole stand model, Simulation Of Stands (SOS). The whole stand model consists of four components: (1) volume prediction model, (2) basal area prediction model, (3) top height growth model, and (4) survival model. However, primary evaluation of the whole stand model indicated that the basal area prediction model underestimated stand basal area for large basal area, large top height and high stand density. It may be due to the inadequency of model formulation. Therefore, a new basal area prediction model needs to be developed based on biological rationales.

Soon after crown closure, stand basal area approaches an equilibrium level or carrying capacity, while number of trees decreases due to competition among individual trees. This relationship has been known as -3/2 power law or self-thinning rule. The carrying capacity of basal area can be considered the asymptote of a sigmoid development curve, which is independent of initial stand density, whereas approach toward the asymptote may be density dependent. The level of the asymptote increases with increasing site quality (Harrison and Deniels, 1988). Several explicit models for the self-thinning stands have been developed using biological growth functions (Harrison and Deniels, 1988; Lloyd and Harms, 1986; Smith and Hann, 1984).

For developing the basal area prediction model, the Richards function and logistic function were first used to describe basal area development curves. Stand basal area at the end of an 6-year growth period (BA_6) was expressed as a function of asymptotic basal area (MAXBA), stand basal area at the beginning of the growth period (BA_0), and stand top height ($TOPH_6$), density (N_6) at the end of the growth period. However, the residual analyses showed that the two models still had the problem of underestimating BA_6 for large initial basal area (BA_0). It may be due to that inflection point and asymptotic tree size play an essential or dominant role in the above functions. Unfortunately, some measurements such as asymptotic tree size are not available in the data or can only be estimated theoretically. Therefore, a more flexible growth function was searched to accurately describe basal area development curves. Schnute (1981) proposed a comprehensive growth function derived from a biological principle relating to growth acceleration. Properties of growth curves, such as asymptotic limits or inflection points, are incidental in this function. Possible submodels include not only asymptotic growth (e.g. von Bertalanffy, Richards, Gompertz, or logistic growth) but also linear, quadratic, or exponential growth. In addition, the parameters in the function almost always have stable statistical estimates and reasonable biological interpretations. Since the Schnute function does not necessarily include an asymptote, it provides freedom to select the most appropriate model from the data. However, the Schnute function

requires measurements over a wide time interval to obtain good growth estimators. The general form of the Schnute function is:

$$Y(t) = \left[Y_1^b + (Y_2^b - Y_1^b) \frac{1 - e^{-a(t-t_1)}}{1 - e^{-a(t_2-t_1)}} \right]^{\frac{1}{b}}, \qquad (1)$$

where:

Y(t) = tree size at age t,

t_1, t_2 = two particular ages,

Y_1, Y_2 = tree sizes at age t_1 and t_2, respectively,

a, b = parameters to be estimated.

It is assumed $Y_2 > Y_1 > 0$ and $t_2 > t_1$. The entire growth curve Y(t) is determined from its sizes Y_1 and Y_2 at ages t_1 and t_2. Depending on the constants a and b, the model includes possible S-shaped growth curves with a juvenile period of accelerated development followed later by decelerated growth during which the tree approaches a final limiting size. In this study, stand top height was used as a predictor variable rather than stand age. This transformation was to account for both site and age in one predictor. Stand basal area (BA_0) and top height ($TOPH_0$) at the beginning of an 6-year growth period were used as Y_1 and t_1 in equation (1), and the estimated asymptotic basal area (MAXBA) and asymptotic top height (MAXHT) were used as Y_2 and t_2, respectively. The new basal area prediction model was parameterized as follows:

$$BA_6 = \left[BA_0^{1.21} + (MAXBA^{1.21} - BA_0^{1.21}) \frac{1-e^{-0.06*RD_0*(TOPH_6-TOPH_0)}}{1-e^{-0.06*RD_0*(MAXHT-TOPH_0)}} \right]^{\frac{1}{1.21}}, \quad (2)$$

where:

BA_6 = basal area at the end of 6-year growth period,

$TOPH_6$ = top height at the end of 6-year growth period,

BA_0 = basal area at the beginning of the growth period,

$TOPH_0$ = top height at the beginning of the period,

RD_0 = Drew-Flewelling's relative density index at the beginning of the period,

MAXBA = estimated asymptotic basal area,

MAXHT = estimated asymptotic top height.

The asymptotic standard errors for parameters a and b were 0.0057 and 0.0772, respectively. The residual analysis indicated that there was no underestimation for large basal area and large top height.

The asymptotic top height (MAXHT) was estimated by evaluating Monserud's Douglas-fir height growth equation with age equals to infinity. The asymptotic basal area (MAXBA) was obtained from the theoretical relationship between stand total volume, basal area and top height.

$$MAXBA = \frac{Y}{0.5*MAXHT}, \quad (3)$$

where Y is stand final yield. Even though the estimated asymptotic basal area and top height are not true asymptotes in

tree development curves, they may be appropriate to be used in the Schnute function as Y_2 and t_2 since they may represent the size and age of an old stand.

Evaluation of the Whole Stand Model (SOS)

Simulations using the whole stand model (SOS) with the new basal area prediction model were conducted to evaluate model behavior under the following conditions: Douglas-fir site index was fixed at 70 feet. Stand density (N) was selected at 100, 500, 1000 and 1500 trees per acre. Stand attributes at year 5 in the yield table for Douglas-fir plantations (Stage et al, 1988) were used as initial stand conditions. The simulated stand total volume, basal area and number of trees were plotted against stand top height ranging from 0 to 100 feet (Figures 1(a), (b), and (c)).

When stand density is low, i.e. 100 trees per acre, little mortality occurs over time, and stand total volume and basal area increase continuously. As stand density increases, mortality begins as stand top height reaches a height ranging from 30 to 50 feet (Figure 1(c)). The more dense the stand, the earlier mortality occurs. Competition-related mortality (significant reduction in number of trees) starts at a top height of about 75 feet for stand density 500 trees per acre; at top height about 55 feet for 1000 trees per acre; and at top height about 40 feet for 1500 trees per acre, which are approximately compatible with the lower limit of the zone of imminent competition mortality in Drew-Flewelling's (1979) Douglas-fir density management diagram. Stand total volume growth and basal area growth decelerate when stand density is approaching the asymptotic number of trees,

corresponding to the maximum size-density relationship within the competition-caused mortality zone or self-thinning zone.

One way to validate a model is to compare its outputs with those of existing models. A yield table for Douglas-fir plantations with 500 trees per acre, no thinning and no natural regeneration (Stage et al, 1988) was used for model comparison. The yields were estimated by the Prognosis Model for Stand Development, version 5.2. The table contains stand total volume, basal area, mean tree diameter at breast height, top height, trees per acre, and other attributes tabulated for three site indices (50, 70 and 90 feet) and stand total age ranging from 5 to 150 years. Stand age at breast height can be obtained by subtracting 10 years from the total age (Stage et al, 1988). Another yield table for model comparison was constructed using SPS, version 6.1 (Arney, 1986). Stand attributes at year 5 in the Prognosis yield table were input as initial stand conditions for projections. Since SPS uses different equations to estimate tree volumes, tree total volume was recalculated using the same Douglas-fir individual tree volume equation (Wykoff et al, 1982) used in Prognosis and SOS. The above two yield tables were then compared with the yield table simulated from SOS using the same initial stand conditions as SPS. Since SOS projects stand development based on a six-year growth period, simulated stand attributes were converted to a ten-year growth period by linear interpolation. Stand variables in the three yield tables, such as total volume in cubic feet per acre, basal area in square feet

per acre, top height in feet, number of trees per acre, and mean tree volume in cubic feet are plotted against stand age at breast height (Figures 2 through 4). All SOS estimates past age 100 are extrapolations, since the development data did not include older ages.

When site index equals 50 feet, stand total volume and basal area predicted from SOS are very close to the curve for Prognosis, but far away from SPS, except the basal area curves at early ages (Figures 2(a), (b)). For stand top height, SOS reproduces VanderPloeg and Moore's height growth curve which is below both curves for Prognosis and SPS (Figure 2(c)). The surviving number of trees per acre simulated from SOS equals 396 at year 140, compared to 177 trees per acre from Prognosis and 262 trees from SPS (Figure 2(d)). The mean tree volume from SOS simulation produces smaller values than Prognosis and SPS over 140 years (Figure 2(e)), primarily due to many more surviving trees.

For site index 70 feet, stand total volume and top height for SOS are very close to those for Prognosis, but depart from the SPS values (Figures 3(a) and (c)). Stand basal area curve for SOS is similar to that for Prognosis at early ages, but has higher values than Prognosis at year 140 (Figure 3(b)). Although the pattern for surviving number of trees over time for SOS is different from both Prognosis and SPS, the number of trees per acre at year 140 for SOS (243 trees) is close to SPS prediction (220 trees per acre) (Figure 3(d)). Prognosis model produces

higher mortality rates over 140 years (121 surviving trees per acre). Again, the mean tree volume for SOS is smaller than both Prognosis and SPS (Figure 3(e)).

For site index 90 feet, predicted total volume for SOS is lower than those for both Prognosis and SPS when the stand is young, but located between Prognosis and SPS after year 45 (Figure 4(a)). The development of stand basal area simulated from SOS is below the curves for the other two models at young ages, but above the two curves afterwards (Figure 4(b)). The top height growth curve for SOS behaves differently from both Prognosis and SPS models and is located between the two curves (Figure 4(c)). SOS projects a similar pattern of surviving number of trees to those for Prognosis and SPS. At year 140, the surviving number of trees is 131 trees per acre for SOS, 174 trees for SPS and 98 trees for Prognosis (Figure 4(d)). The mean tree volume for SOS is very close to the mean tree volume for Prognosis, but behaves differently from SPS (Figure 4(e)).

The culmination of mean annual increment was also compared for the three models. Poorer site quality stands take longer to reach culmination than those on better sites (Daniel et al, 1979). The stand breast-height ages at which volume growth culminates for different site indices for the three models are provided in Table 1.

The differences in the culmination age from site index 50 feet to 90 feet were 60 years for Prognosis, 49 years for SPS, and only 10 years for SOS. Compared with a yield table for

Table 1. Mean Annual Increment Culmination Ages for Total Volume Growth

Model	SI=50	SI=70	SI=90
Prognosis	106	70	46
SPS	99	84	50
SOS	80	78	70

coastal Douglas-fir with about 450 trees per acre initial stand density (untreated plantation) (Mitchell and Cameron, 1985), the difference in the culmination age from site index 80 to 120 feet was about 30 years. This comparison reflects differences in curve shape between the models by site index rather than totals. Perhaps reality is somewhere within the results portrayed by the various models.

As another method of model validation, mean tree volume and surviving number of trees were plotted on Drew-Flewelling's (1979) Douglas-fir density management diagrams for SOS (Figure 5), Prognosis (Figure 6), and SPS (Figure 7), respectively. The simulation results of SOS shows that no competition-dependent mortality occurs below the crown closure line for the three site indices. Mortality caused by other stochastic events is not included in SOS. If substantial density-independent mortality was expected to be involved in model simulation, it should be predicted separately. When the entire stand area is covered by crown, competition-related mortality starts and an increasing number of trees die over time. The trajectories for three site indices follow the same pattern, but at different rates and,

therefore, end at different levels depending on site index with final slopes approximately equal to -3/2 (Figure 5). The dependence on site quality of the constant in the -3/2 power equation has been discussed by other authors. Barreto (1989) concluded that, for a given species, the constant in the -3/2 power law varies with site quality: the better the site quality, the higher is the constant.

The density management diagram for Prognosis model is illustrated in Figure 6. Mortality occurs below the crown closure line from the beginning of stand development for all levels of site quality. When the trajectories pass the line of crown closure, they follow the -3/2 power law with different intercepts depending on site quality. The simulation from SPS shows similar trajectories for three site indices as Prognosis, but the intercept differences by site index are smaller than for both Prognosis and SOS (Figure 7).

In summary, predicted stand total volume and basal area from SOS are very close to those from Prognosis for low site qualities, but similar to the values from SPS for high site index (e.g. DFSI equals 90 feet). SOS reproduces VanderPloeg and Moore's height growth curves which behave differently from both Prognosis and SPS height trajectories. The stand mortality curves from the three models have similar patterns. SOS, however, produces more surviving trees over time, particularly for low site quality. SPS projects intermediate mortality rates, and Prognosis results in higher mortality rates over time for all

levels of site qualities. Additionally, the trajectories on the density management diagram projected from SOS reproduces density dependent mortality as survival model formulation dictates. Prognosis, and to a lesser extent SPS, forecast higher mortality rates for low density stands (relative density index less than 0.2) from causes likely unrelated to density. Mortality assumptions and resultant differences in formulation produce the largest differences in SOS predictions when compared to existing models. Differences in mortality rates are also likely derived from differences in the data used in model parameterization. For example, SOS was developed from second-growth managed stands while Prognosis was based on data from all types of stands. Apparently, mortality rates in managed Douglas-fir stands are primarily density dependent and lower than for the rest of the population.

Simulation Results of Thinning Treatments

The compatible forest growth and yield prediction system is theoretically formulated to represent stand and tree growth responses to thinning treatments. One of the project objectives is to evaluate model behavior after simulated thinnings. The thinning treatments follow the Potlatch thinning guidelines as follows:

(1). Douglas-fir site index: 80, 95, 110 feet.

(2). Initial stand density: 500 trees per acre.

(3). Thinning type:

- thinning across distribution,
- thinning from below,
- thinning from above.

(4). Thinning age: 12, 30, 48, 72 years.

(5). Residual stocking:

- 10x10 (436 trees/acre),
- 12x12 (303 trees/care),
- 15x15 (194 trees/acre),
- 20x20 (109 trees/acre).

The combinations of thinning ages and residual stockings were coded from A to K (Table 2). All these 11 regimes were simulated for different Douglas-fir site indices and thinning types. A total of 99 simulations were conducted using the whole stand model (SOS) with the new basal area prediction model. The simulation results are provided in the yield tables and plotted

Table 2. Thinning Regimes for the Combinations of Thinning Ages and Residual Stockings

		Thinning Ages			
		12	30	48	72
Residual Stocking (tree/a)	436	A	B		
	303	C	D		
	194	E	F	G	
	109	H	I	J	K

on Drew-Flewelling's Douglas-fir density management diagrams. Each thinning regime was compared with unthinned stand. The Relative Size-Growth (RSG) functions were also calculated before and after thinnings at year 30 only for the regimes A to K for site index 95. Simulated relative tree growth was plotted against relative tree size for thinned and unthinned stands.

The results show that the model behaves in accordance with the model assumptios in representing thinning treatments. On the Douglas-fir density management diagrams, the trajectories of unthinned and thinned stands have the same patterns and shapes, but different levels and growth rates depending on thinning type, thinning time, thinning intensity and site quality. If a stand is thinned at a low level of intensity and early age, tree growth is accelerated since more growth space is available. The thinned stand has the same or larger yield in terms of total volume and mean tree volume at the end of the growth period. The growth rate is higher for higher site quality. Heavy thinning results in

unused growth space so that the stands have less total volume at the end of the growth period. Especially, if the stand is thinned from above at a high level of intensity and at a later age, it will never have a chance to catch up with the unthinned stand.

The Relative Size-Growth (RSG) function for the unthinned stand (DFSI=90, N=476 trees/acre, Age=30 years) is a concave curve. The corresponding frequency distribution of individual tree volume is negatively skewed (skewed to the left). When the stand is thinned across the distribution, the RSG function changes from a concave curve for low intensity thinning to a convex curve for high intensity thinning. The frequency distribution of individual tree volume changes from negatively skewed to positively skewed. If the stand is thinned from below, the shape of the RSG function changes from concave for light thinning to linear for heavy thinning. The corresponding frequency distribution of tree volume moves from negatively skewed to normal. When thinning from above is conducted, the RSG function becomes convex, and the degree of curvature depends on the degree of thinning intensity. The frequency distribution of tree volume becomes positively skewed (skewed to right).

The evaluation of model behavior after thinning indicates that the model can appropriately portray the interactions among thinning intensity, thinning time, thinning type, and site quality at a whole stand or individual tree level. The model should be a useful tool for forest managers to evaluate alternative thinning strategies for interior Douglas-fir stands.

Appendix A

Figures of the behavior of the whole stand model (SOS)

(a) Volume prediction model

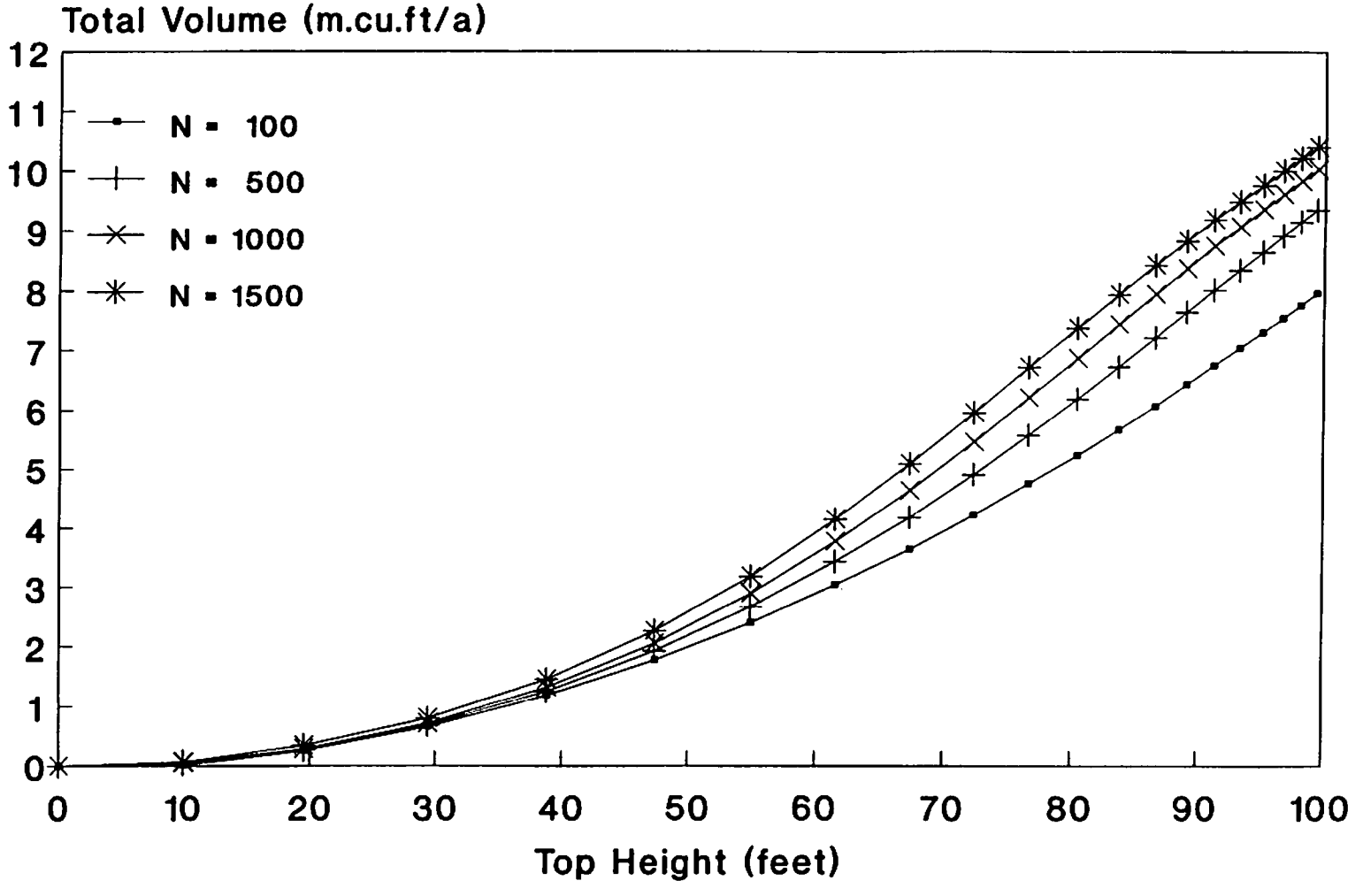


Figure 1(a): Behavior of the whole stand model (SOS): total volume versus top height.

(b) Basal area prediction model

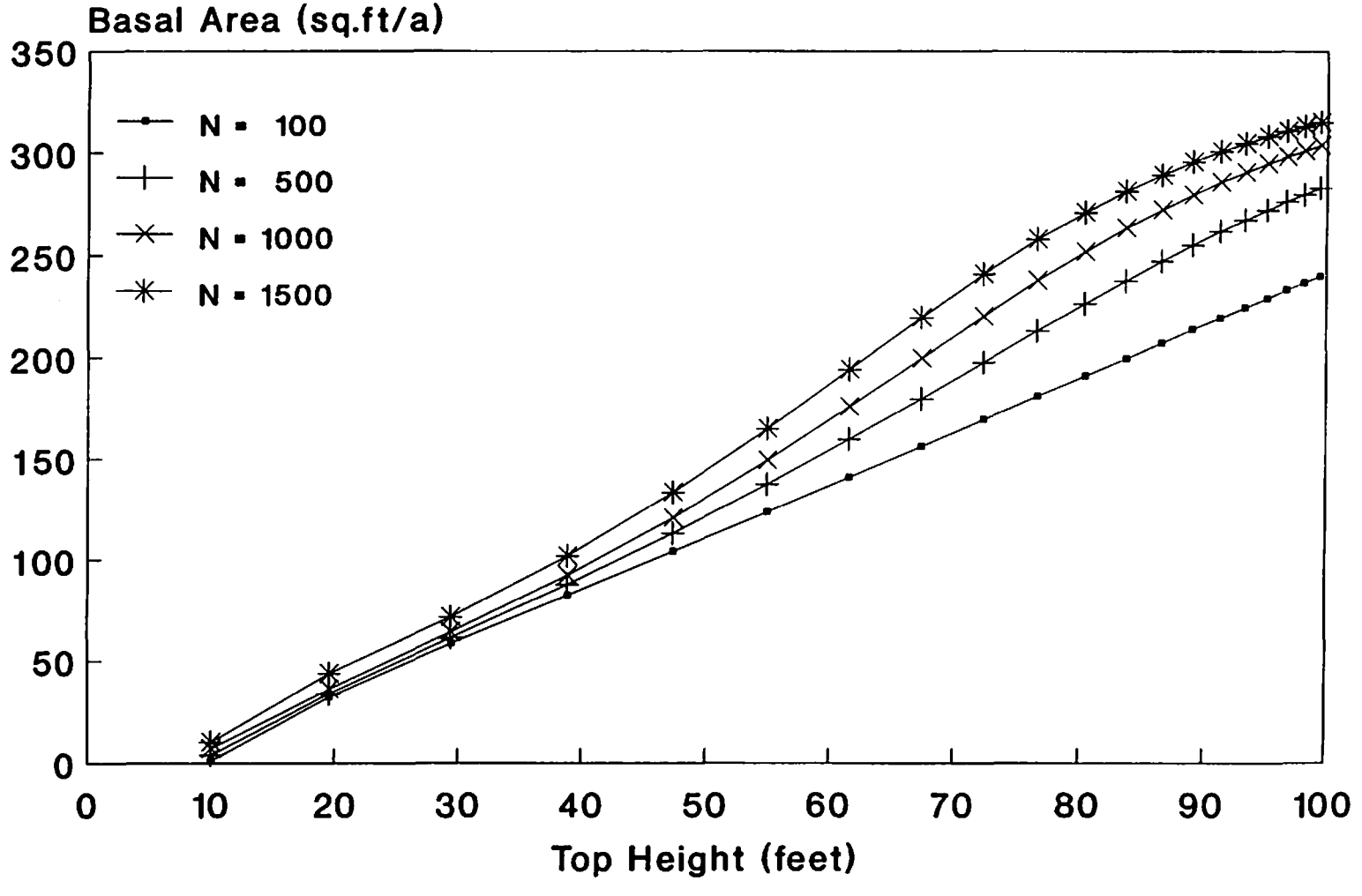


Figure 1(b): Behavior of the whole stand model (SOS): basal area versus top height.

(c) Survival model

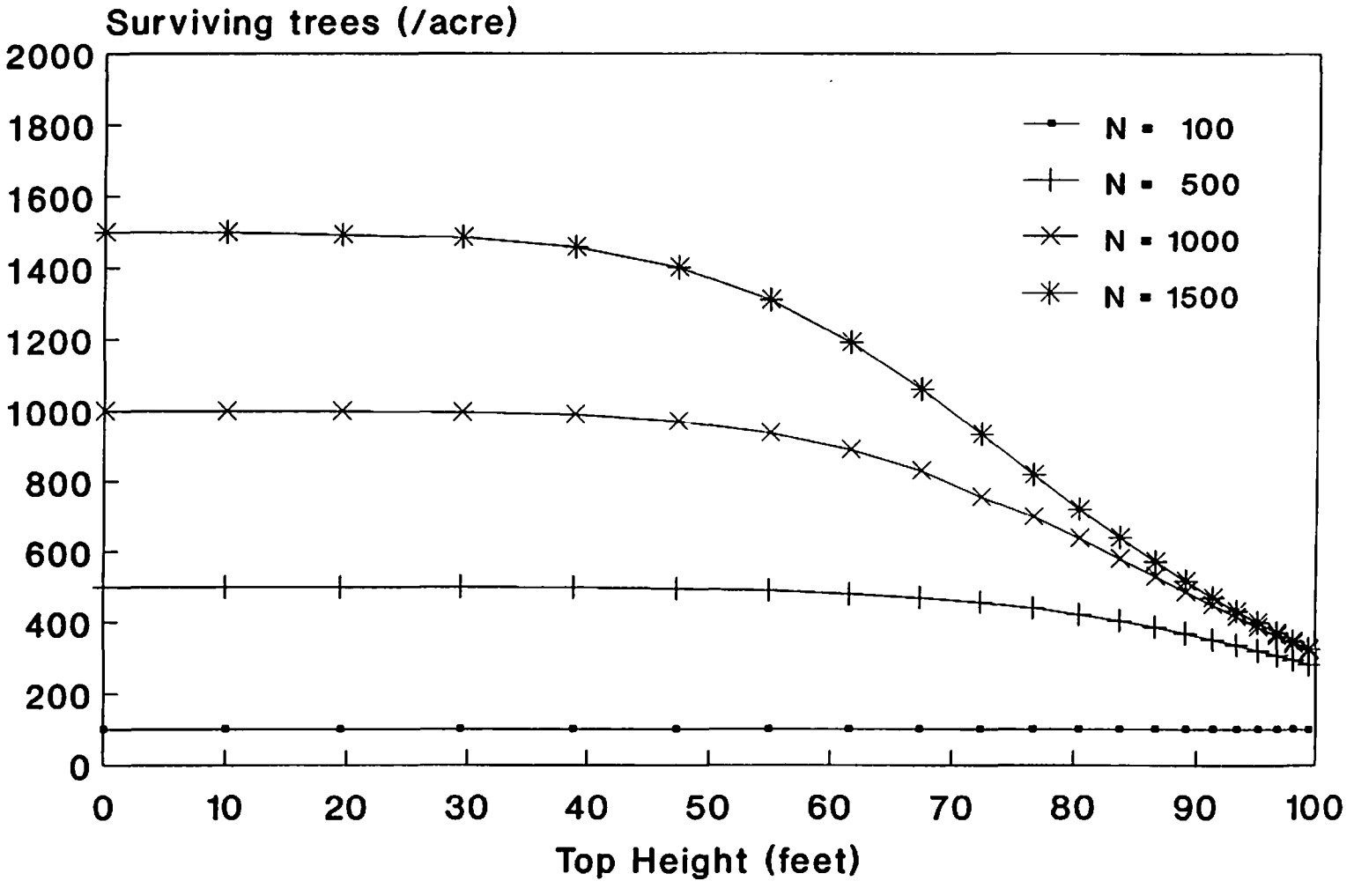


Figure 1(c): Behavior of the whole stand model (SOS): surviving trees versus top height.

Appendix B

Figures of the comparison of Prognosis, SPS and SOS

(a) Comparison of total volume

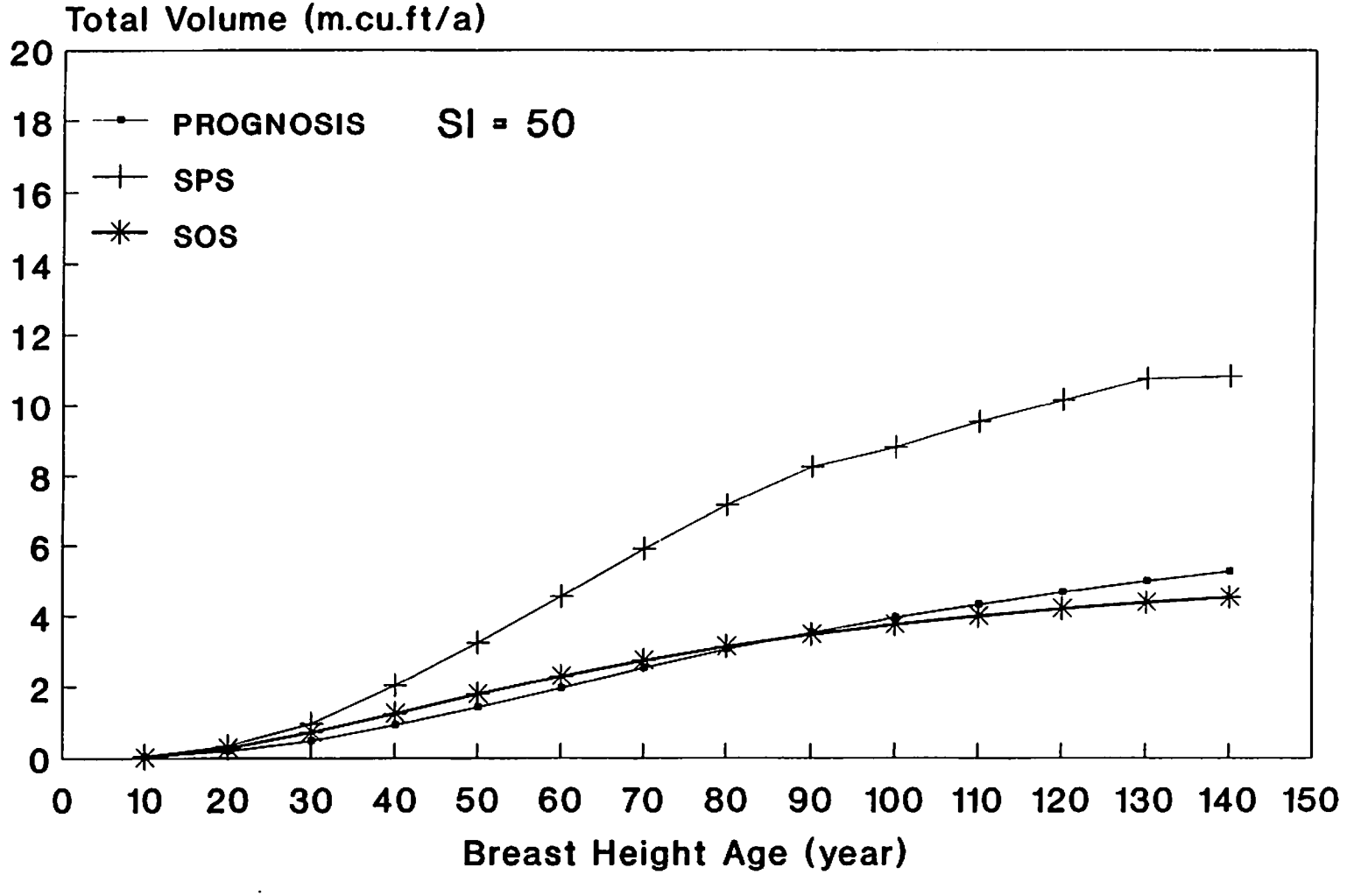


Figure 2(a): Comparison of predicted total volume from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 50.

(b) Comparison of basal area

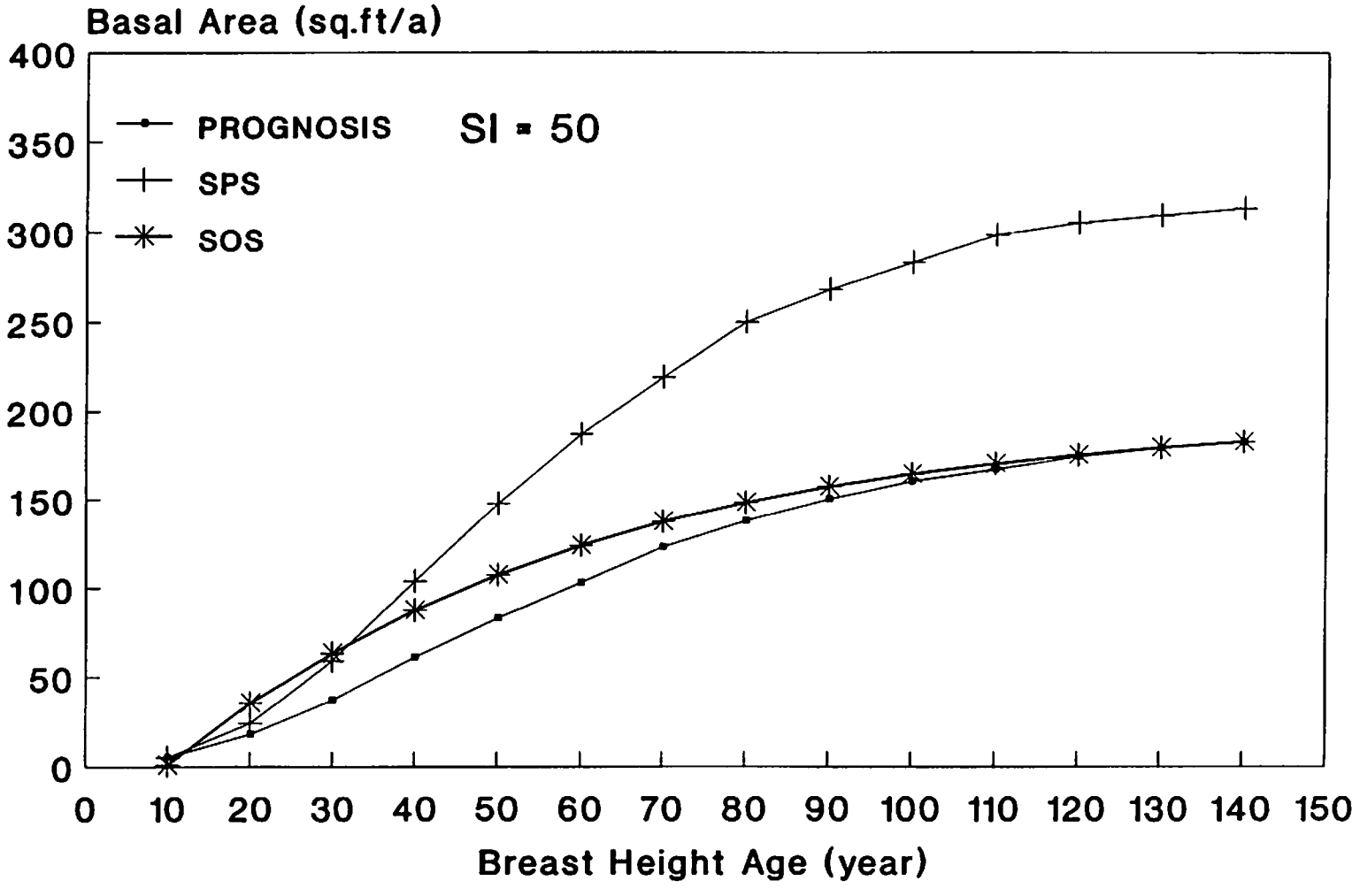


Figure 2(b): Comparison of predicted basal area from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 50.

(c) Comparison of top height

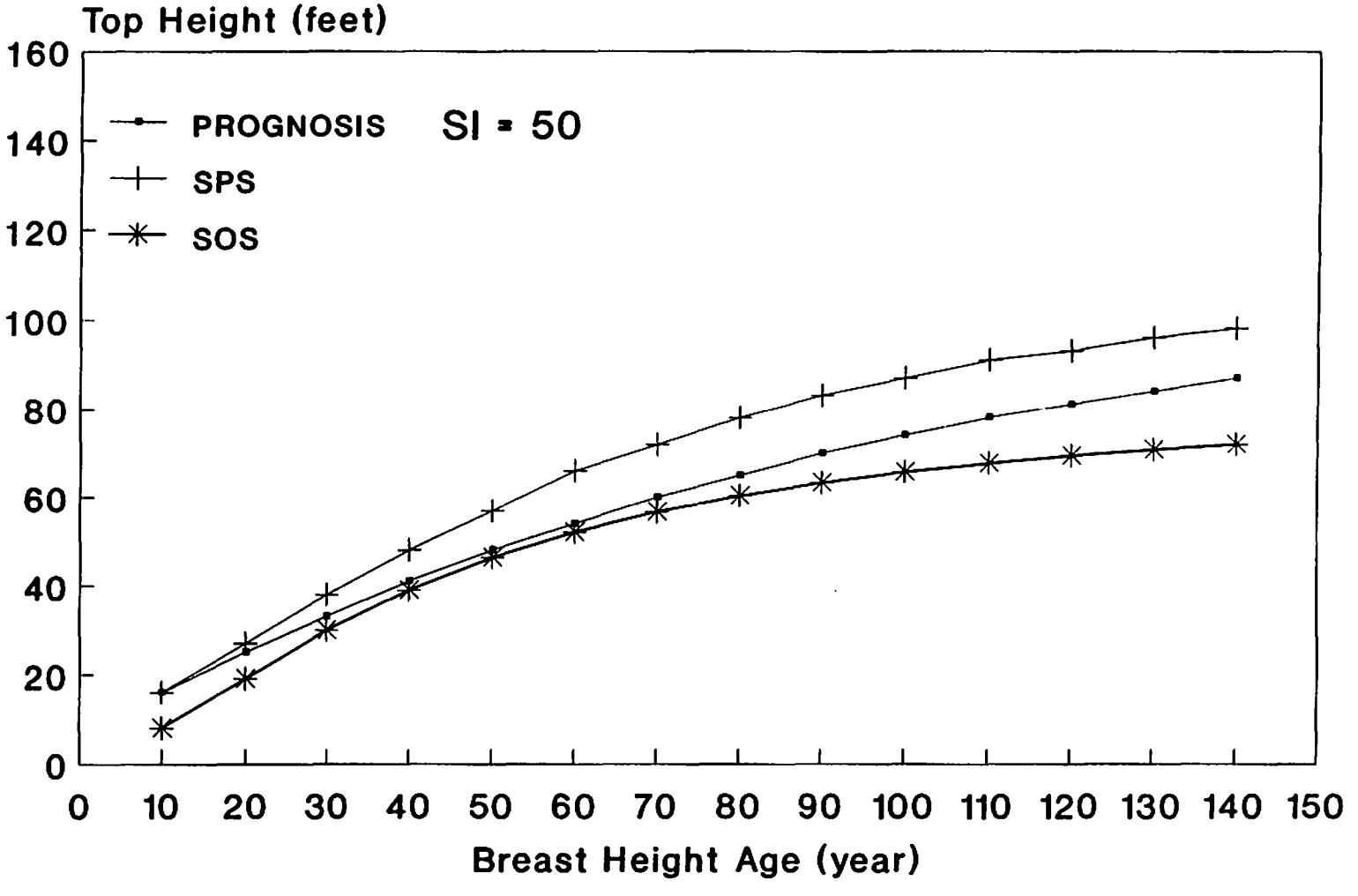


Figure 2(c): Comparison of predicted top height from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 50.

(d) Comparison of surviving trees

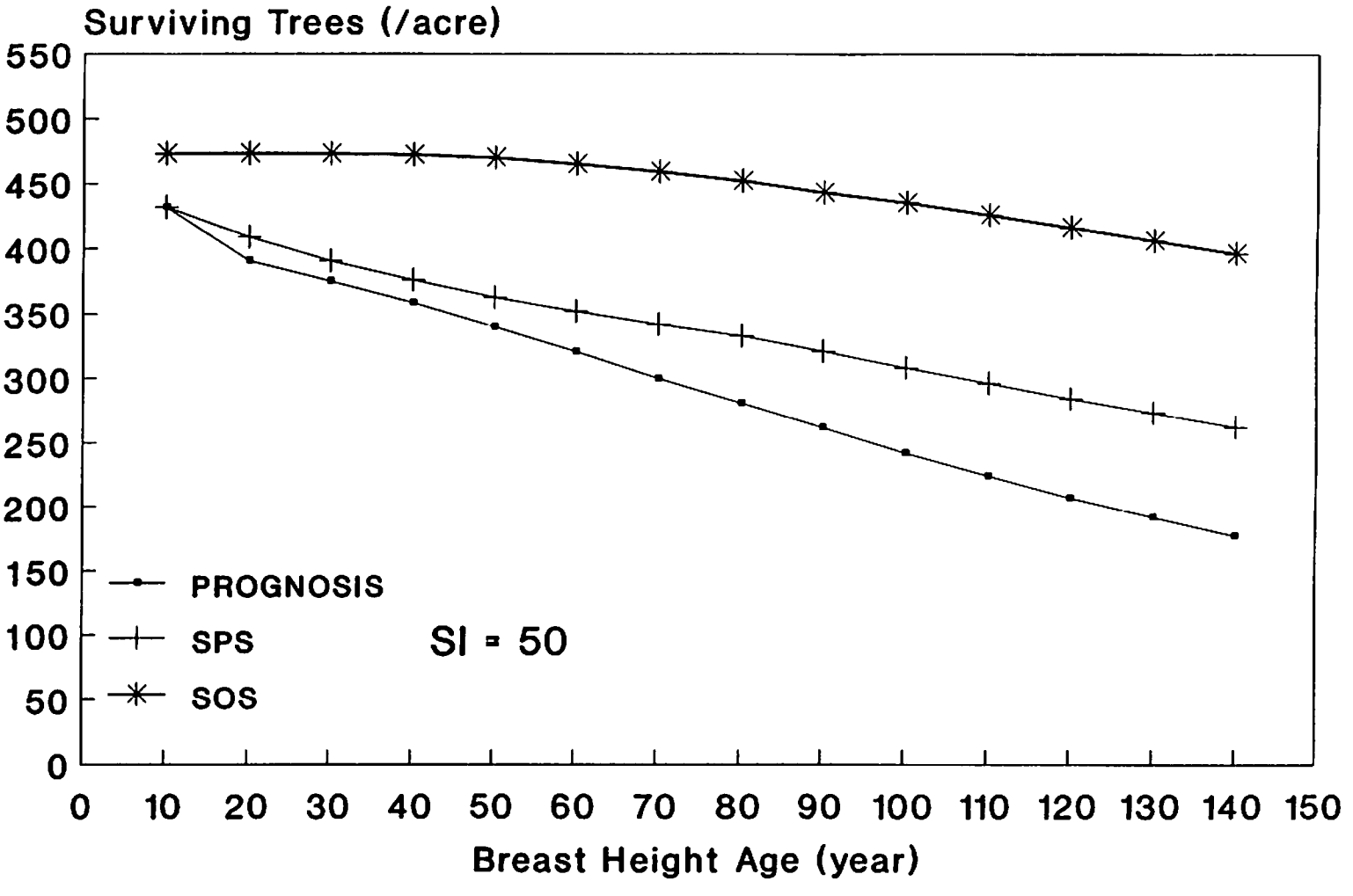


Figure 2(d): Comparison of predicted surviving trees from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 50.

(e) Comparison of mean tree volume

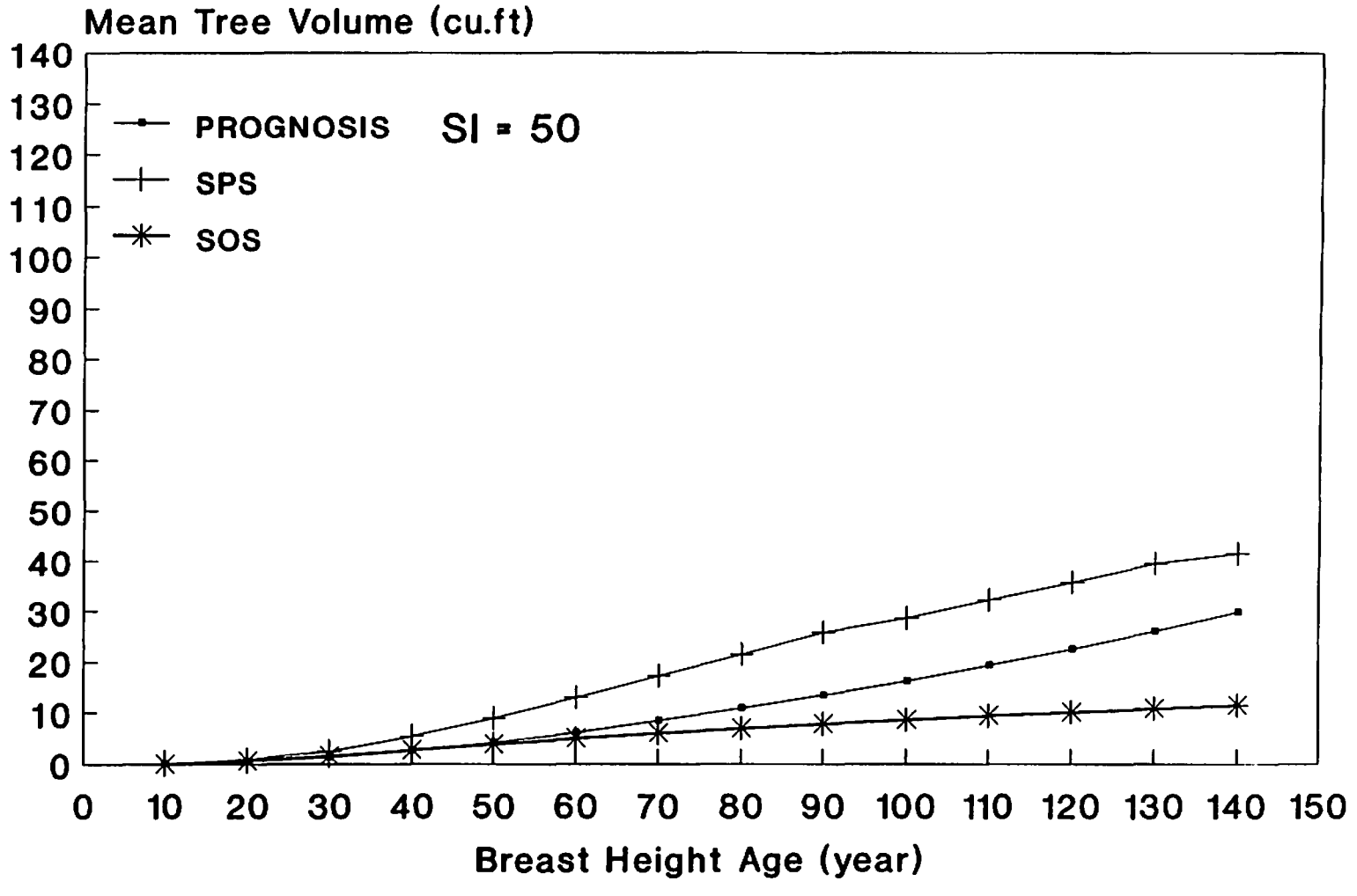


Figure 2(e): Comparison of predicted mean tree volume from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 50.

(a) Comparison of total volume

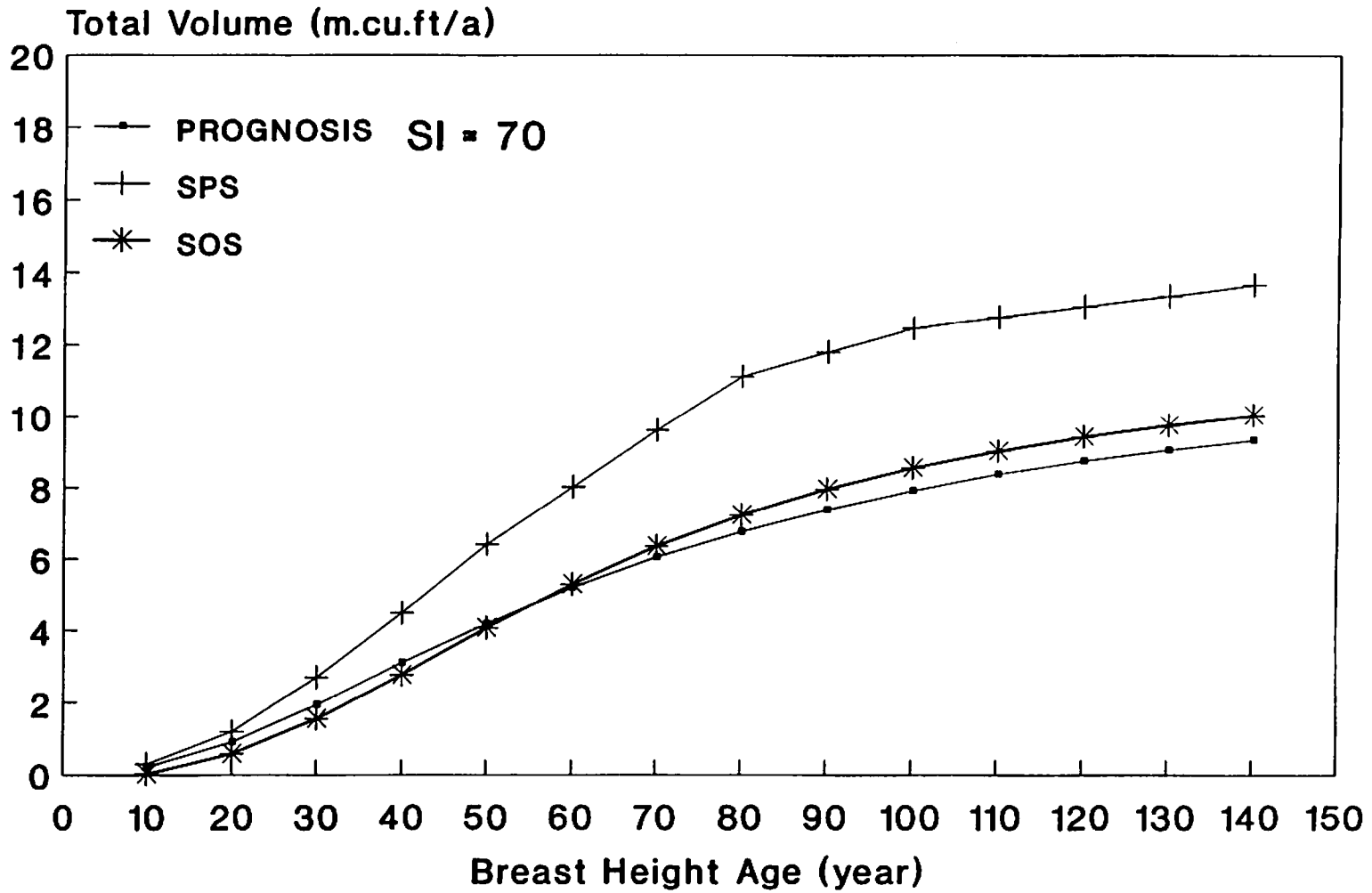


Figure 3(a): Comparison of predicted total volume from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 70.

(b) Comparison of basal area

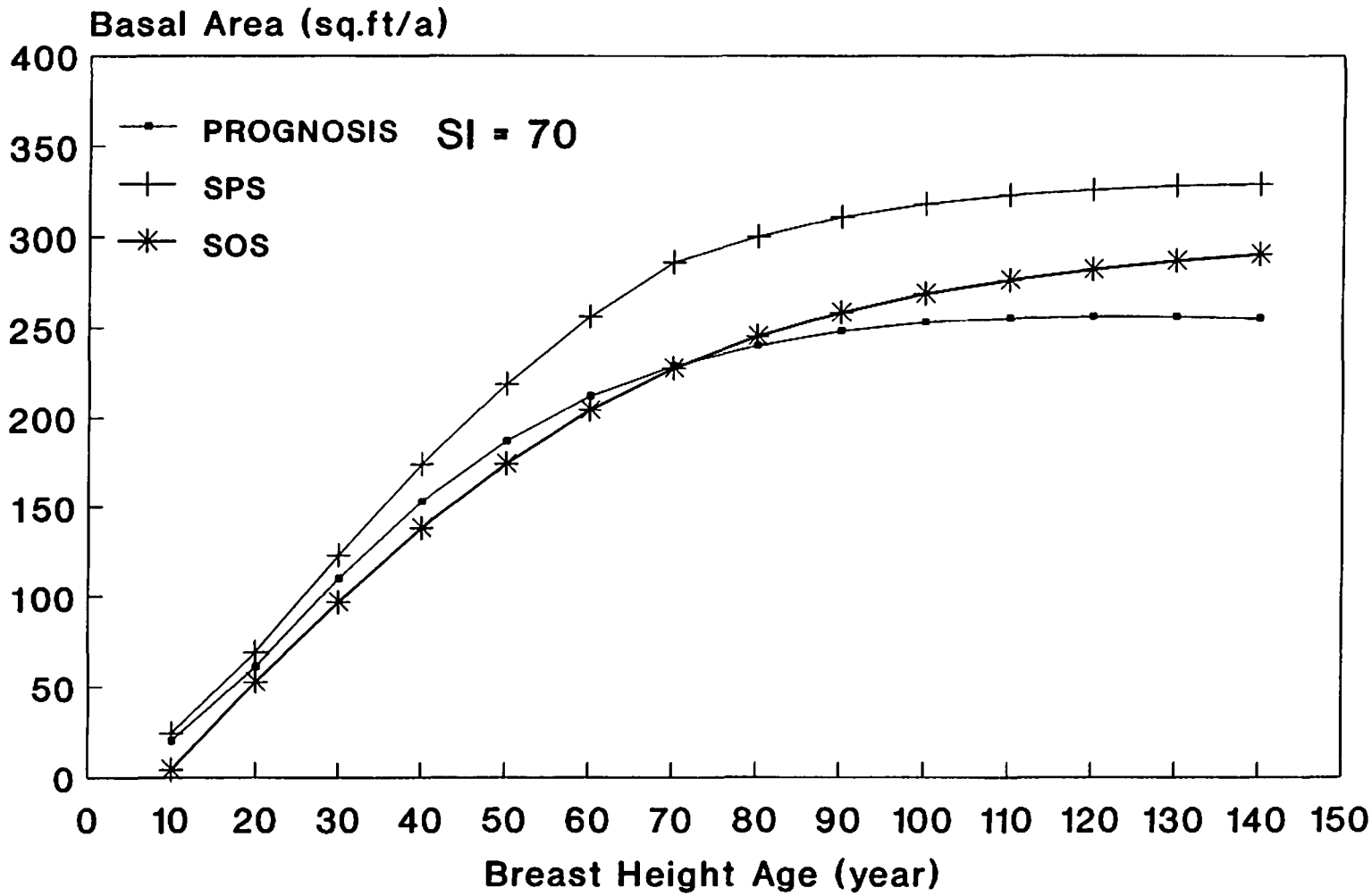


Figure 3(b): Comparison of predicted basal area from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 70.

(c) Comparison of top height

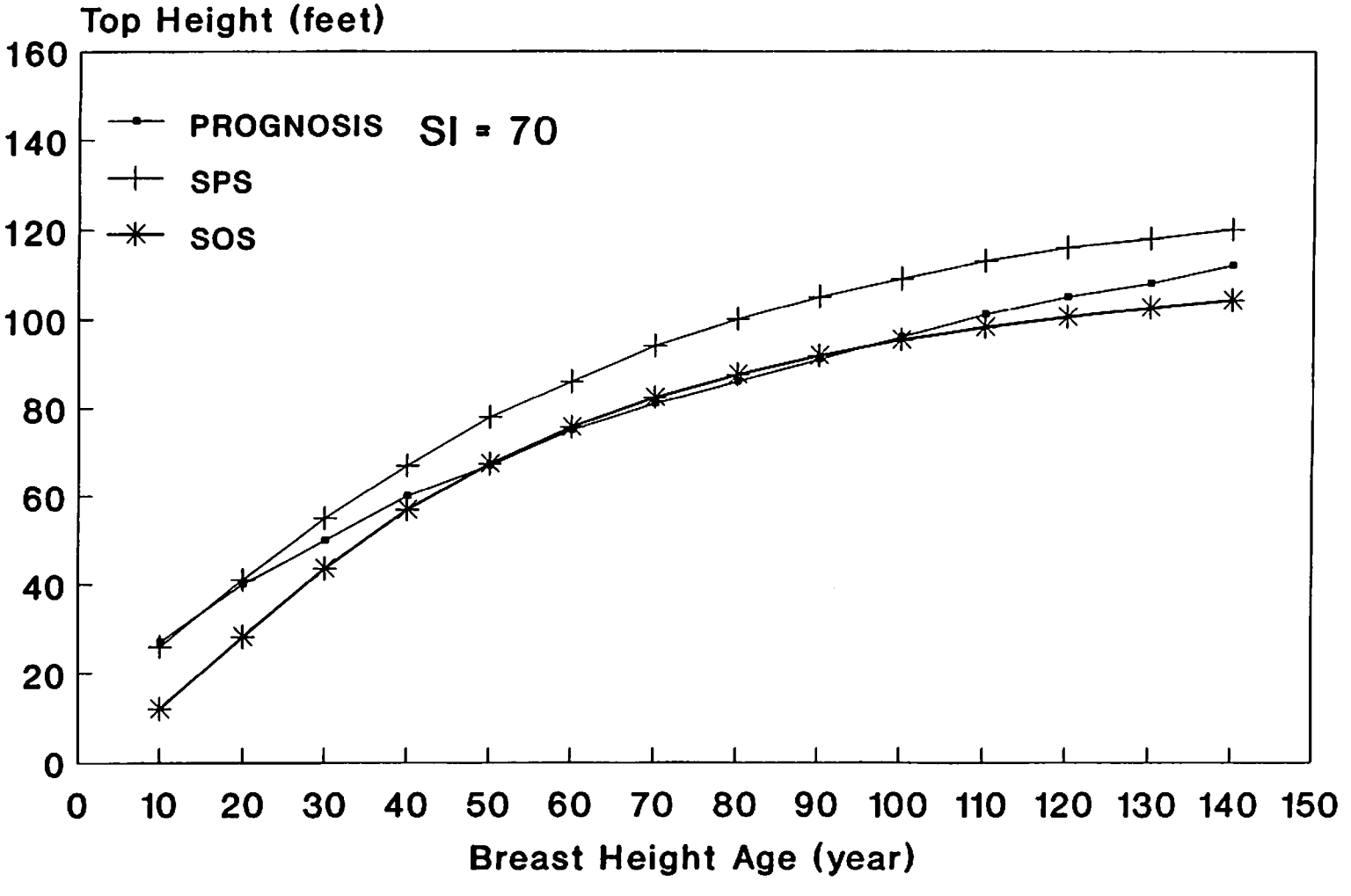


Figure 3(c): Comparison of predicted top height from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 70.

(d) Comparison of surviving trees

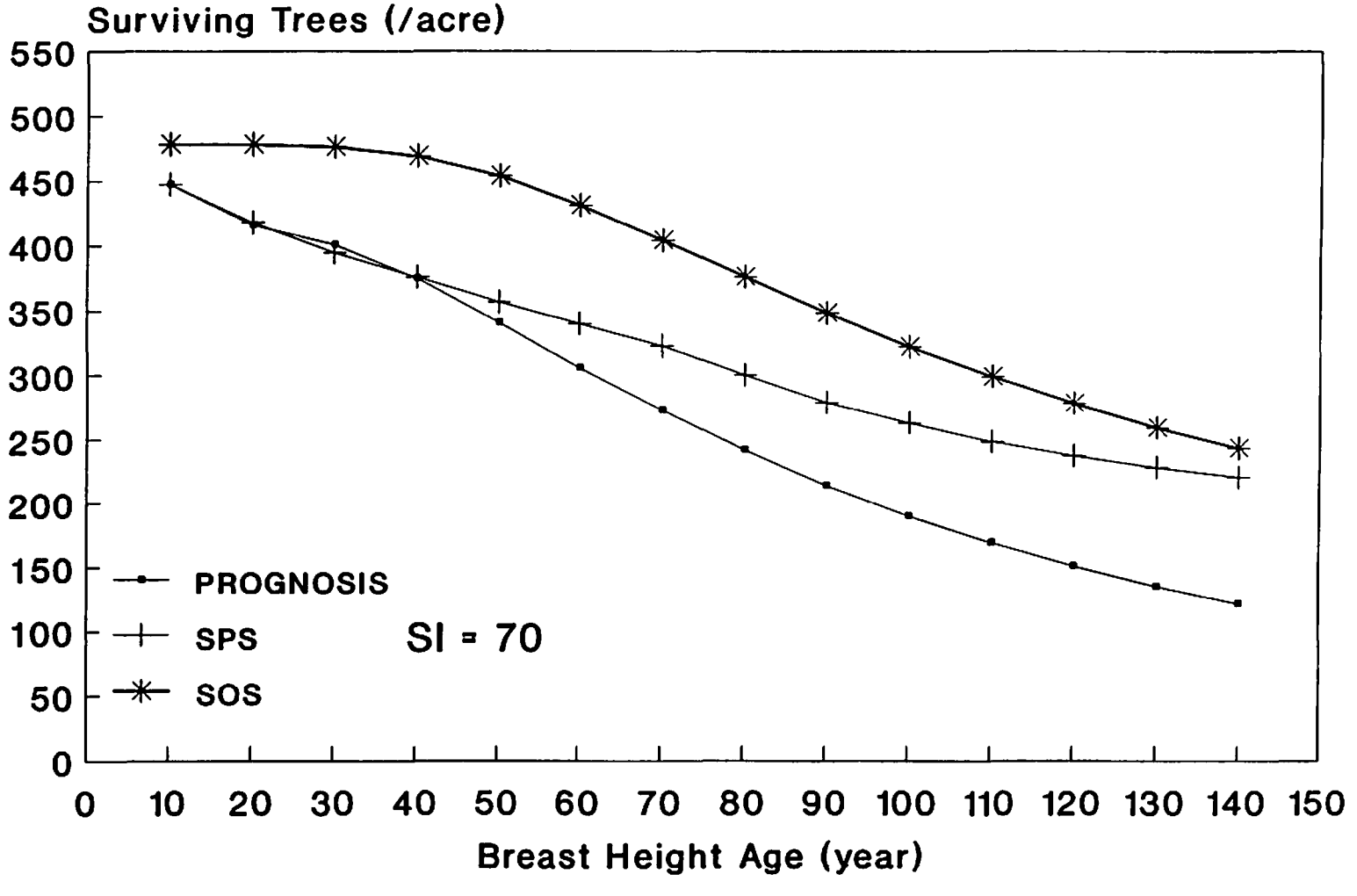


Figure 3(d): Comparison of predicted surviving trees from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 70.

(e) Comparison of mean tree volume

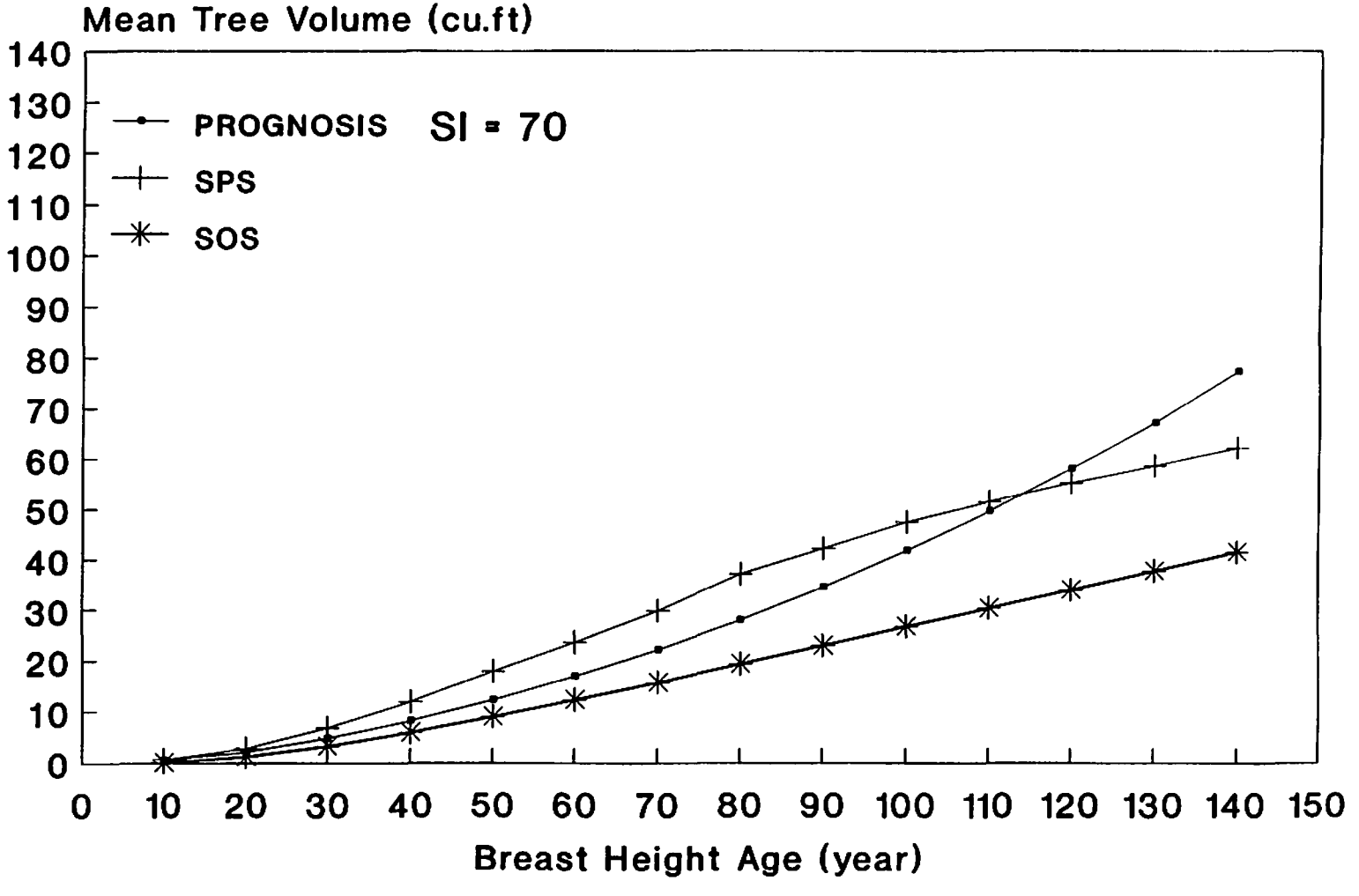


Figure 3(e): Comparison of predicted mean tree volume from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 70.

(a) Comparison of total volume

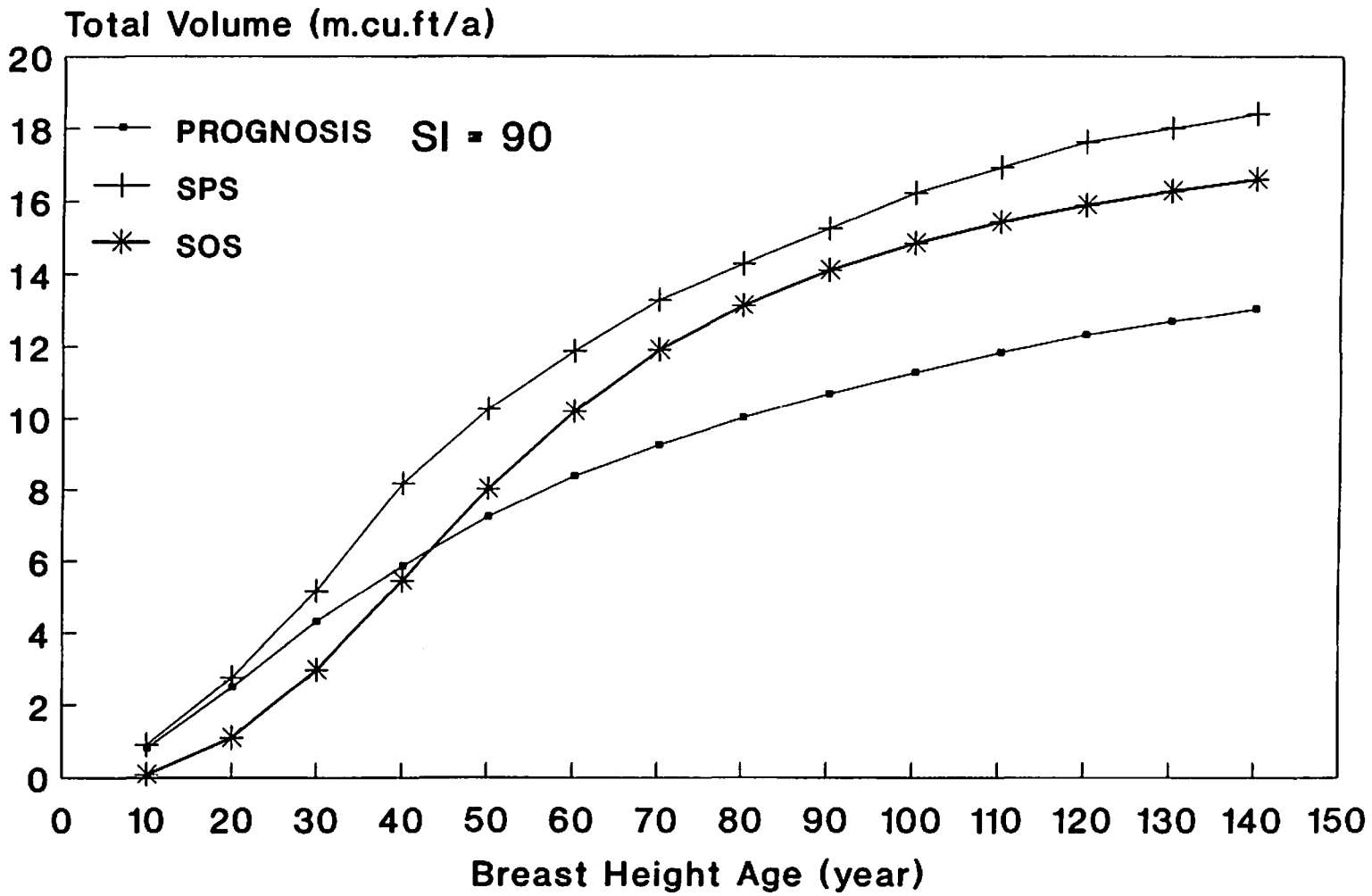


Figure 4(a): Comparison of predicted total volume from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 90.

(b) Comparison of basal area

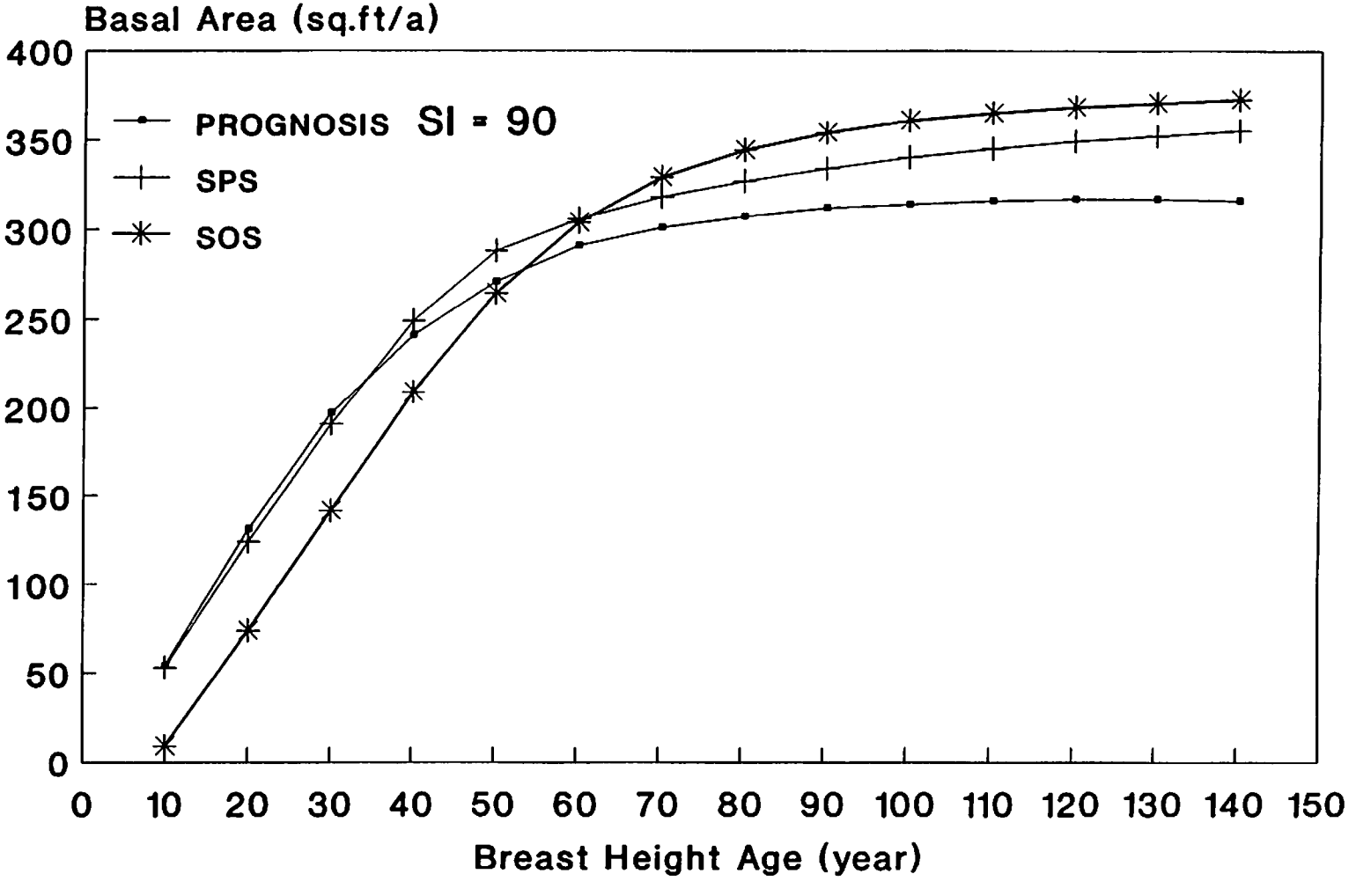


Figure 4(b): Comparison of predicted basal area from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 90.

(c) Comparison of top height

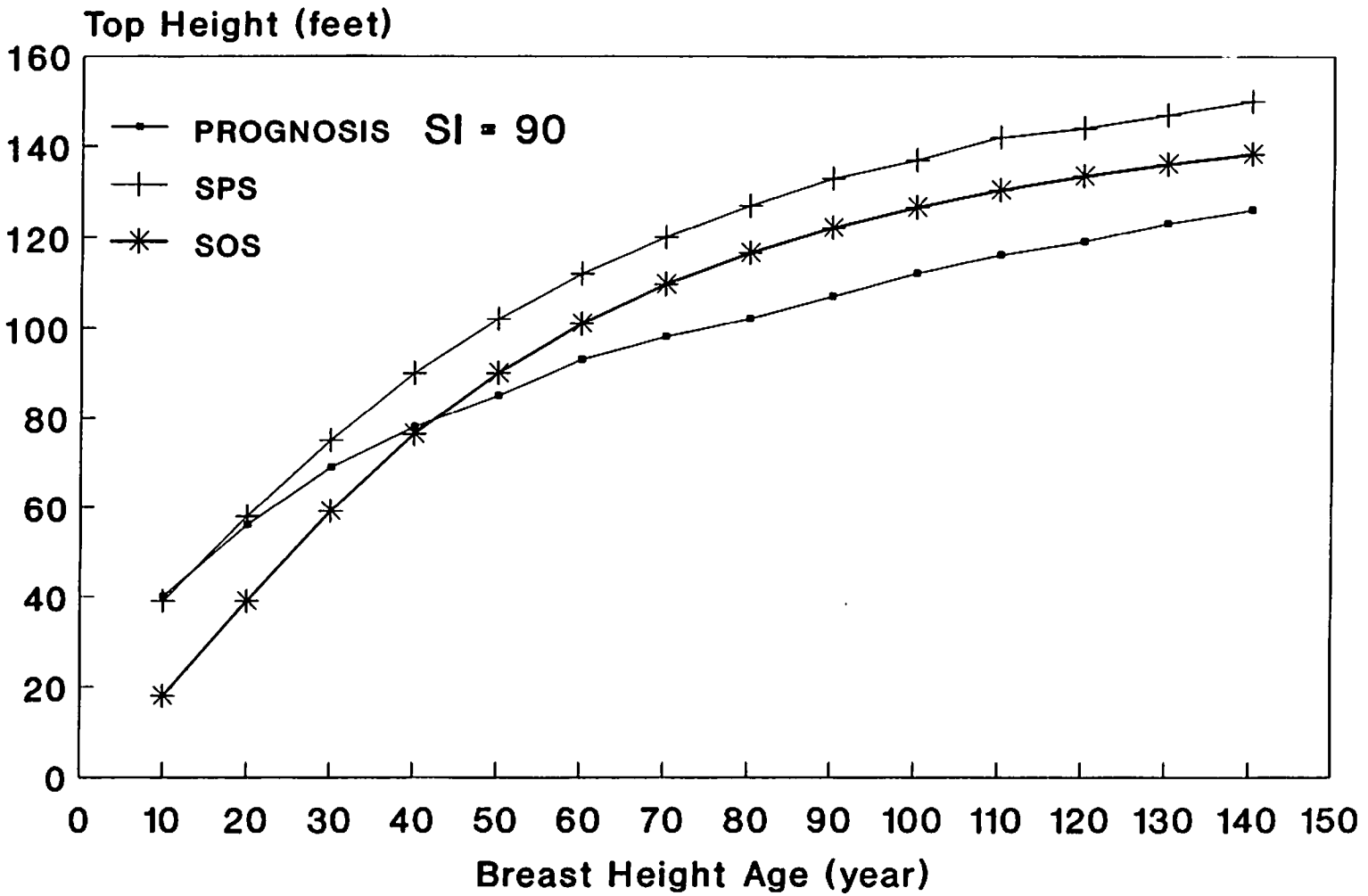


Figure 4(c): Comparison of predicted top height from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 90.

(d) Comparison of surviving trees

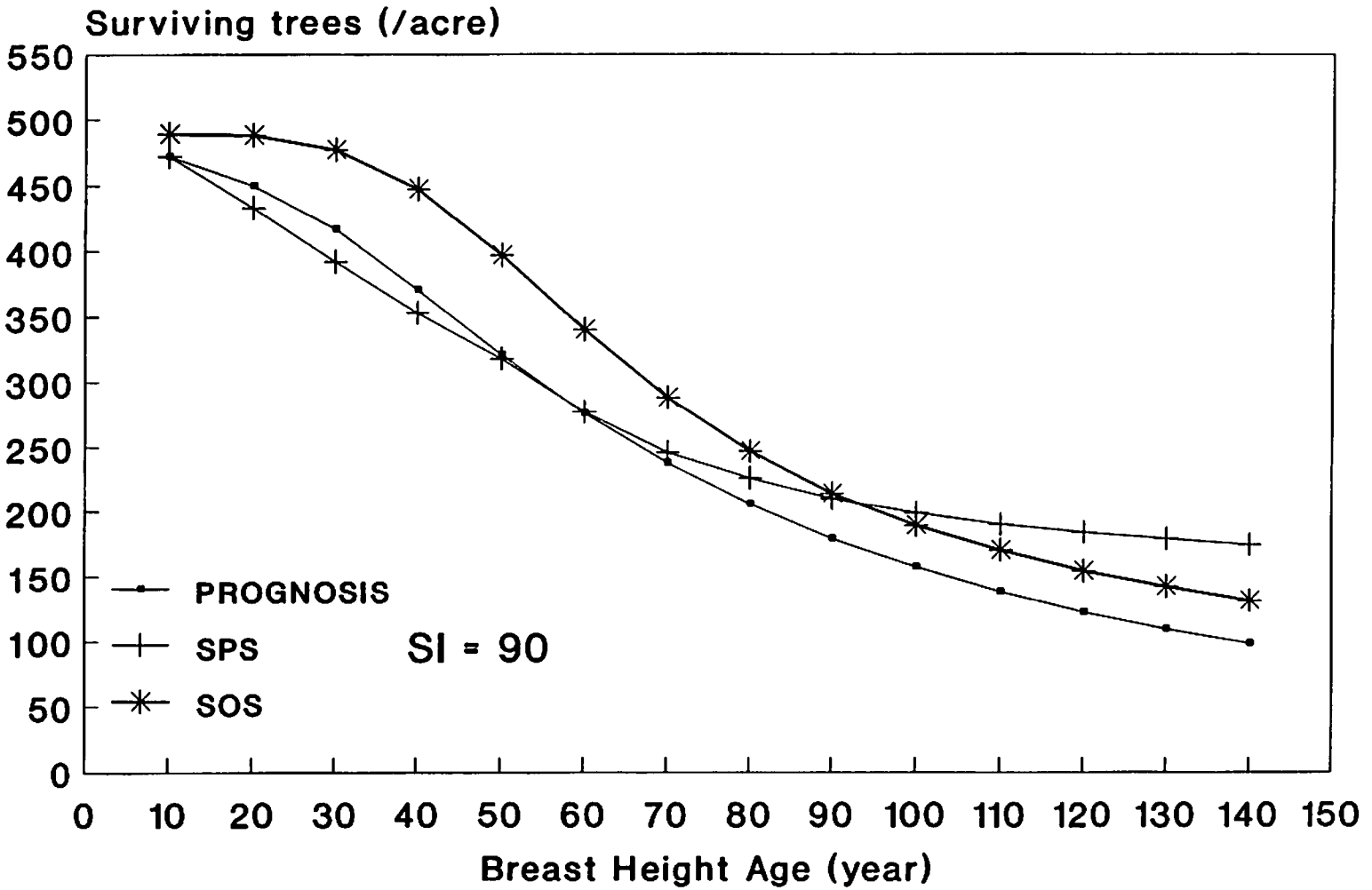


Figure 4(d): Comparison of predicted surviving trees from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 90.

(e) Comparison of mean tree volume

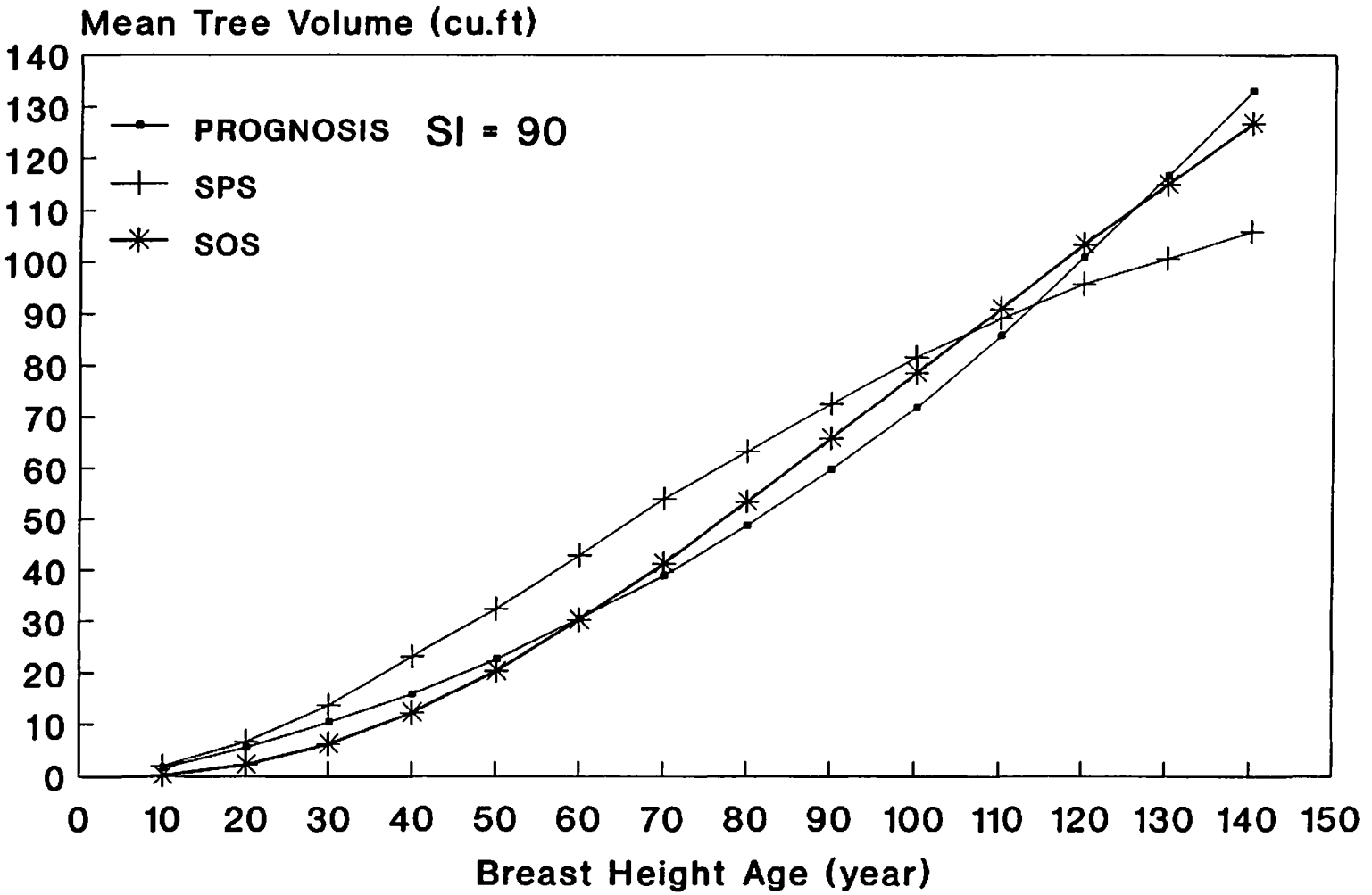


Figure 4(e): Comparison of predicted mean tree volume from three simulation models: Prognosis, Stand Projection System (SPS) and Simulation Of Stands (SOS) for site index 90.

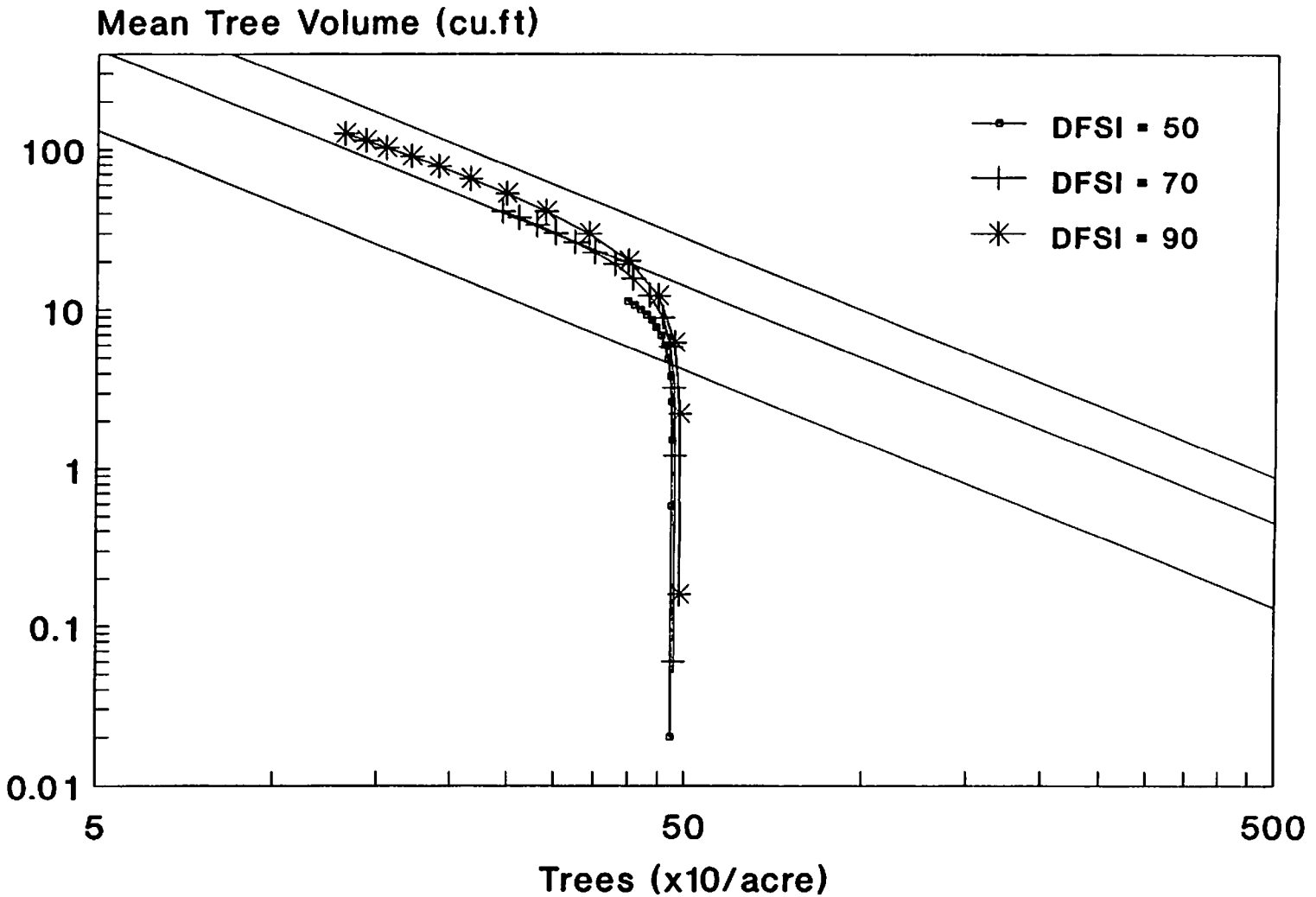


Figure 5: Simulation results from Simulation Of Stands (SOS) plotted on a Douglas-fir density management diagram for three site indices.

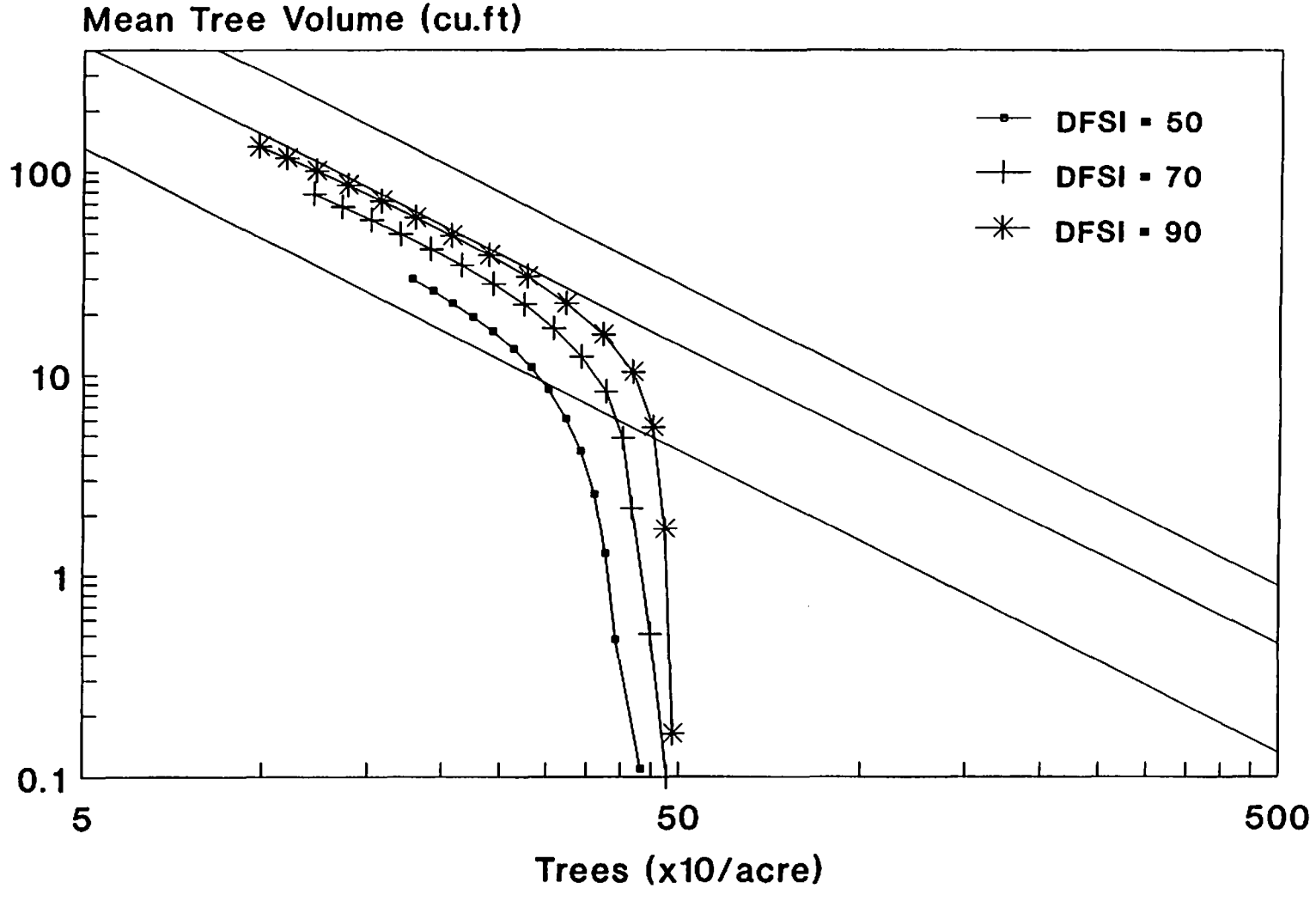


Figure 6: Simulation results from Prognosis plotted on a Douglas-fir density management diagram for three site indices.

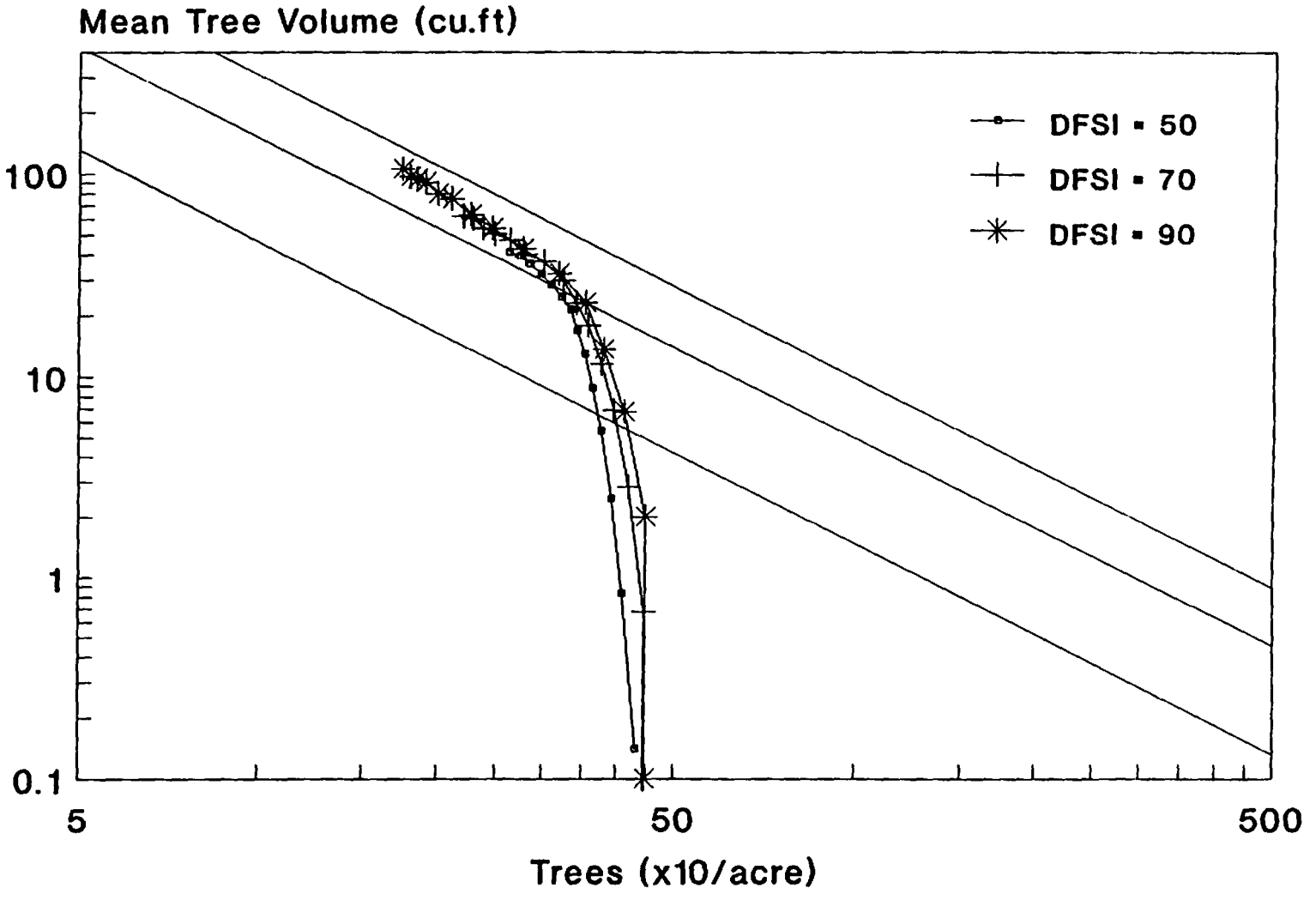


Figure 7: Simulation results from Stand Projection System (SPS) plotted on a Douglas-fir density management diagram for three site indices.

Appendix C

Yield tables and Douglas-fir density management diagrams for thinning regimes for site index 80

Yield Tables of Thinning Across Distribution

for DFSI = 80

Notation Used in the Yield Tables:

INST	=	Stand Identification
DFSI	=	Douglas-fir site index (feet)
A	=	Stand age at DBH (year)
TOPH	=	Stand top height (feet)
BA	=	Stand basal area (ft^2/acre)
QMD	=	Quadratic mean tree diameter (inch)
V	=	Stand total volume (ft^3/acre)
VG	=	Total volume increment in 6 yeras (ft^3/care)
MV	=	Stand mean tree volume (ft^3)
N	=	Number of surviving trees per acre
MORT	=	Number of dead trees in 6 years
RD	=	Drew-Flewelling's relative density index

(1) Unthinned Stand (DFSI=80, N=500)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	UNTH	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	UNTH	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	UNTH	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
4	UNTH	80	18	32.6	81.71	5.48	989.5	530.49	1.98	499	1	0.07
5	UNTH	80	24	42.8	110.89	6.40	1713.9	724.42	3.46	496	3	0.12
6	UNTH	80	30	52.4	141.09	7.27	2616.9	902.99	5.34	490	6	0.19
7	UNTH	80	36	61.3	171.72	8.10	3670.5	1053.64	7.66	479	10	0.26
8	UNTH	80	42	69.6	201.70	8.93	4830.8	1160.31	10.42	464	16	0.34
9	UNTH	80	48	77.2	229.76	9.75	6041.3	1210.53	13.64	443	21	0.41
10	UNTH	80	54	84.2	254.82	10.58	7243.8	1202.44	17.34	418	25	0.48
11	UNTH	80	60	90.6	276.26	11.40	8390.2	1146.40	21.51	390	28	0.53
12	UNTH	80	66	96.5	293.98	12.21	9449.9	1059.74	26.13	362	28	0.58
13	UNTH	80	72	101.8	308.28	13.01	10409.7	959.78	31.16	334	28	0.61
14	UNTH	80	78	106.8	319.65	13.79	11269.0	859.26	36.57	308	26	0.64
15	UNTH	80	84	111.3	328.65	14.55	12034.5	765.55	42.30	285	24	0.66
16	UNTH	80	90	115.5	335.77	15.29	12716.3	681.82	48.31	263	21	0.67
17	UNTH	80	96	119.4	341.42	16.01	13325.0	608.71	54.54	244	19	0.67
18	UNTH	80	102	123.0	345.94	16.70	13870.6	545.55	60.97	228	17	0.68
19	UNTH	80	108	126.3	349.59	17.36	14361.8	491.15	67.54	213	15	0.68
20	UNTH	80	114	129.4	352.56	18.00	14806.0	444.25	74.22	199	13	0.67
21	UNTH	80	120	132.2	355.00	18.62	15209.7	403.68	80.99	188	12	0.67

(2) Thinning Across Distribution: Regime A (Thinned to N=436 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-A	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-A	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	M-A	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	M-A	80	12	22.2	46.68	4.43	400.7	-58.24	0.92	436	64	0.03
5	M-A	80	18	32.6	75.08	5.62	910.6	509.89	2.09	435	1	0.06
6	M-A	80	24	42.8	104.06	6.63	1610.1	699.54	3.71	434	2	0.11
7	M-A	80	30	52.4	133.71	7.55	2482.4	872.26	5.78	430	4	0.17
8	M-A	80	36	61.3	163.61	8.43	3500.3	1017.88	8.29	422	7	0.23
9	M-A	80	42	69.6	192.89	9.27	4623.8	1123.52	11.23	412	11	0.30
10	M-A	80	48	77.2	220.51	10.09	5802.5	1178.73	14.63	397	15	0.37
11	M-A	80	54	84.2	245.50	10.91	6983.6	1181.03	18.45	378	18	0.44
12	M-A	80	60	90.6	267.24	11.71	8121.3	1137.74	22.71	358	21	0.50
13	M-A	80	66	96.5	285.56	12.49	9184.1	1062.83	27.38	335	22	0.54
14	M-A	80	72	101.8	300.62	13.27	10155.6	971.52	32.43	313	22	0.58
15	M-A	80	78	106.8	312.80	14.02	11031.8	876.12	37.82	292	22	0.61
16	M-A	80	84	111.3	322.58	14.76	11816.4	784.63	43.52	271	20	0.63
17	M-A	80	90	115.5	330.42	15.48	12517.5	701.13	49.49	253	19	0.64
18	M-A	80	96	119.4	336.71	16.17	13144.6	627.07	55.67	236	17	0.65
19	M-A	80	102	123.0	341.78	16.84	13707.0	562.39	62.04	221	15	0.66
20	M-A	80	108	126.3	345.91	17.49	14213.3	506.28	68.56	207	14	0.66
21	M-A	80	114	129.4	349.28	18.12	14670.9	457.68	75.19	195	12	0.66
22	M-A	80	120	132.2	352.07	18.72	15086.5	415.52	81.91	184	11	0.66

(3) Thinning Across Distribution: Regime B (Thinned to N=436 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-B	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-B	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	M-B	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
4	M-B	80	18	32.6	81.71	5.48	989.5	530.49	1.98	499	1	0.07
5	M-B	80	24	42.8	110.89	6.40	1713.9	724.42	3.46	496	3	0.12
6	M-B	80	30	52.4	141.09	7.27	2616.9	902.99	5.34	490	6	0.19
# 7	M-B	80	30	52.4	125.28	7.26	2328.6	-288.24	5.34	436	54	0.16
8	M-B	80	36	61.3	155.61	8.15	3332.1	1003.53	7.77	429	7	0.22
9	M-B	80	42	69.6	185.44	9.02	4448.3	1116.13	10.63	418	11	0.29
10	M-B	80	48	77.2	213.73	9.86	5627.4	1179.12	13.95	403	15	0.36
11	M-B	80	54	84.2	239.50	10.68	6815.9	1188.52	17.71	385	19	0.43
12	M-B	80	60	90.6	262.05	11.50	7966.3	1150.37	21.91	364	21	0.49
13	M-B	80	66	96.5	281.14	12.30	9044.5	1078.17	26.53	341	23	0.54
14	M-B	80	72	101.8	296.89	13.08	10031.9	987.47	31.54	318	23	0.58
15	M-B	80	78	106.8	309.67	13.85	10923.2	891.28	36.91	296	22	0.61
16	M-B	80	84	111.3	319.94	14.60	11721.5	798.25	42.59	275	21	0.63
17	M-B	80	90	115.5	328.18	15.33	12434.4	712.97	48.55	256	19	0.64
18	M-B	80	96	119.4	334.80	16.03	13071.6	637.19	54.73	239	17	0.65
19	M-B	80	102	123.0	340.15	16.71	13642.6	570.95	61.10	223	16	0.66
20	M-B	80	108	126.3	344.49	17.37	14156.1	513.50	67.62	209	14	0.66
21	M-B	80	114	129.4	348.04	18.00	14619.8	463.77	74.26	197	12	0.66
22	M-B	80	120	132.2	350.98	18.61	15040.5	420.68	80.98	186	11	0.66

(4) Thinning Across Distribution: Regime C (Thinned to N=303 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-C	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-C	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	M-C	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	M-C	80	12	22.2	32.35	4.42	279.5	-179.45	0.92	303	197	0.02
5	M-C	80	18	32.6	61.71	6.11	751.1	471.59	2.48	303	0	0.04
6	M-C	80	24	42.8	90.38	7.40	1402.2	651.08	4.64	302	1	0.08
7	M-C	80	30	52.4	118.90	8.51	2212.1	809.90	7.35	301	1	0.12
8	M-C	80	36	61.3	147.12	9.51	3153.6	941.53	10.57	298	3	0.18
9	M-C	80	42	69.6	174.59	10.43	4192.6	1038.98	14.24	294	4	0.23
10	M-C	80	48	77.2	200.66	11.29	5289.4	1096.76	18.32	289	6	0.29
11	M-C	80	54	84.2	224.72	12.10	6402.8	1113.47	22.76	281	7	0.35
12	M-C	80	60	90.6	246.29	12.88	7495.8	1092.97	27.52	272	9	0.40
13	M-C	80	66	96.5	265.15	13.62	8539.2	1043.38	32.56	262	10	0.45
14	M-C	80	72	101.8	281.28	14.33	9513.9	974.71	37.88	251	11	0.49
15	M-C	80	78	106.8	294.86	15.02	10410.3	896.44	43.43	240	11	0.52
16	M-C	80	84	111.3	306.18	15.68	11226.3	816.01	49.19	228	12	0.55
17	M-C	80	90	115.5	315.56	16.33	11964.7	738.38	55.15	217	11	0.57
18	M-C	80	96	119.4	323.32	16.96	12631.1	666.38	61.28	206	11	0.59
19	M-C	80	102	123.0	329.73	17.57	13232.4	601.25	67.55	196	10	0.60
20	M-C	80	108	126.3	335.06	18.16	13775.6	543.22	73.94	186	10	0.61
21	M-C	80	114	129.4	339.50	18.73	14267.5	491.95	80.42	177	9	0.61
22	M-C	80	120	132.2	343.22	19.29	14714.4	446.82	86.98	169	8	0.62

(5) Thinning Across Distribution: Regime D (Thinned to N=303 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-D	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-D	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	M-D	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
4	M-D	80	18	32.6	81.71	5.48	989.5	530.49	1.98	499	1	0.07
5	M-D	80	24	42.8	110.89	6.40	1713.9	724.42	3.46	496	3	0.12
6	M-D	80	30	52.4	141.09	7.27	2616.9	902.99	5.34	490	6	0.19
# 7	M-D	80	30	52.4	86.48	7.23	1618.3	-998.55	5.34	303	187	0.09
8	M-D	80	36	61.3	116.08	8.41	2499.1	880.83	8.30	301	2	0.14
9	M-D	80	42	69.6	144.99	9.45	3493.8	994.62	11.73	298	3	0.19
10	M-D	80	48	77.2	172.77	10.40	4566.8	1072.99	15.59	293	5	0.25
11	M-D	80	54	84.2	198.85	11.28	5678.5	1111.78	19.83	286	7	0.31
12	M-D	80	60	90.6	222.70	12.12	6790.1	1111.60	24.42	278	8	0.37
13	M-D	80	66	96.5	243.94	12.91	7868.1	1077.99	29.33	268	10	0.42
14	M-D	80	72	101.8	262.44	13.67	8887.9	1019.78	34.53	257	11	0.46
15	M-D	80	78	106.8	278.26	14.40	9834.5	946.64	39.99	246	11	0.50
16	M-D	80	84	111.3	291.61	15.11	10701.7	867.12	45.68	234	12	0.53
17	M-D	80	90	115.5	302.79	15.79	11489.2	787.54	51.58	223	12	0.55
18	M-D	80	96	119.4	312.11	16.45	12201.2	711.94	57.67	212	11	0.57
19	M-D	80	102	123.0	319.87	17.08	12843.6	642.47	63.91	201	11	0.59
20	M-D	80	108	126.3	326.34	17.70	13423.6	579.94	70.28	191	10	0.60
21	M-D	80	114	129.4	331.76	18.30	13947.9	524.37	76.76	182	9	0.61
22	M-D	80	120	132.2	336.31	18.87	14423.3	475.32	83.32	173	9	0.61

(6) Thinning Across Distribution: Regime E (Thinned to N=194 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-E	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-E	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	M-E	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	M-E	80	12	22.2	20.43	4.39	178.0	-280.97	0.92	194	306	0.01
5	M-E	80	18	32.6	51.17	6.95	625.0	447.03	3.22	194	0	0.03
6	M-E	80	24	42.8	79.76	8.69	1240.1	615.13	6.40	194	0	0.06
7	M-E	80	30	52.4	107.32	10.09	2000.4	760.27	10.34	193	0	0.09
8	M-E	80	36	61.3	134.00	11.29	2877.2	876.78	14.93	193	1	0.13
9	M-E	80	42	69.6	159.60	12.36	3838.9	961.69	20.03	192	1	0.17
10	M-E	80	48	77.2	183.79	13.32	4852.5	1013.60	25.54	190	2	0.22
11	M-E	80	54	84.2	206.25	14.19	5885.9	1033.37	31.34	188	2	0.26
12	M-E	80	60	90.6	226.71	14.99	6910.3	1024.42	37.35	185	3	0.30
13	M-E	80	66	96.5	245.02	15.73	7902.5	992.18	43.50	182	3	0.34
14	M-E	80	72	101.8	261.16	16.41	8845.6	943.09	49.74	178	4	0.38
15	M-E	80	78	106.8	275.22	17.05	9729.0	883.47	56.04	174	4	0.41
16	M-E	80	84	111.3	287.34	17.65	10547.8	818.75	62.38	169	5	0.44
17	M-E	80	90	115.5	297.74	18.23	11300.9	753.10	68.76	164	5	0.47
18	M-E	80	96	119.4	306.61	18.77	11990.3	689.41	75.16	160	5	0.49
19	M-E	80	102	123.0	314.19	19.30	12619.8	629.45	81.59	155	5	0.51
20	M-E	80	108	126.3	320.65	19.81	13193.9	574.13	88.03	150	5	0.52
21	M-E	80	114	129.4	326.18	20.30	13717.6	523.78	94.49	145	5	0.53
22	M-E	80	120	132.2	330.91	20.77	14196.0	478.37	100.95	141	5	0.54

(7) Thinning Across Distribution: Regime F (Thinned to N=194 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-F	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-F	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	M-F	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	M-F	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	M-F	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	M-F	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
# 7	M-F	80	30	52.4	54.94	7.21	1036.8	-1580.0	5.34	194	296	0.05
8	M-F	80	36	61.3	84.62	8.95	1832.4	795.5	9.46	194	0	0.08
9	M-F	80	42	69.6	112.74	10.35	2729.3	896.9	14.15	193	1	0.12
10	M-F	80	48	77.2	139.46	11.55	3700.6	971.4	19.30	192	1	0.17
11	M-F	80	54	84.2	164.60	12.60	4716.7	1016.1	24.83	190	2	0.21
12	M-F	80	60	90.6	187.94	13.55	5748.1	1031.4	30.63	188	2	0.25
13	M-F	80	66	96.5	209.26	14.41	6768.5	1020.4	36.63	185	3	0.30
14	M-F	80	72	101.8	228.45	15.20	7756.5	987.9	42.78	181	3	0.34
15	M-F	80	78	106.8	245.49	15.93	8696.2	939.8	49.02	177	4	0.37
16	M-F	80	84	111.3	260.45	16.61	9577.9	881.7	55.34	173	4	0.41
17	M-F	80	90	115.5	273.48	17.25	10396.6	818.6	61.70	168	5	0.44
18	M-F	80	96	119.4	284.77	17.86	11151.1	754.5	68.11	164	5	0.46
19	M-F	80	102	123.0	294.50	18.44	11843.1	692.0	74.55	159	5	0.48
20	M-F	80	108	126.3	302.89	18.99	12476.1	633.0	81.02	154	5	0.50
21	M-F	80	114	129.4	310.12	19.52	13054.3	578.2	87.50	149	5	0.51
22	M-F	80	120	132.2	316.35	20.03	13582.5	528.2	93.99	145	5	0.53

(8) Thinning Across Distribution: Regime G (Thinned to N=194 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-G	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-G	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	M-G	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	M-G	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	M-G	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	M-G	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
7	M-G	80	36	61.3	171.72	8.10	3670.5	1053.6	7.66	479	10	0.26
8	M-G	80	42	69.6	201.70	8.93	4830.8	1160.3	10.42	464	16	0.34
9	M-G	80	48	77.2	229.76	9.75	6041.3	1210.5	13.64	443	21	0.41
#10	M-G	80	48	77.2	99.07	9.68	2645.5	-3395.9	13.64	194	249	0.12
11	M-G	80	54	84.2	126.12	10.95	3631.8	986.3	18.85	193	1	0.16
12	M-G	80	60	90.6	151.51	12.06	4652.5	1020.7	24.38	191	2	0.21
13	M-G	80	66	96.5	175.08	13.05	5681.4	1029.0	30.16	188	2	0.25
14	M-G	80	72	101.8	196.65	13.95	6695.3	1013.8	36.13	185	3	0.29
15	M-G	80	78	106.8	216.14	14.77	7674.7	979.5	42.24	182	4	0.33
16	M-G	80	84	111.3	233.55	15.53	8605.9	931.1	48.45	178	4	0.37
17	M-G	80	90	115.5	248.94	16.23	9479.8	873.9	54.74	173	4	0.40
18	M-G	80	96	119.4	262.44	16.90	10292.2	812.3	61.09	168	5	0.43
19	M-G	80	102	123.0	274.22	17.53	11042.0	749.8	67.49	164	5	0.46
20	M-G	80	108	126.3	284.47	18.13	11730.9	688.9	73.93	159	5	0.48
21	M-G	80	114	129.4	293.38	18.70	12362.1	631.2	80.40	154	5	0.49
22	M-G	80	120	132.2	301.11	19.26	12939.7	577.6	86.90	149	5	0.51

(9) Thinning Across Distribution: Regime H (Thinned to N=109 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-H	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-H	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	M-H	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	M-H	80	12	22.2	11.46	4.39	100.9	-358.04	0.93	109	391	0.00
5	M-H	80	18	32.6	43.86	8.59	537.2	436.29	4.93	109	0	0.02
6	M-H	80	24	42.8	72.39	11.04	1127.6	590.40	10.35	109	0	0.04
7	M-H	80	30	52.4	99.08	12.92	1849.6	722.04	16.98	109	0	0.06
8	M-H	80	36	61.3	124.31	14.47	2672.9	823.27	24.57	109	0	0.09
9	M-H	80	42	69.6	148.08	15.81	3566.9	893.99	32.85	109	0	0.12
10	M-H	80	48	77.2	170.31	16.98	4502.7	935.84	41.58	108	0	0.15
11	M-H	80	54	84.2	190.86	18.01	5454.5	951.72	50.55	108	0	0.18
12	M-H	80	60	90.6	209.67	18.92	6400.0	945.53	59.60	107	1	0.21
13	M-H	80	66	96.5	226.69	19.73	7321.8	921.80	68.59	107	1	0.24
14	M-H	80	72	101.8	241.97	20.46	8206.9	885.13	77.44	106	1	0.27
15	M-H	80	78	106.8	255.57	21.11	9046.7	839.80	86.07	105	1	0.30
16	M-H	80	84	111.3	267.61	21.71	9836.2	789.47	94.46	104	1	0.32
17	M-H	80	90	115.5	278.22	22.25	10573.2	737.05	102.59	103	1	0.35
18	M-H	80	96	119.4	287.55	22.75	11257.9	684.70	110.47	102	1	0.37
19	M-H	80	102	123.0	295.74	23.21	11891.9	633.93	118.10	101	1	0.39
20	M-H	80	108	126.3	302.93	23.64	12477.6	585.70	125.51	99	1	0.40
21	M-H	80	114	129.4	309.24	24.04	13018.1	540.56	132.70	98	1	0.42
22	M-H	80	120	132.2	314.79	24.42	13516.9	498.75	139.69	97	1	0.43

(10) Thinning Across Distribution: Regime I (Thinned to N=109 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-I	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-I	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	M-I	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	M-I	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	M-I	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	M-I	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
# 7	M-I	80	30	52.4	30.50	7.16	581.8	-2035.1	5.34	109	381	0.02
8	M-I	80	36	61.3	61.40	10.16	1337.5	755.7	12.27	109	0	0.05
9	M-I	80	42	69.6	89.28	12.26	2170.6	833.1	19.94	109	0	0.07
10	M-I	80	48	77.2	115.07	13.93	3064.4	893.8	28.20	109	0	0.10
11	M-I	80	54	84.2	139.01	15.33	3995.9	931.5	36.86	108	0	0.13
12	M-I	80	60	90.6	161.14	16.54	4942.4	946.6	45.75	108	0	0.17
13	M-I	80	66	96.5	181.44	17.59	5884.3	941.8	54.73	108	1	0.20
14	M-I	80	72	101.8	199.94	18.52	6805.1	920.8	63.66	107	1	0.23
15	M-I	80	78	106.8	216.66	19.35	7692.5	887.4	72.47	106	1	0.26
16	M-I	80	84	111.3	231.67	20.09	8538.0	845.4	81.09	105	1	0.28
17	M-I	80	90	115.5	245.10	20.75	9336.1	798.2	89.49	104	1	0.31
18	M-I	80	96	119.4	257.05	21.36	10084.4	748.3	97.65	103	1	0.33
19	M-I	80	102	123.0	267.65	21.92	10782.3	697.9	105.58	102	1	0.35
20	M-I	80	108	126.3	277.06	22.44	11430.8	648.5	113.27	101	1	0.37
21	M-I	80	114	129.4	285.39	22.91	12031.9	601.1	120.74	100	1	0.39
22	M-I	80	120	132.2	292.78	23.36	12588.3	556.4	128.00	98	1	0.40

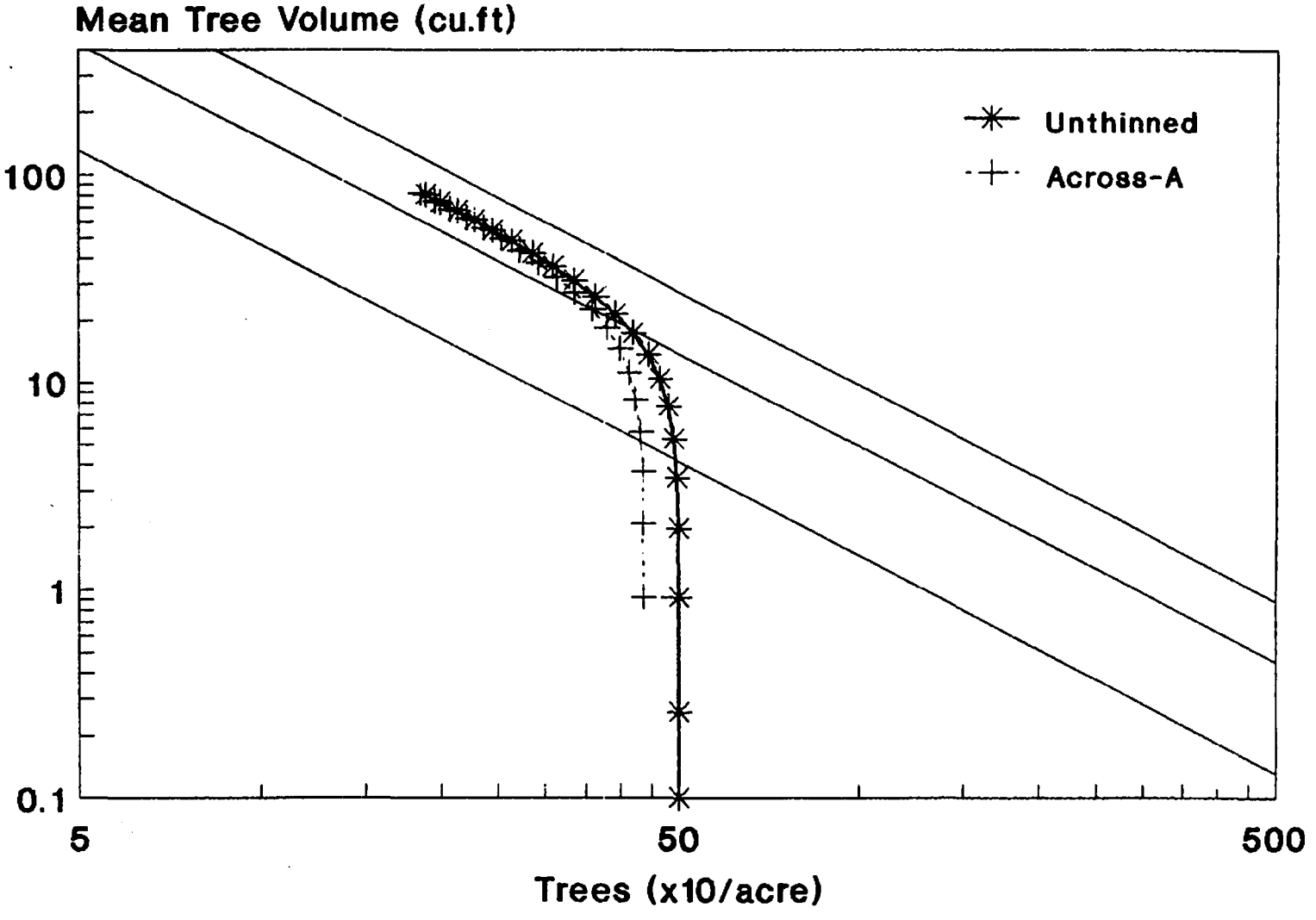
(11) Thinning Across Distribution: Regime J (Thinned to N=109 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-J	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-J	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	M-J	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	M-J	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	M-J	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	M-J	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
7	M-J	80	36	61.3	171.72	8.10	3670.5	1053.6	7.66	479	10	0.26
8	M-J	80	42	69.6	201.70	8.93	4830.8	1160.3	10.42	464	16	0.34
9	M-J	80	48	77.2	229.76	9.75	6041.3	1210.5	13.64	443	21	0.41
#10	M-J	80	48	77.2	55.10	9.63	1487.1	-4554.2	13.64	109	334	0.05
11	M-J	80	54	84.2	82.66	11.80	2398.6	911.5	22.03	109	0	0.08
12	M-J	80	60	90.6	107.93	13.50	3334.8	936.1	30.70	109	0	0.11
13	M-J	80	66	96.5	131.23	14.91	4281.2	946.4	39.54	108	0	0.14
14	M-J	80	72	101.8	152.68	16.11	5222.3	941.0	48.44	108	0	0.17
15	M-J	80	78	106.8	172.32	17.17	6144.0	921.7	57.30	107	1	0.21
16	M-J	80	84	111.3	190.21	18.09	7035.2	891.2	66.05	107	1	0.23
17	M-J	80	90	115.5	206.42	18.92	7887.6	852.5	74.63	106	1	0.26
18	M-J	80	96	119.4	221.04	19.67	8696.0	808.4	83.01	105	1	0.29
19	M-J	80	102	123.0	234.19	20.35	9457.3	761.3	91.17	104	1	0.31
20	M-J	80	108	126.3	245.98	20.96	10170.5	713.2	99.11	103	1	0.33
21	M-J	80	114	129.4	256.53	21.53	10836.0	665.5	106.83	101	1	0.35
22	M-J	80	120	132.2	265.96	22.06	11455.3	619.3	114.34	100	1	0.37

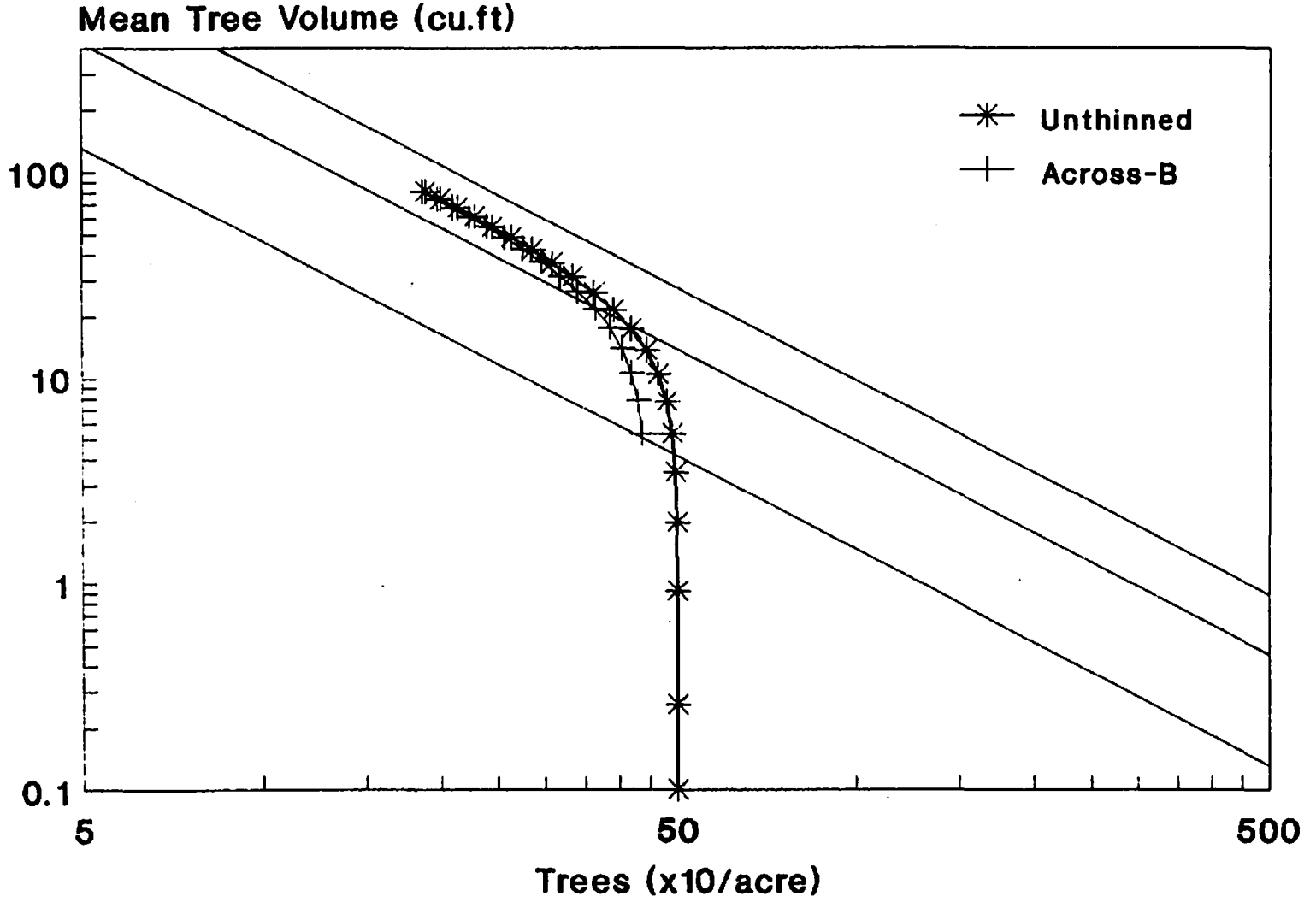
(12) Thinning Across Distribution: Regime K (Thinned to N=109 at Year 72)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-K	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-K	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	M-K	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	M-K	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	M-K	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	M-K	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
7	M-K	80	36	61.3	171.72	8.10	3670.5	1053.6	7.66	479	10	0.26
8	M-K	80	42	69.6	201.70	8.93	4830.8	1160.3	10.42	464	16	0.34
9	M-K	80	48	77.2	229.76	9.75	6041.3	1210.5	13.64	443	21	0.41
10	M-K	80	54	84.2	254.82	10.58	7243.8	1202.4	17.34	418	25	0.48
11	M-K	80	60	90.6	276.26	11.40	8390.2	1146.4	21.51	390	28	0.53
12	M-K	80	66	96.5	293.98	12.21	9449.9	1059.7	26.13	362	28	0.58
13	M-K	80	72	101.8	308.28	13.01	10409.7	959.8	31.16	334	28	0.61
#14	M-K	80	72	101.8	98.48	12.87	3395.7	-7014.0	31.15	109	225	0.11
15	M-K	80	78	106.8	120.98	14.29	4341.5	945.8	39.98	109	0	0.15
16	M-K	80	84	111.3	141.66	15.50	5268.0	926.5	48.74	108	1	0.18
17	M-K	80	90	115.5	160.63	16.56	6166.3	898.2	57.40	107	1	0.21
18	M-K	80	96	119.4	177.96	17.49	7029.0	862.7	65.90	107	1	0.23
19	M-K	80	102	123.0	193.74	18.33	7851.0	822.0	74.22	106	1	0.26
20	M-K	80	108	126.3	208.06	19.08	8629.0	778.0	82.34	105	1	0.29
21	M-K	80	114	129.4	221.02	19.77	9361.6	732.6	90.26	104	1	0.31
22	M-K	80	120	132.2	232.73	20.40	10048.5	686.9	97.98	103	1	0.33

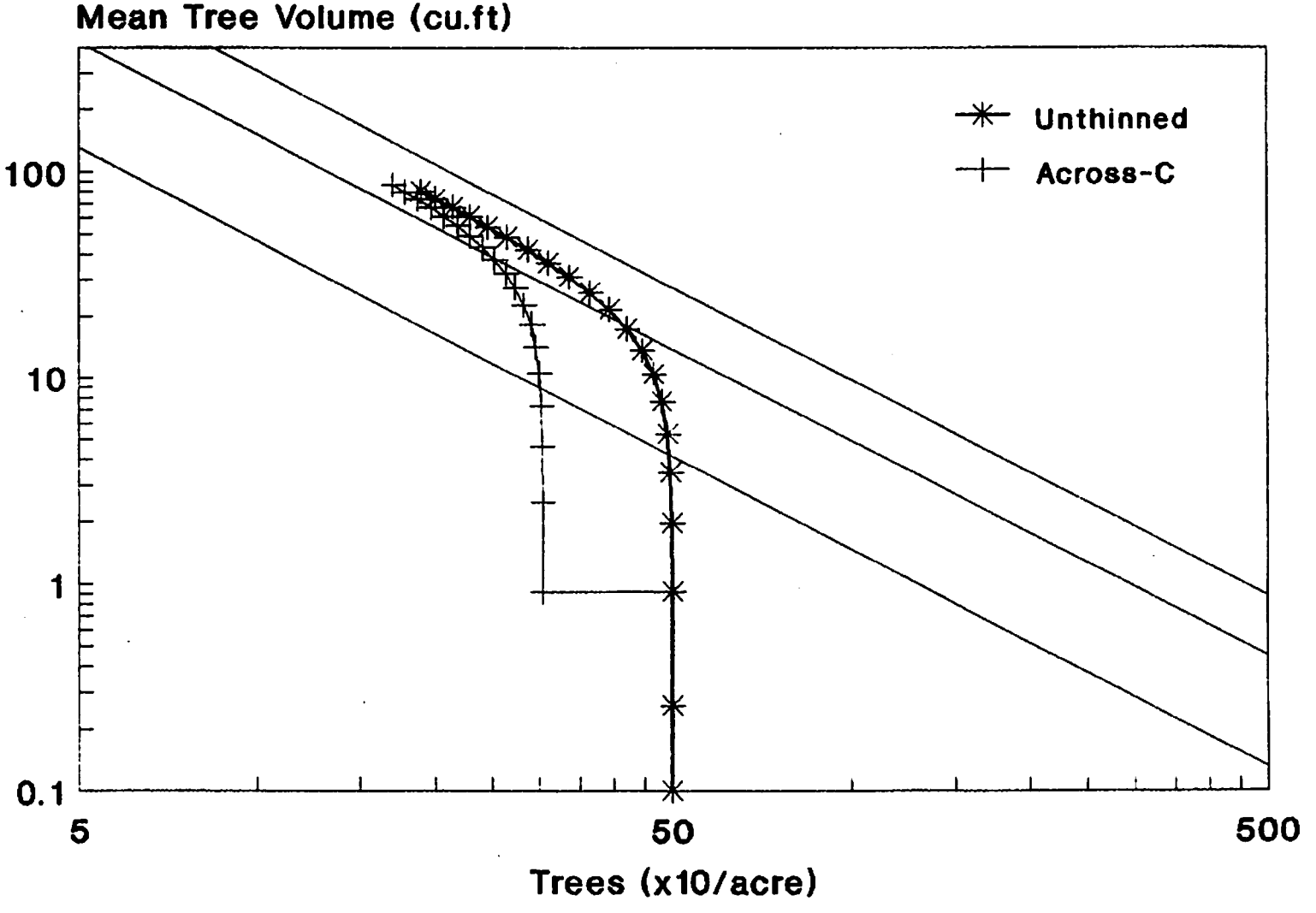
Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime A)



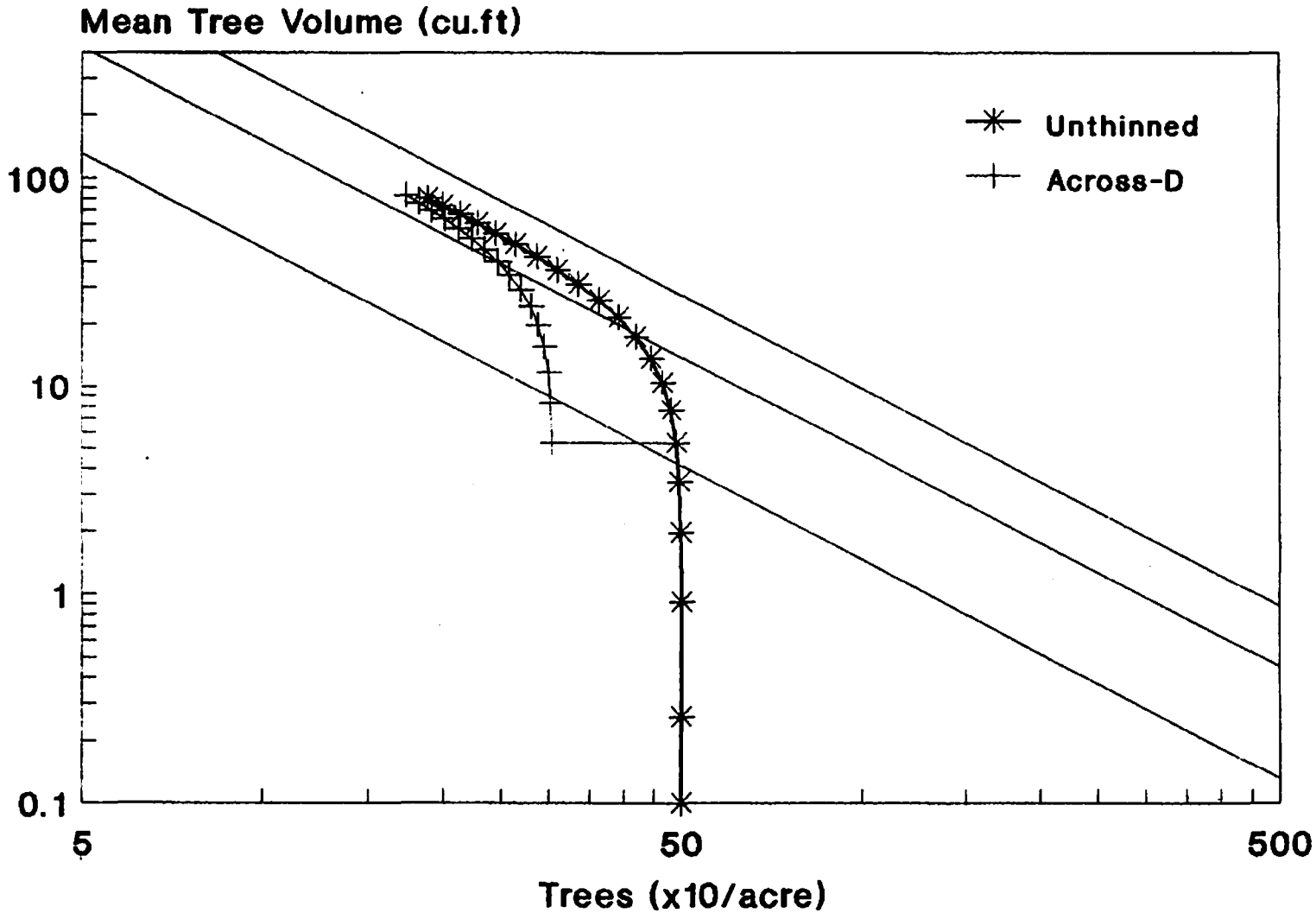
Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime B)



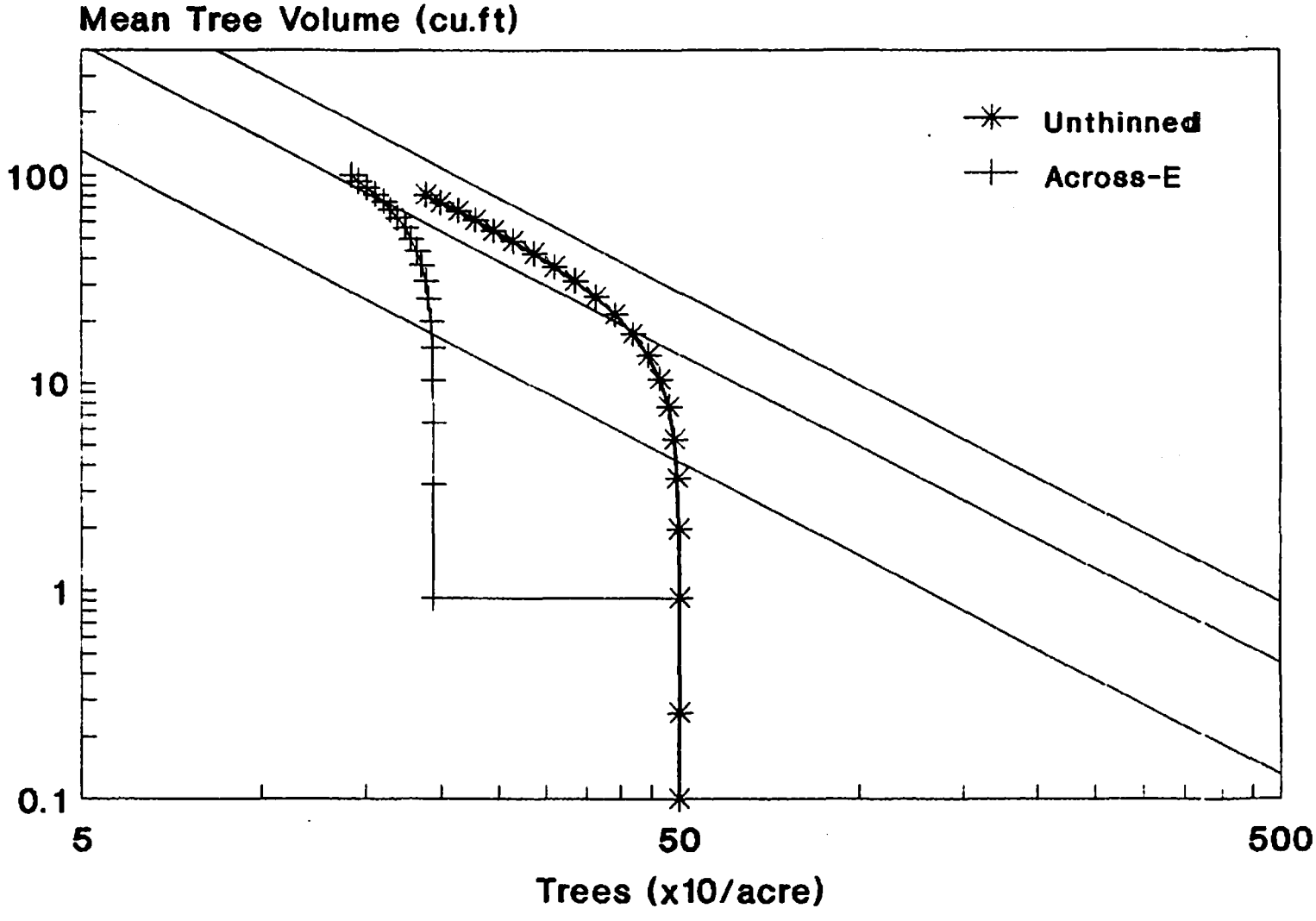
Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime C)



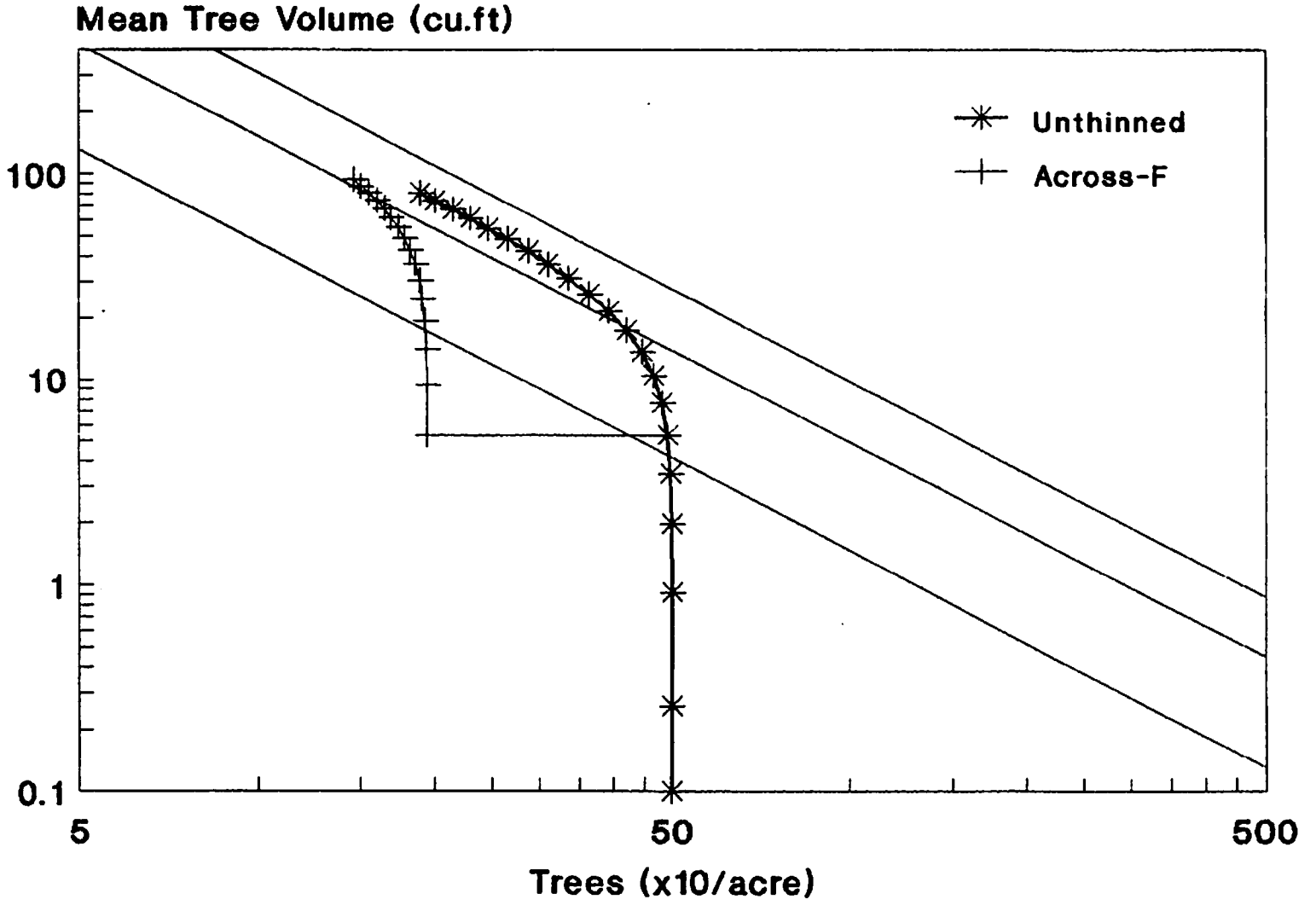
Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime D)



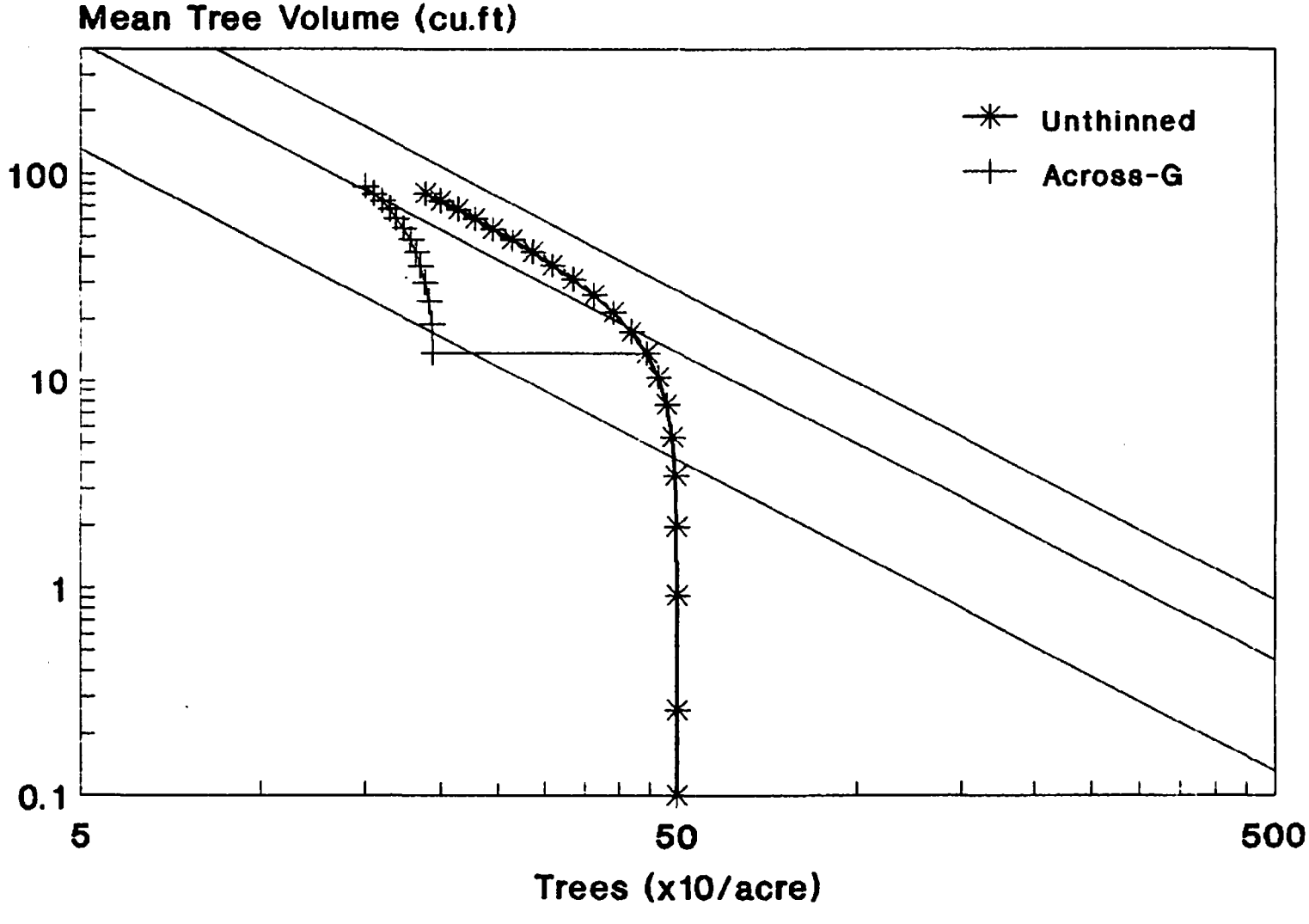
Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime E)



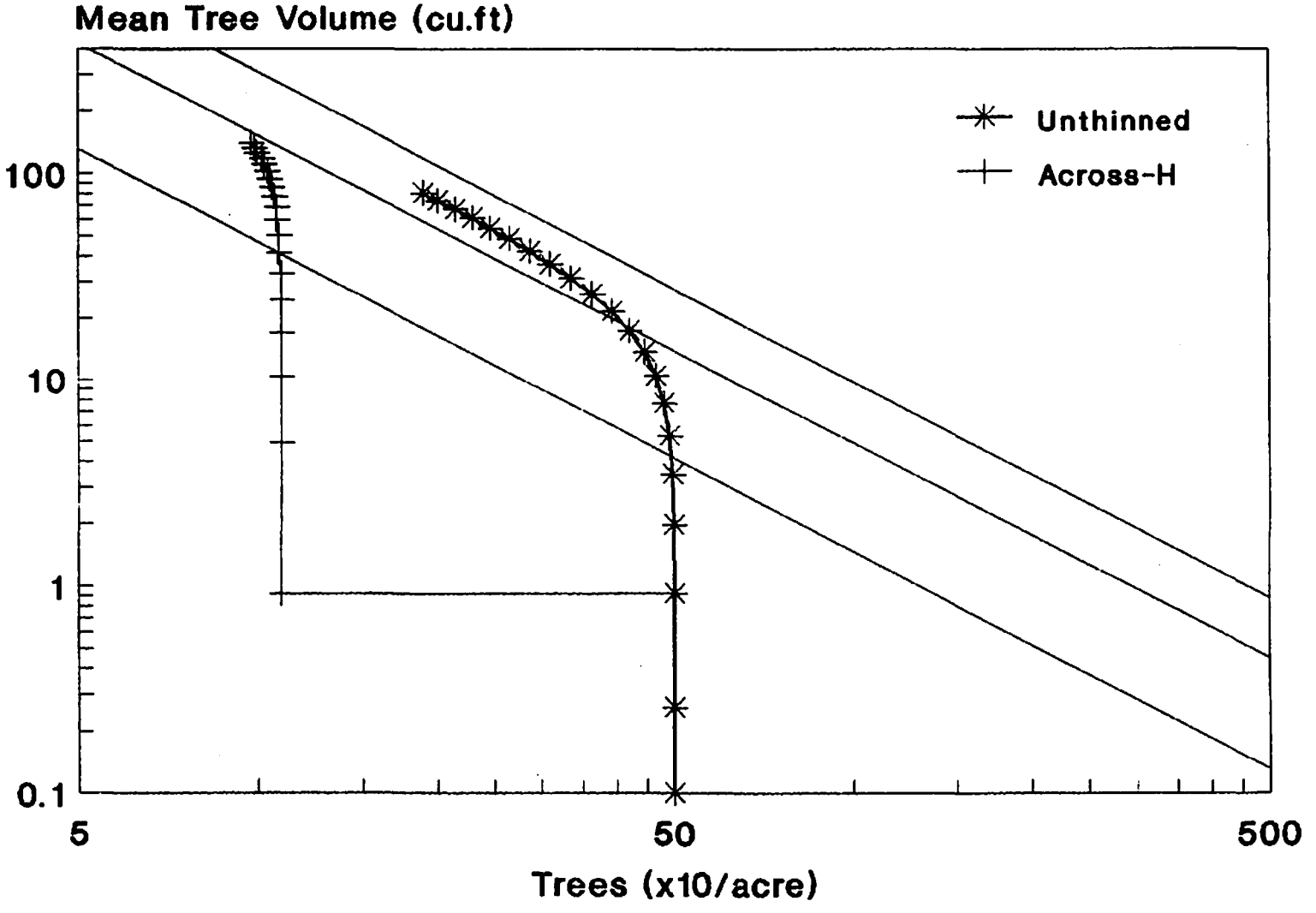
Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime F)



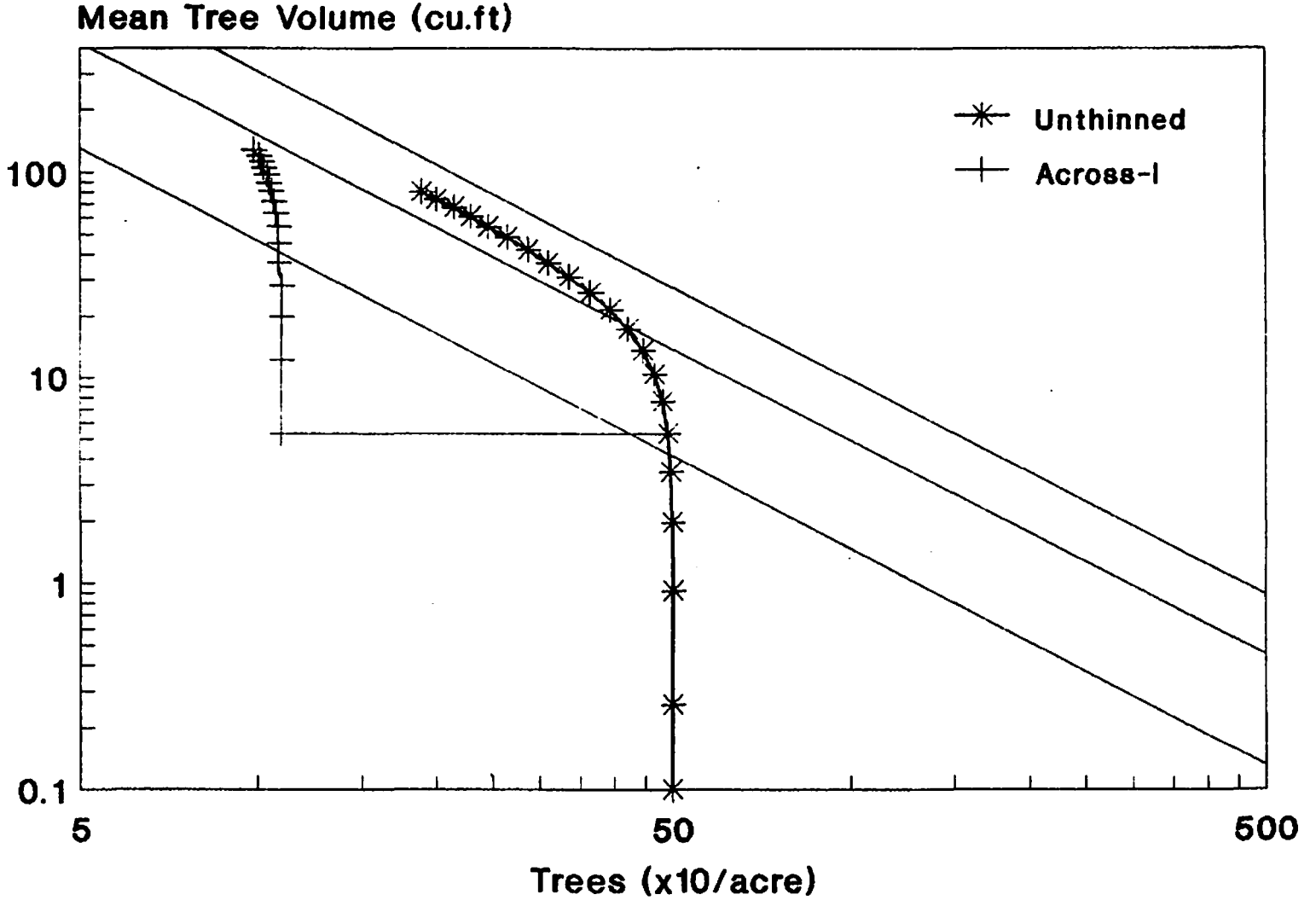
Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime G)



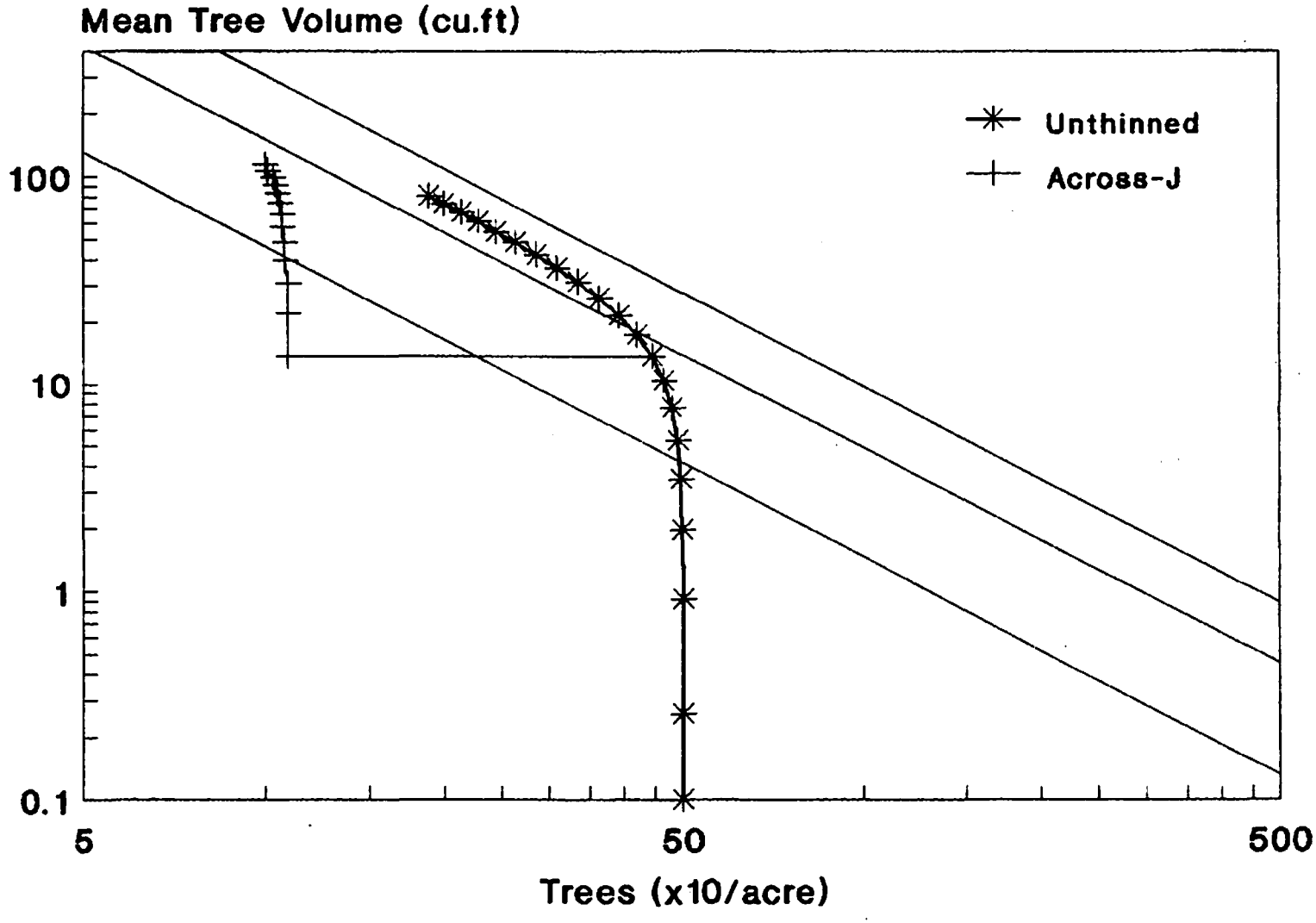
Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime H)



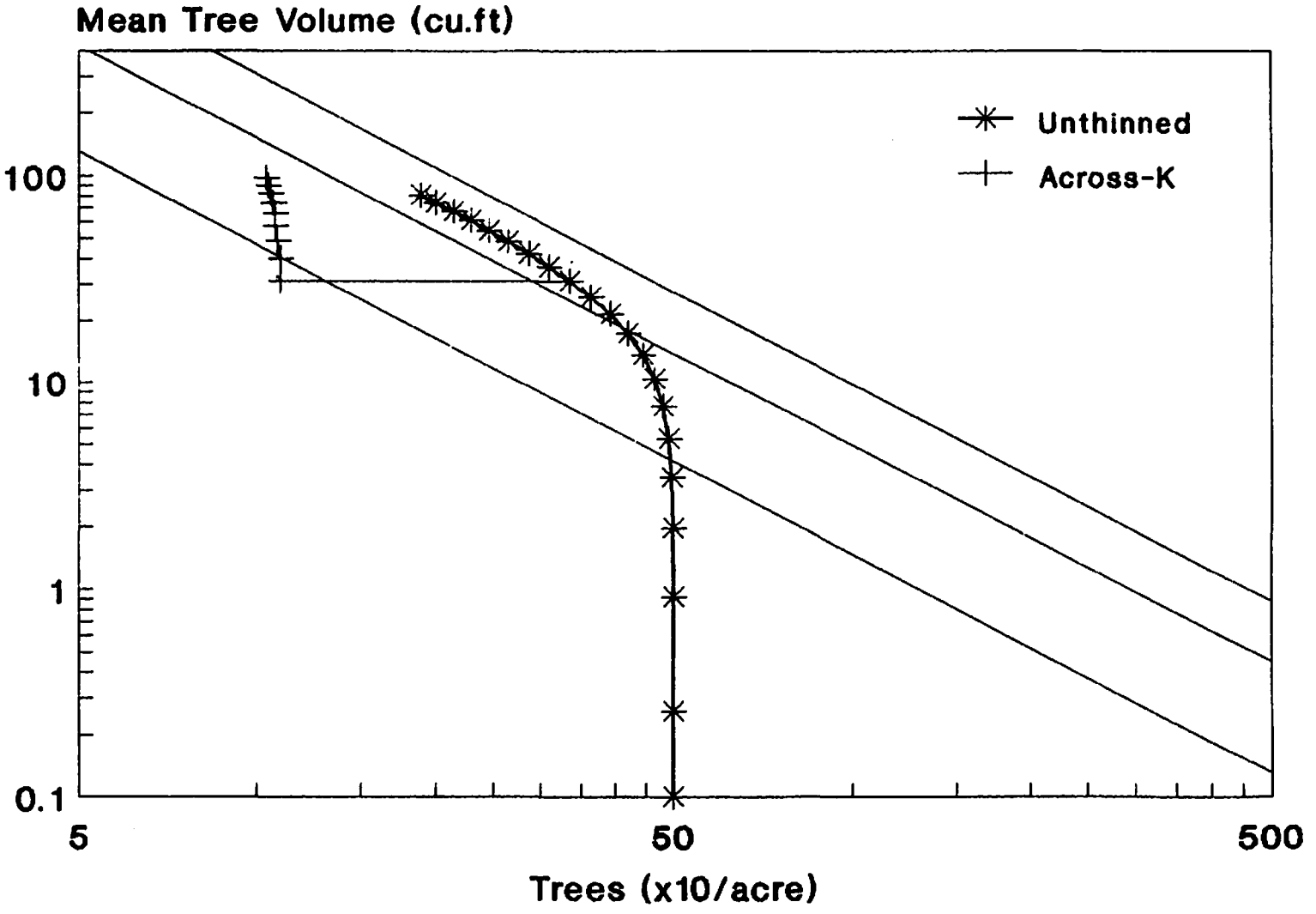
Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime I)



Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime J)



Density Management Diagram for DFSI=80
(Thinning Across Distribution-Regime K)



Yield Tables of Thinning from Below

for DFSI = 80

Notation Used in the Yield Tables:

INST	=	Stand Identification
DFSI	=	Douglas-fir site index (feet)
A	=	Stand age at DBH (year)
TOPH	=	Stand top height (feet)
BA	=	Stand basal area (ft^2/acre)
QMD	=	Quadratic mean tree diameter (inch)
V	=	Stand total volume (ft^3/acre)
VG	=	Total volume increment in 6 yeras (ft^3/care)
MV	=	Stand mean tree volume (ft^3)
N	=	Number of surviving trees per acre
MORT	=	Number of dead trees in 6 years
RD	=	Drew-Flewelling's relative density index

(1) Unthinned Stand (DFSI=80, N=500)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	UNTH	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	UNTH	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	UNTH	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
4	UNTH	80	18	32.6	81.71	5.48	989.5	530.49	1.98	499	1	0.07
5	UNTH	80	24	42.8	110.89	6.40	1713.9	724.42	3.46	496	3	0.12
6	UNTH	80	30	52.4	141.09	7.27	2616.9	902.99	5.34	490	6	0.19
7	UNTH	80	36	61.3	171.72	8.10	3670.5	1053.64	7.66	479	10	0.26
8	UNTH	80	42	69.6	201.70	8.93	4830.8	1160.31	10.42	464	16	0.34
9	UNTH	80	48	77.2	229.76	9.75	6041.3	1210.53	13.64	443	21	0.41
10	UNTH	80	54	84.2	254.82	10.58	7243.8	1202.44	17.34	418	25	0.48
11	UNTH	80	60	90.6	276.26	11.40	8390.2	1146.40	21.51	390	28	0.53
12	UNTH	80	66	96.5	293.98	12.21	9449.9	1059.74	26.13	362	28	0.58
13	UNTH	80	72	101.8	308.28	13.01	10409.7	959.78	31.16	334	28	0.61
14	UNTH	80	78	106.8	319.65	13.79	11269.0	859.26	36.57	308	26	0.64
15	UNTH	80	84	111.3	328.65	14.55	12034.5	765.55	42.30	285	24	0.66
16	UNTH	80	90	115.5	335.77	15.29	12716.3	681.82	48.31	263	21	0.67
17	UNTH	80	96	119.4	341.42	16.01	13325.0	608.71	54.54	244	19	0.67
18	UNTH	80	102	123.0	345.94	16.70	13870.6	545.55	60.97	228	17	0.68
19	UNTH	80	108	126.3	349.59	17.36	14361.8	491.15	67.54	213	15	0.68
20	UNTH	80	114	129.4	352.56	18.00	14806.0	444.25	74.22	199	13	0.67
21	UNTH	80	120	132.2	355.00	18.62	15209.7	403.68	80.99	188	12	0.67

(2) Thinning from Below: Regime A (Thinned to N=436 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-A	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-A	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	B-A	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	B-A	80	12	22.2	51.97	4.68	445.2	-13.72	1.02	436	64	0.03
5	B-A	80	18	32.6	79.93	5.80	968.4	523.13	2.22	435	1	0.07
6	B-A	80	24	42.8	108.67	6.78	1680.2	711.83	3.88	433	2	0.11
7	B-A	80	30	52.4	138.15	7.68	2563.2	883.02	5.97	429	4	0.17
8	B-A	80	36	61.3	167.85	8.54	3589.4	1026.19	8.51	422	7	0.24
9	B-A	80	42	69.6	196.89	9.37	4717.8	1128.42	11.49	411	11	0.31
10	B-A	80	48	77.2	224.19	10.19	5897.5	1179.66	14.90	396	15	0.38
11	B-A	80	54	84.2	248.80	11.00	7075.7	1178.17	18.76	377	18	0.44
12	B-A	80	60	90.6	270.14	11.79	8207.6	1131.96	23.03	356	21	0.50
13	B-A	80	66	96.5	288.06	12.57	9263.0	1055.33	27.72	334	22	0.55
14	B-A	80	72	101.8	302.75	13.34	10226.3	963.39	32.78	312	22	0.58
15	B-A	80	78	106.8	314.61	14.09	11094.5	868.18	38.19	291	21	0.61
16	B-A	80	84	111.3	324.12	14.82	11871.8	777.31	43.90	270	20	0.63
17	B-A	80	90	115.5	331.73	15.54	12566.5	694.63	49.87	252	18	0.64
18	B-A	80	96	119.4	337.84	16.23	13187.9	621.44	56.06	235	17	0.65
19	B-A	80	102	123.0	342.76	16.90	13745.5	557.56	62.43	220	15	0.66
20	B-A	80	108	126.3	346.76	17.54	14247.6	502.15	68.95	207	14	0.66
21	B-A	80	114	129.4	350.03	18.16	14701.8	454.16	75.58	195	12	0.66
22	B-A	80	120	132.2	352.73	18.77	15114.3	412.51	82.29	184	11	0.66

(3) Thinning from Below: Regime B (Thinned to N=436 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-B	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-B	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	B-B	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
4	B-B	80	18	32.6	81.71	5.48	989.5	530.49	1.98	499	1	0.07
5	B-B	80	24	42.8	110.89	6.40	1713.9	724.42	3.46	496	3	0.12
6	B-B	80	30	52.4	141.09	7.27	2616.9	902.99	5.34	490	6	0.19
# 7	B-B	80	30	52.4	135.94	7.56	2523.0	-93.82	5.79	436	54	0.17
8	B-B	80	36	61.3	165.86	8.42	3547.5	1024.49	8.28	428	8	0.24
9	B-B	80	42	69.6	195.15	9.26	4676.8	1129.23	11.21	417	11	0.31
10	B-B	80	48	77.2	222.71	10.08	5859.5	1182.71	14.59	402	16	0.38
11	B-B	80	54	84.2	247.60	10.89	7042.2	1182.74	18.41	382	19	0.44
12	B-B	80	60	90.6	269.19	11.69	8179.3	1137.14	22.66	361	22	0.50
13	B-B	80	66	96.5	287.32	12.48	9239.7	1060.36	27.33	338	23	0.55
14	B-B	80	72	101.8	302.18	13.26	10207.5	967.83	32.38	315	23	0.58
15	B-B	80	78	106.8	314.18	14.01	11079.4	871.85	37.78	293	22	0.61
16	B-B	80	84	111.3	323.79	14.75	11859.6	780.24	43.48	273	21	0.63
17	B-B	80	90	115.5	331.47	15.47	12556.6	696.92	49.45	254	19	0.65
18	B-B	80	96	119.4	337.63	16.17	13179.8	623.21	55.65	237	17	0.65
19	B-B	80	102	123.0	342.59	16.84	13738.7	558.93	62.02	222	15	0.66
20	B-B	80	108	126.3	346.62	17.49	14241.9	503.22	68.55	208	14	0.66
21	B-B	80	114	129.4	349.91	18.12	14696.9	455.00	75.18	195	12	0.66
22	B-B	80	120	132.2	352.63	18.72	15110.1	413.17	81.90	184	11	0.66

(4) Thinning from Below: Regime C (Thinned to N=303 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-C	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-C	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	B-C	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	B-C	80	12	22.2	41.39	5.00	356.1	-102.90	1.18	303	197	0.02
5	B-C	80	18	32.6	69.75	6.50	847.1	491.00	2.80	303	0	0.05
6	B-C	80	24	42.8	97.90	7.71	1516.5	669.47	5.02	302	1	0.09
7	B-C	80	30	52.4	126.04	8.77	2342.6	826.03	7.79	301	1	0.13
8	B-C	80	36	61.3	153.93	9.73	3296.9	954.38	11.06	298	3	0.18
9	B-C	80	42	69.6	181.03	10.63	4344.5	1047.56	14.78	294	4	0.24
10	B-C	80	48	77.2	206.68	11.47	5444.9	1100.43	18.90	288	6	0.30
11	B-C	80	54	84.2	230.24	12.27	6557.2	1112.23	23.38	281	8	0.35
12	B-C	80	60	90.6	251.28	13.03	7644.7	1087.49	28.17	271	9	0.41
13	B-C	80	66	96.5	269.58	13.76	8679.4	1034.79	33.24	261	10	0.45
14	B-C	80	72	101.8	285.19	14.46	9643.7	964.28	38.57	250	11	0.49
15	B-C	80	78	106.8	298.29	15.14	10529.0	885.28	44.13	239	11	0.52
16	B-C	80	84	111.3	309.17	15.80	11334.0	804.95	49.91	227	11	0.55
17	B-C	80	90	115.5	318.17	16.44	12061.9	727.94	55.88	216	11	0.57
18	B-C	80	96	119.4	325.60	17.06	12718.8	656.84	62.01	205	11	0.59
19	B-C	80	102	123.0	331.74	17.66	13311.4	592.70	68.29	195	10	0.60
20	B-C	80	108	126.3	336.83	18.25	13847.1	535.65	74.68	185	10	0.61
21	B-C	80	114	129.4	341.07	18.82	14332.4	485.30	81.16	177	9	0.61
22	B-C	80	120	132.2	344.63	19.37	14773.4	441.00	87.72	168	8	0.62

(5) Thinning from Below: Regime D (Thinned to N=303 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-D	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-D	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	B-D	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
4	B-D	80	18	32.6	81.71	5.48	989.5	530.49	1.98	499	1	0.07
5	B-D	80	24	42.8	110.89	6.40	1713.9	724.42	3.46	496	3	0.12
6	B-D	80	30	52.4	141.09	7.27	2616.9	902.99	5.34	490	6	0.19
# 7	B-D	80	30	52.4	124.50	8.68	2314.4	-302.45	7.64	303	187	0.13
8	B-D	80	36	61.3	152.51	9.65	3267.0	952.55	10.88	300	3	0.18
9	B-D	80	42	69.6	179.74	10.55	4314.0	1047.02	14.57	296	4	0.24
10	B-D	80	48	77.2	205.52	11.39	5415.2	1101.16	18.66	290	6	0.30
11	B-D	80	54	84.2	229.24	12.20	6529.2	1114.02	23.11	283	8	0.35
12	B-D	80	60	90.6	250.42	12.96	7619.2	1089.99	27.87	273	9	0.41
13	B-D	80	66	96.5	268.87	13.69	8656.8	1037.64	32.93	263	10	0.45
14	B-D	80	72	101.8	284.59	14.40	9624.0	967.15	38.24	252	11	0.49
15	B-D	80	78	106.8	297.79	15.08	10511.9	887.97	43.80	240	12	0.53
16	B-D	80	84	111.3	308.76	15.75	11319.3	807.33	49.57	228	12	0.55
17	B-D	80	90	115.5	317.83	16.39	12049.3	729.99	55.53	217	11	0.57
18	B-D	80	96	119.4	325.32	17.01	12707.8	658.57	61.67	206	11	0.59
19	B-D	80	102	123.0	331.50	17.62	13302.0	594.15	67.94	196	10	0.60
20	B-D	80	108	126.3	336.63	18.21	13838.8	536.85	74.33	186	10	0.61
21	B-D	80	114	129.4	340.90	18.78	14325.1	486.29	80.82	177	9	0.62
22	B-D	80	120	132.2	344.47	19.33	14766.9	441.83	87.38	169	8	0.62

(6) Thinning from Below: Regime E (Thinned to N=194 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-E	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-E	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	B-E	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	B-E	80	12	22.2	46.66	6.64	400.5	-58.47	2.06	194	306	0.02
5	B-E	80	18	32.6	73.93	8.36	897.0	496.49	4.63	194	0	0.04
6	B-E	80	24	42.8	100.70	9.76	1559.1	662.14	8.05	194	0	0.07
7	B-E	80	30	52.4	126.98	10.98	2359.6	800.47	12.21	193	0	0.11
8	B-E	80	36	61.3	152.55	12.06	3267.9	908.35	16.98	192	1	0.15
9	B-E	80	42	69.6	177.07	13.03	4251.3	983.32	22.24	191	1	0.19
10	B-E	80	48	77.2	200.14	13.92	5275.9	1024.65	27.86	189	2	0.23
11	B-E	80	54	84.2	221.40	14.73	6310.0	1034.12	33.74	187	2	0.28
12	B-E	80	60	90.6	240.61	15.48	7326.1	1016.08	39.80	184	3	0.32
13	B-E	80	66	96.5	257.67	16.17	8302.7	976.63	45.98	181	3	0.36
14	B-E	80	72	101.8	272.58	16.82	9225.2	922.47	52.23	177	4	0.40
15	B-E	80	78	106.8	285.48	17.43	10085.0	859.83	58.53	172	4	0.43
16	B-E	80	84	111.3	296.53	18.01	10878.9	793.84	64.87	168	5	0.45
17	B-E	80	90	115.5	305.96	18.55	11607.1	728.23	71.24	163	5	0.48
18	B-E	80	96	119.4	313.97	19.08	12272.6	665.47	77.63	158	5	0.50
19	B-E	80	102	123.0	320.78	19.59	12879.5	606.97	84.04	153	5	0.51
20	B-E	80	108	126.3	326.57	20.08	13432.9	553.38	90.46	148	5	0.53
21	B-E	80	114	129.4	331.51	20.56	13937.8	504.87	96.90	144	5	0.54
22	B-E	80	120	132.2	335.73	21.02	14399.0	461.26	103.34	139	5	0.55

(7) Thinning from Below: Regime F (Thinned to N=194 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-F	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-F	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	B-F	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
4	B-F	80	18	32.6	81.71	5.48	989.5	530.49	1.98	499	1	0.07
5	B-F	80	24	42.8	110.89	6.40	1713.9	724.42	3.46	496	3	0.12
6	B-F	80	30	52.4	141.09	7.27	2616.9	902.99	5.34	490	6	0.19
# 7	B-F	80	30	52.4	131.79	11.16	2447.4	-169.43	12.62	194	296	0.11
8	B-F	80	36	61.3	157.11	12.21	3363.7	916.29	17.41	193	1	0.15
9	B-F	80	42	69.6	181.37	13.17	4352.5	988.77	22.69	192	1	0.19
10	B-F	80	48	77.2	204.16	14.04	5380.0	1027.48	28.32	190	2	0.24
11	B-F	80	54	84.2	225.13	14.84	6414.4	1034.43	34.20	188	2	0.28
12	B-F	80	60	90.6	244.04	15.57	7428.6	1014.17	40.26	185	3	0.33
13	B-F	80	66	96.5	260.79	16.26	8401.5	972.96	46.43	181	4	0.36
14	B-F	80	72	101.8	275.41	16.89	9319.1	917.55	52.67	177	4	0.40
15	B-F	80	78	106.8	288.02	17.49	10173.3	854.17	58.96	173	4	0.43
16	B-F	80	84	111.3	298.81	18.06	10961.1	787.85	65.29	168	5	0.46
17	B-F	80	90	115.5	308.00	18.61	11683.3	722.23	71.64	163	5	0.48
18	B-F	80	96	119.4	315.80	19.13	12343.0	659.67	78.02	158	5	0.50
19	B-F	80	102	123.0	322.43	19.64	12944.5	601.50	84.43	153	5	0.52
20	B-F	80	108	126.3	328.05	20.12	13492.8	548.32	90.85	149	5	0.53
21	B-F	80	114	129.4	332.85	20.60	13993.1	500.24	97.28	144	5	0.54
22	B-F	80	120	132.2	336.95	21.06	14450.1	457.05	103.71	139	5	0.55

(8) Thinning from Below: Regime G (Thinned to N=194 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-G	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-G	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	B-G	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
4	B-G	80	18	32.6	81.71	5.48	989.5	530.49	1.98	499	1	0.07
5	B-G	80	24	42.8	110.89	6.40	1713.9	724.42	3.46	496	3	0.12
6	B-G	80	30	52.4	141.09	7.27	2616.9	902.99	5.34	490	6	0.19
7	B-G	80	36	61.3	171.72	8.10	3670.5	1053.64	7.66	479	10	0.26
8	B-G	80	42	69.6	201.70	8.93	4830.8	1160.31	10.42	464	16	0.34
9	B-G	80	48	77.2	229.76	9.75	6041.3	1210.53	13.64	443	21	0.41
#10	B-G	80	48	77.2	211.22	14.13	5562.3	-478.99	28.67	194	249	0.25
11	B-G	80	54	84.2	231.75	14.90	6599.4	1037.04	34.49	191	3	0.29
12	B-G	80	60	90.6	250.19	15.62	7612.2	1012.83	40.48	188	3	0.34
13	B-G	80	66	96.5	266.45	16.29	8580.5	968.30	46.58	184	4	0.38
14	B-G	80	72	101.8	280.59	16.91	9490.9	910.40	52.76	180	4	0.41
15	B-G	80	78	106.8	292.72	17.50	10336.3	845.35	58.99	175	5	0.44
16	B-G	80	84	111.3	303.07	18.06	11114.4	778.10	65.27	170	5	0.47
17	B-G	80	90	115.5	311.85	18.60	11826.5	712.15	71.59	165	5	0.49
18	B-G	80	96	119.4	319.28	19.12	12476.2	649.70	77.93	160	5	0.51
19	B-G	80	102	123.0	325.56	19.62	13068.2	591.93	84.31	155	5	0.53
20	B-G	80	108	126.3	330.89	20.11	13607.5	539.32	90.71	150	5	0.54
21	B-G	80	114	129.4	335.43	20.58	14099.4	491.89	97.13	145	5	0.55
22	B-G	80	120	132.2	339.29	21.04	14548.8	449.39	103.56	140	5	0.56

(9) Thinning from Below: Regime H (Thinned to N=109 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-H	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-H	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	B-H	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	B-H	80	12	22.2	41.41	8.35	356.2	-102.77	3.27	109	391	0.01
5	B-H	80	18	32.6	68.75	10.75	835.2	479.03	7.66	109	0	0.03
6	B-H	80	24	42.8	94.86	12.63	1470.3	635.04	13.49	109	0	0.05
7	B-H	80	30	52.4	119.87	14.21	2229.8	759.56	20.48	109	0	0.08
8	B-H	80	36	61.3	143.72	15.57	3082.0	852.18	28.35	109	0	0.10
9	B-H	80	42	69.6	166.24	16.76	3995.9	913.87	36.83	108	0	0.13
10	B-H	80	48	77.2	187.27	17.82	4942.7	946.84	45.69	108	0	0.17
11	B-H	80	54	84.2	206.66	18.75	5897.2	954.50	54.74	108	0	0.20
12	B-H	80	60	90.6	224.31	19.59	6838.4	941.16	63.81	107	1	0.23
13	B-H	80	66	96.5	240.21	20.34	7750.0	911.61	72.77	106	1	0.26
14	B-H	80	72	101.8	254.40	21.01	8620.5	870.53	81.56	106	1	0.29
15	B-H	80	78	106.8	266.97	21.61	9442.7	822.16	90.11	105	1	0.31
16	B-H	80	84	111.3	278.04	22.16	10212.6	769.97	98.40	104	1	0.34
17	B-H	80	90	115.5	287.77	22.67	10929.3	716.67	106.44	103	1	0.36
18	B-H	80	96	119.4	296.28	23.13	11593.5	664.19	114.21	102	1	0.38
19	B-H	80	102	123.0	303.73	23.57	12207.3	613.82	121.75	100	1	0.39
20	B-H	80	108	126.3	310.25	23.97	12773.7	566.37	129.06	99	1	0.41
21	B-H	80	114	129.4	315.96	24.36	13295.9	522.24	136.15	98	1	0.42
22	B-H	80	120	132.2	320.98	24.72	13777.5	481.56	143.06	96	1	0.44

(10) Thinning from Below: Regime I (Thinned to N=109 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-I	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-I	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	B-I	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
4	B-I	80	18	32.6	81.71	5.48	989.5	530.49	1.98	499	1	0.07
5	B-I	80	24	42.8	110.89	6.40	1713.9	724.42	3.46	496	3	0.12
6	B-I	80	30	52.4	141.09	7.27	2616.9	902.99	5.34	490	6	0.19
# 7	B-I	80	30	52.4	121.29	14.28	2255.9	-360.96	20.70	109	381	0.08
8	B-I	80	36	61.3	145.05	15.63	3110.1	854.25	28.57	109	0	0.10
9	B-I	80	42	69.6	167.50	16.81	4025.5	915.31	37.06	109	0	0.14
10	B-I	80	48	77.2	188.45	17.86	4973.1	947.66	45.92	108	0	0.17
11	B-I	80	54	84.2	207.75	18.79	5927.9	954.75	54.96	108	0	0.20
12	B-I	80	60	90.6	225.32	19.62	6868.8	940.93	64.02	107	1	0.23
13	B-I	80	66	96.5	241.15	20.37	7779.8	910.97	72.98	107	1	0.26
14	B-I	80	72	101.8	255.26	21.03	8649.4	869.59	81.75	106	1	0.29
15	B-I	80	78	106.8	267.76	21.64	9470.4	821.00	90.29	105	1	0.31
16	B-I	80	84	111.3	278.78	22.18	10239.0	768.68	98.57	104	1	0.34
17	B-I	80	90	115.5	288.44	22.69	10954.3	715.30	106.60	103	1	0.36
18	B-I	80	96	119.4	296.90	23.15	11617.1	662.81	114.36	102	1	0.38
19	B-I	80	102	123.0	304.30	23.58	12229.6	612.47	121.88	100	1	0.40
20	B-I	80	108	126.3	310.77	23.99	12794.7	565.06	129.18	99	1	0.41
21	B-I	80	114	129.4	316.44	24.37	13315.7	520.98	136.27	98	1	0.42
22	B-I	80	120	132.2	321.42	24.73	13796.0	480.38	143.17	96	1	0.44

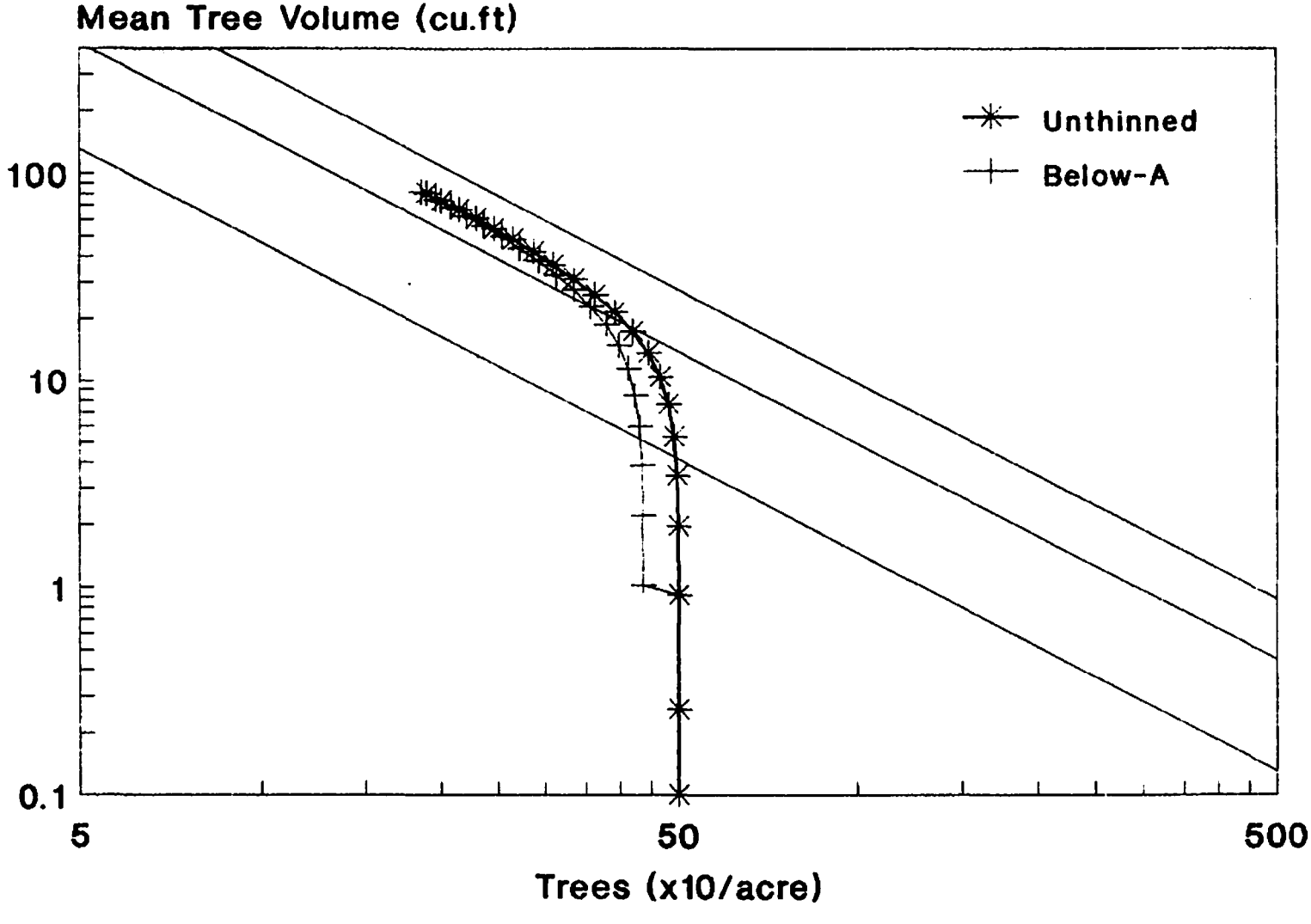
(11) Thinning from Below: Regime J (Thinned to N=109 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-J	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-J	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	B-J	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	B-J	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	B-J	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	B-J	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
7	B-J	80	36	61.3	171.72	8.10	3670.5	1053.6	7.66	479	10	0.26
8	B-J	80	42	69.6	201.70	8.93	4830.8	1160.3	10.42	464	16	0.34
9	B-J	80	48	77.2	229.76	9.75	6041.3	1210.5	13.64	443	21	0.41
#10	B-J	80	48	77.2	184.39	17.61	4868.0	-1173.3	44.66	109	334	0.16
11	B-J	80	54	84.2	204.01	18.56	5823.0	955.0	53.64	109	0	0.20
12	B-J	80	60	90.6	221.89	19.41	6766.0	943.0	62.65	108	1	0.23
13	B-J	80	66	96.5	238.01	20.17	7680.4	914.4	71.57	107	1	0.26
14	B-J	80	72	101.8	252.41	20.85	8554.4	873.9	80.32	106	1	0.28
15	B-J	80	78	106.8	265.17	21.46	9380.3	826.0	88.85	106	1	0.31
16	B-J	80	84	111.3	276.42	22.02	10154.3	773.9	97.13	105	1	0.34
17	B-J	80	90	115.5	286.31	22.53	10874.9	720.6	105.14	103	1	0.36
18	B-J	80	96	119.4	294.96	23.00	11542.9	668.0	112.91	102	1	0.38
19	B-J	80	102	123.0	302.54	23.44	12160.4	617.5	120.44	101	1	0.39
20	B-J	80	108	126.3	309.18	23.85	12730.2	569.8	127.74	100	1	0.41
21	B-J	80	114	129.4	314.99	24.24	13255.6	525.4	134.84	98	1	0.42
22	B-J	80	120	132.2	320.09	24.61	13740.0	484.5	141.75	97	1	0.44

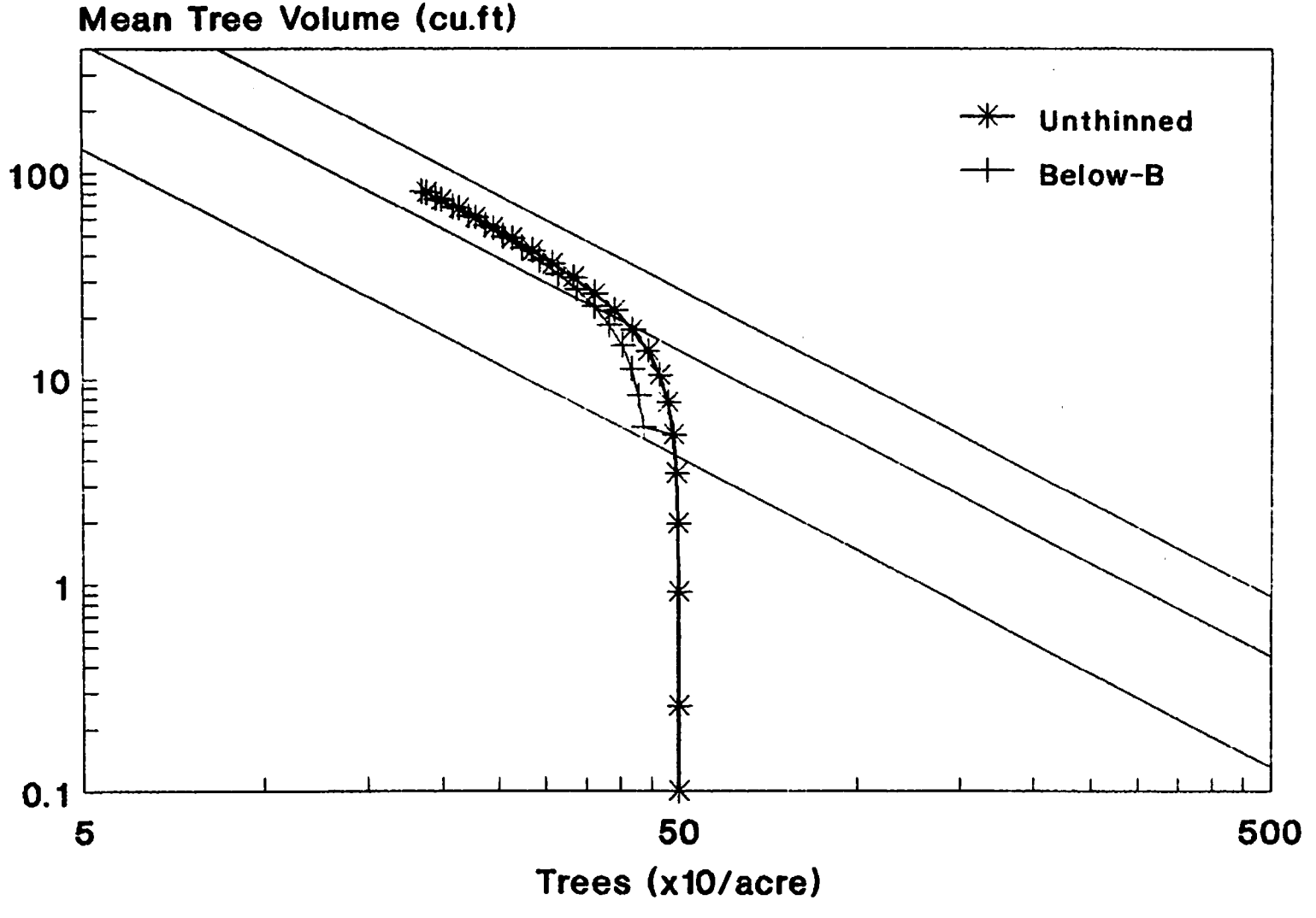
(12) Thinning from Below: Regime K (Thinned to N=109 at Year 72)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-K	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-K	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	B-K	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	B-K	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	B-K	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	B-K	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
7	B-K	80	36	61.3	171.72	8.10	3670.5	1053.6	7.66	479	10	0.26
8	B-K	80	42	69.6	201.70	8.93	4830.8	1160.3	10.42	464	16	0.34
9	B-K	80	48	77.2	229.76	9.75	6041.3	1210.5	13.64	443	21	0.41
10	B-K	80	54	84.2	254.82	10.58	7243.8	1202.4	17.34	418	25	0.48
11	B-K	80	60	90.6	276.26	11.40	8390.2	1146.4	21.51	390	28	0.53
12	B-K	80	66	96.5	293.98	12.21	9449.9	1059.7	26.13	362	28	0.58
13	B-K	80	72	101.8	308.28	13.01	10409.7	959.8	31.16	334	28	0.61
14	B-K	80	72	101.8	218.38	19.17	7420.7	-2989.0	68.08	109	225	0.25
15	B-K	80	78	106.8	233.88	19.91	8292.6	871.9	76.68	108	1	0.28
16	B-K	80	84	111.3	247.72	20.59	9118.2	825.6	85.09	107	1	0.30
17	B-K	80	90	115.5	260.01	21.20	9893.5	775.3	93.27	106	1	0.33
18	B-K	80	96	119.4	270.88	21.76	10617.1	723.6	101.22	105	1	0.35
19	B-K	80	102	123.0	280.48	22.28	11289.4	672.3	108.94	104	1	0.37
20	B-K	80	108	126.3	288.95	22.76	11912.2	622.8	116.43	102	1	0.39
21	B-K	80	114	129.4	296.42	23.20	12488.0	575.8	123.72	101	1	0.40
22	B-K	80	120	132.2	303.01	23.63	13020.0	531.9	130.82	100	1	0.42

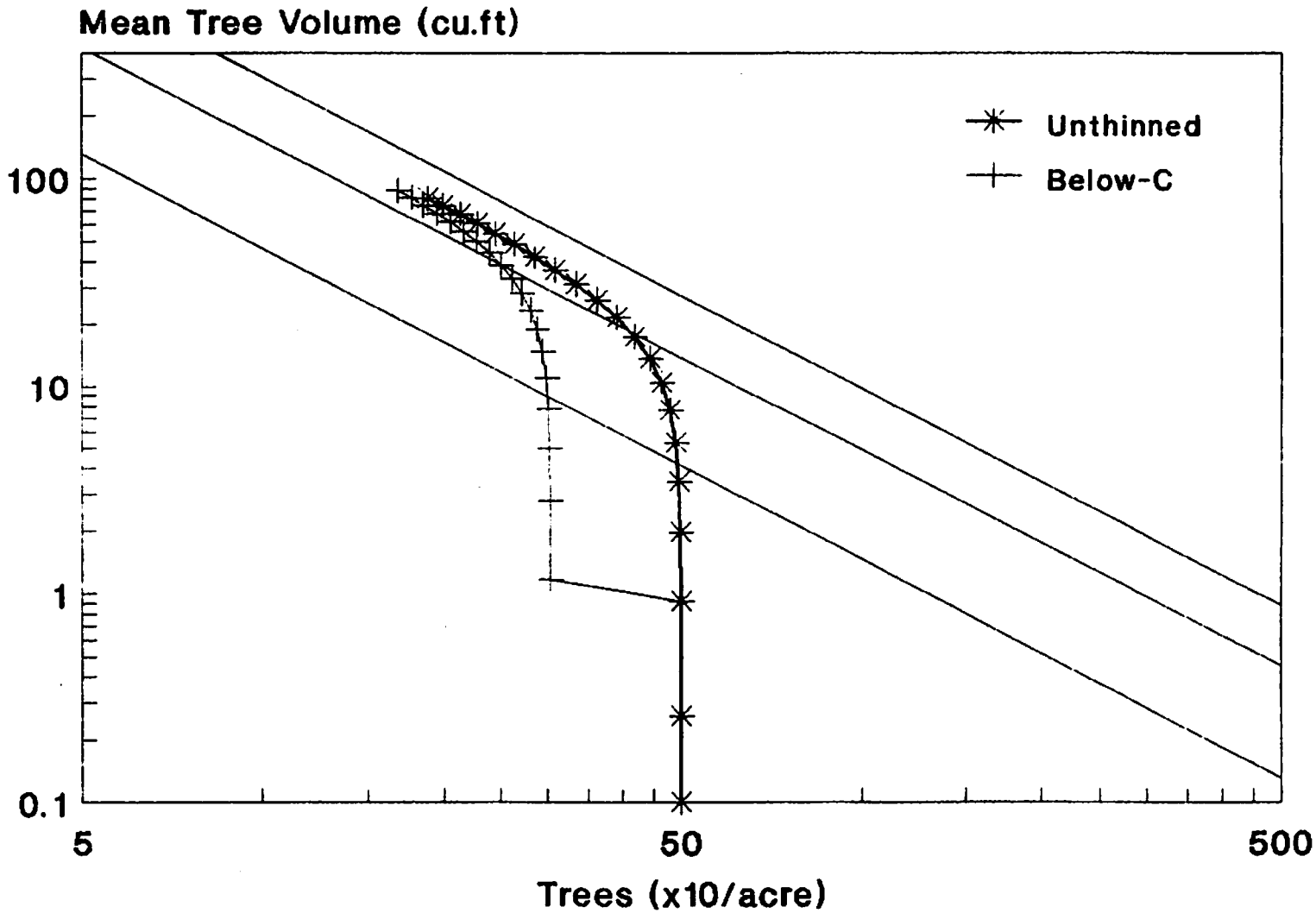
Density Management Diagram for DFSI=80
(Thinning from Below-Regime A)



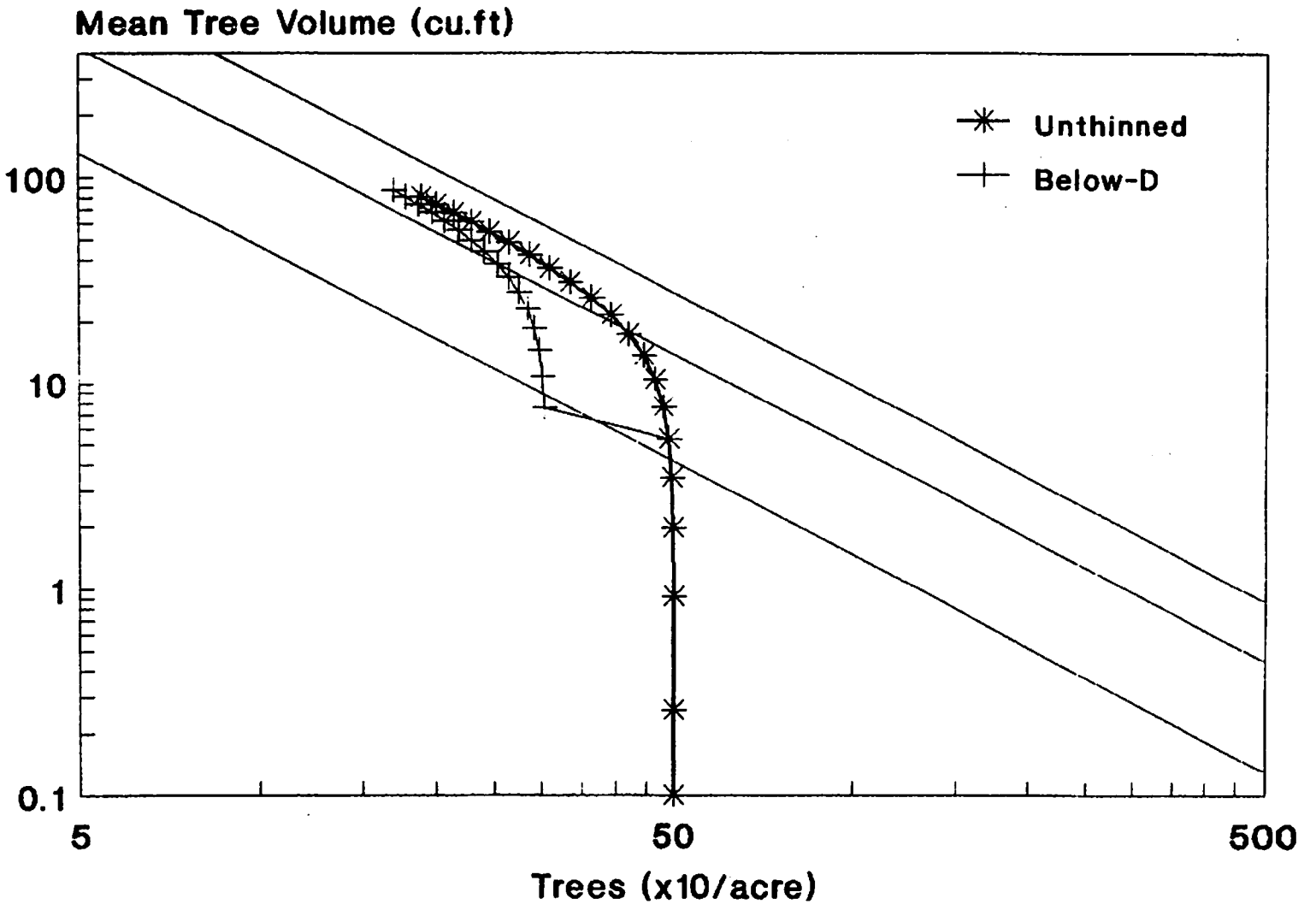
Density Management Diagram for DFSI=80
(Thinning from Below-Regime B)



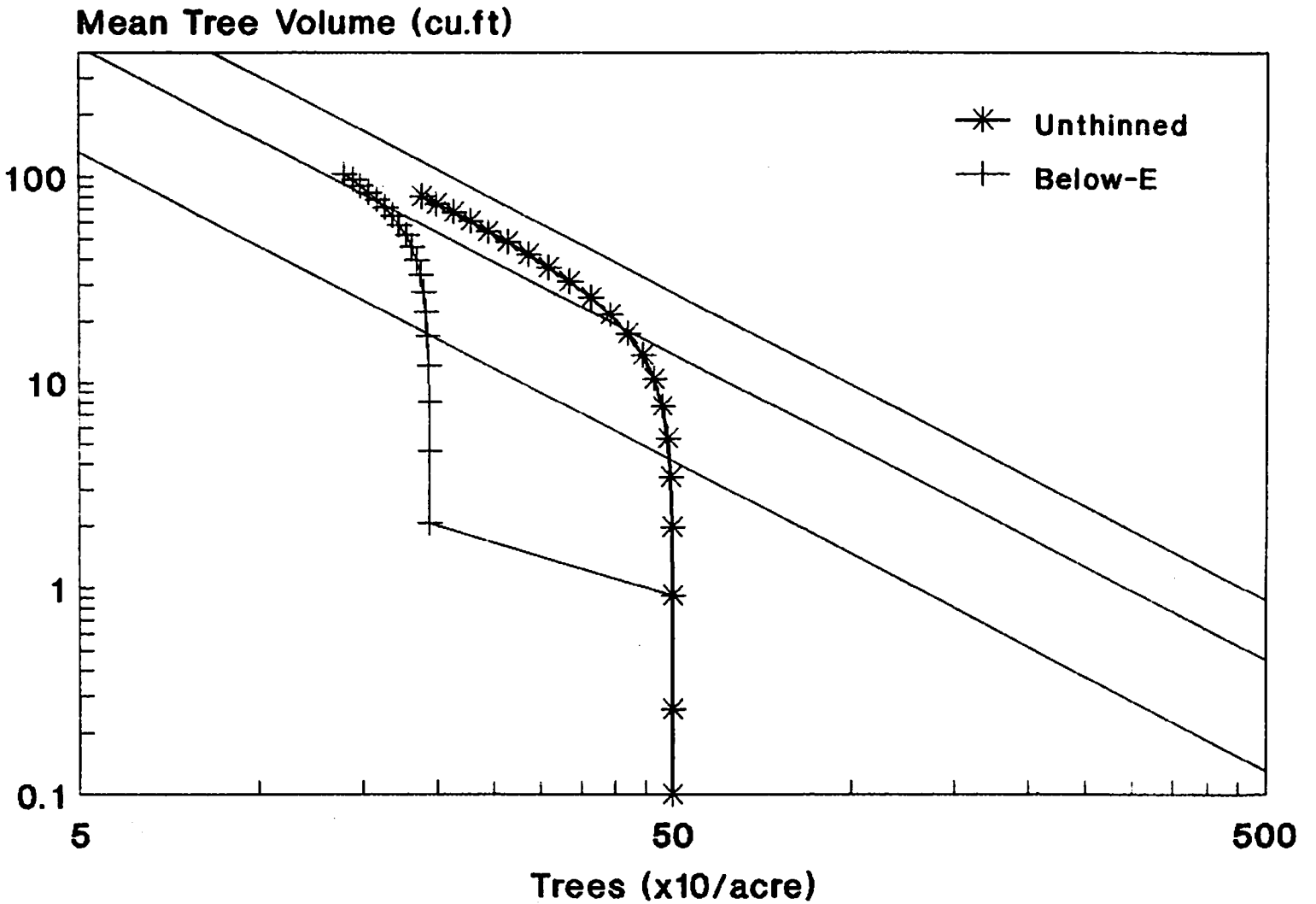
Density Management Diagram for DFSI=80
(Thinning from Below-Regime C)



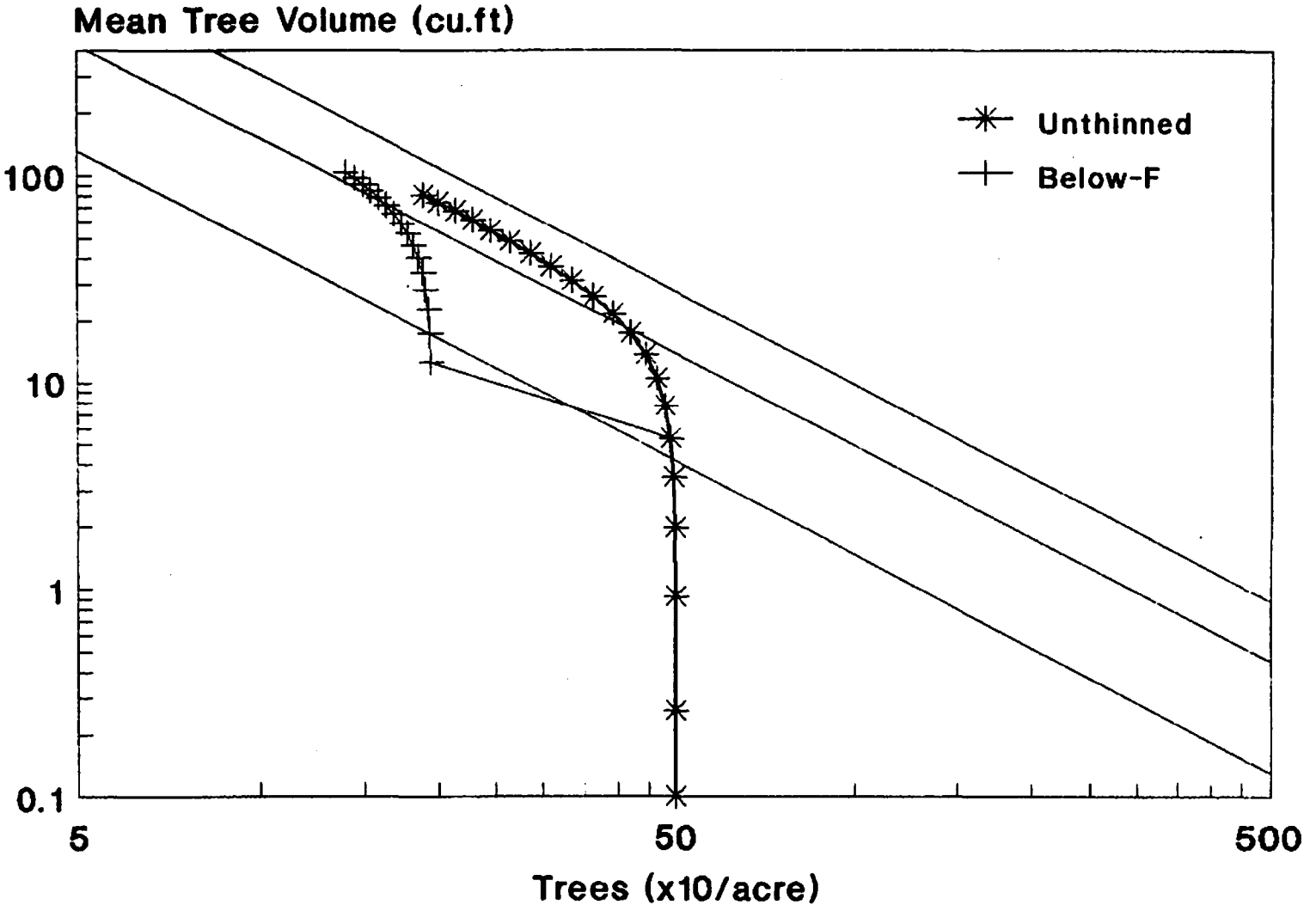
Density Management Diagram for DFSI=80
(Thinning from Below-Regime D)



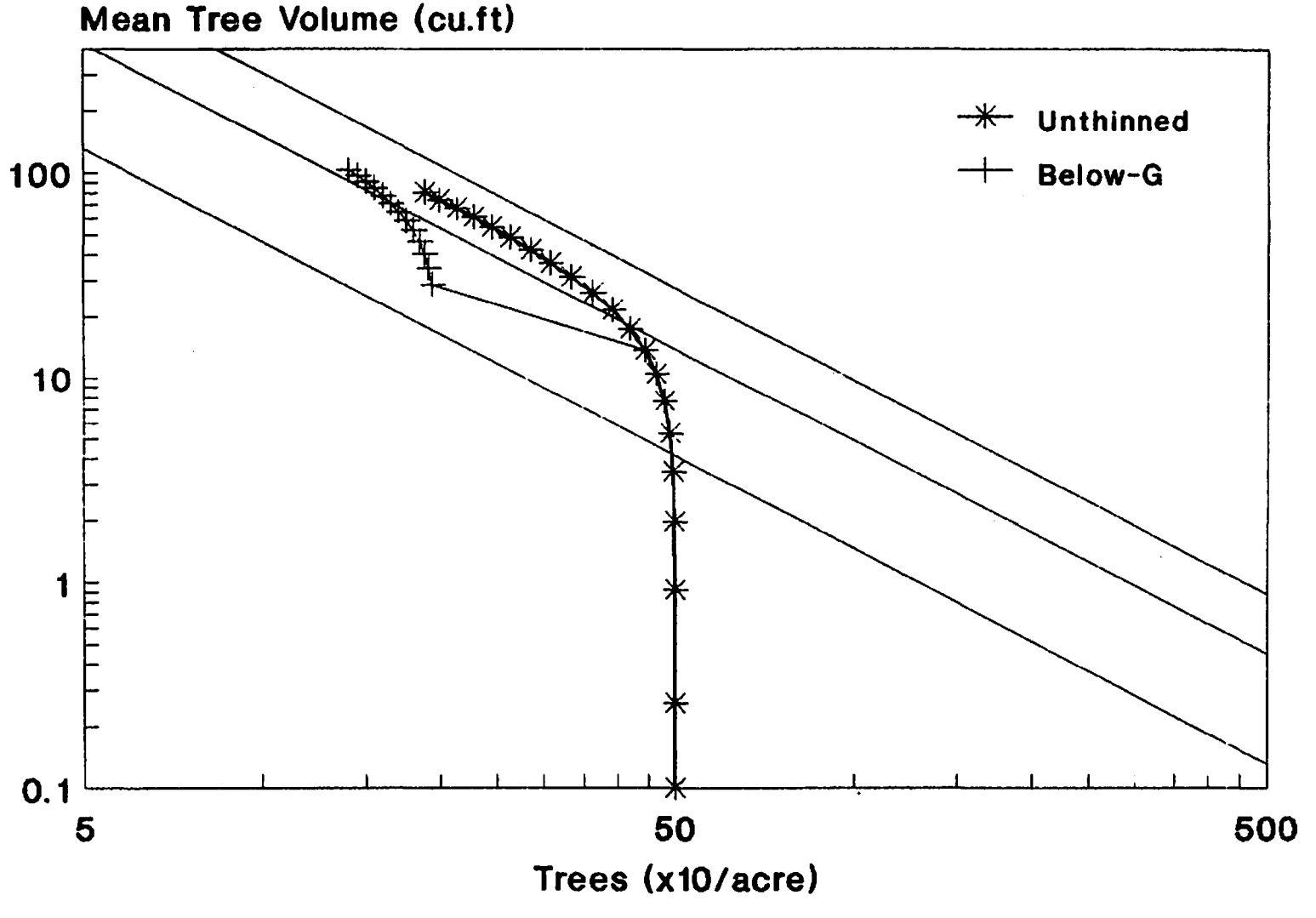
Density Management Diagram for DFSI=80
(Thinning from Below-Regime E)



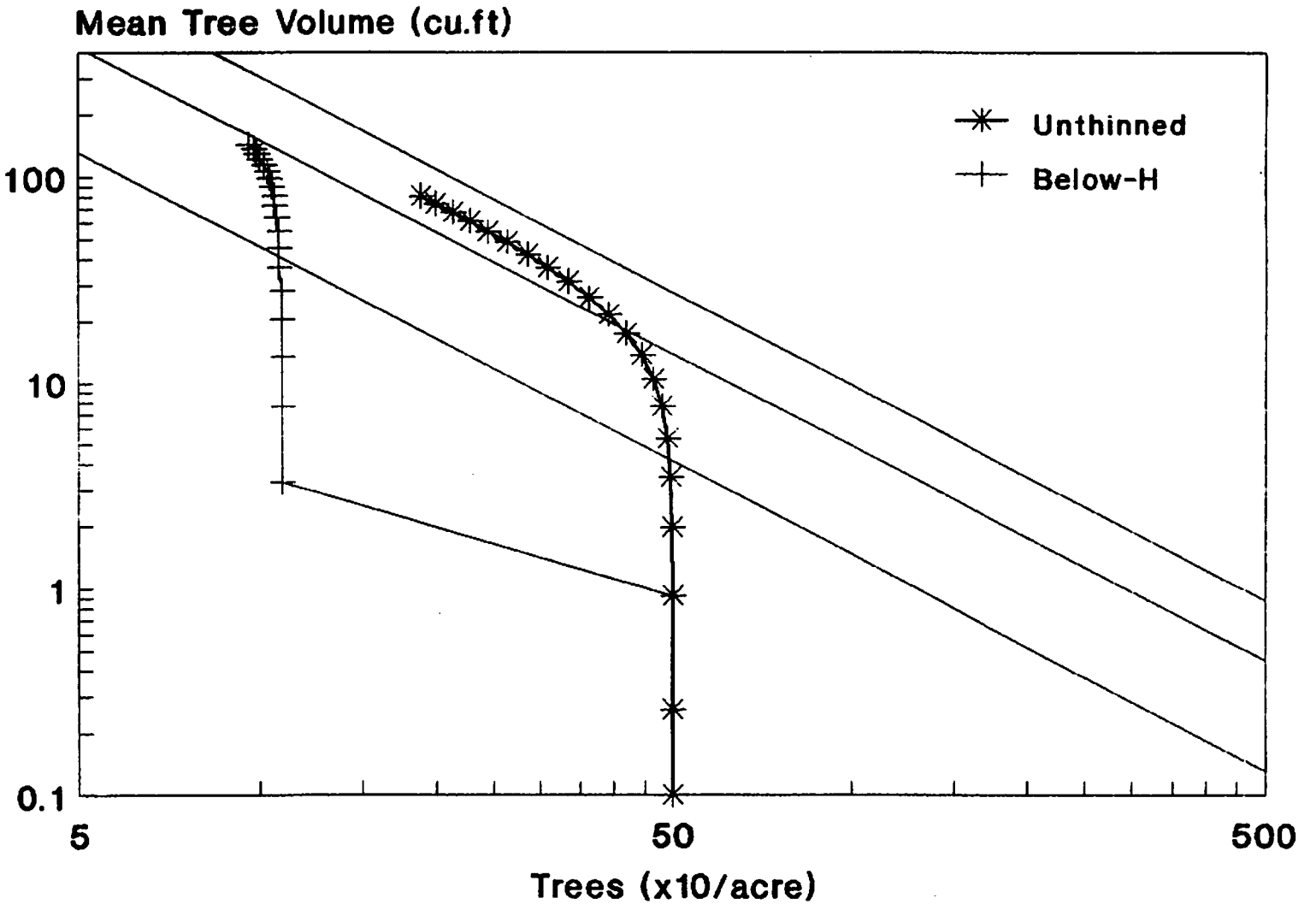
Density Management Diagram for DFSI=80
(Thinning from Below-Regime F)



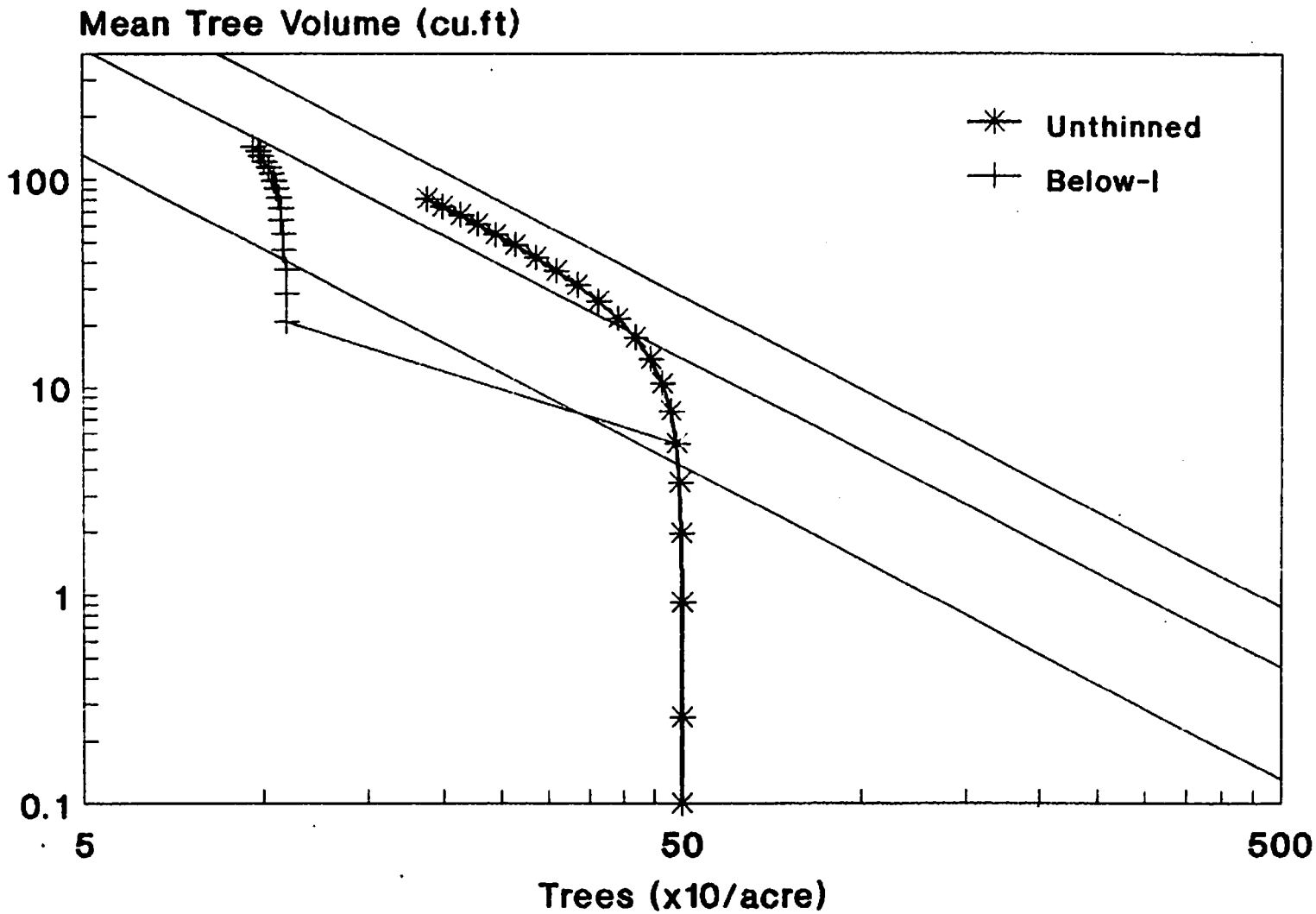
Density Management Diagram for DFSI=80
(Thinning from Below-Regime G)



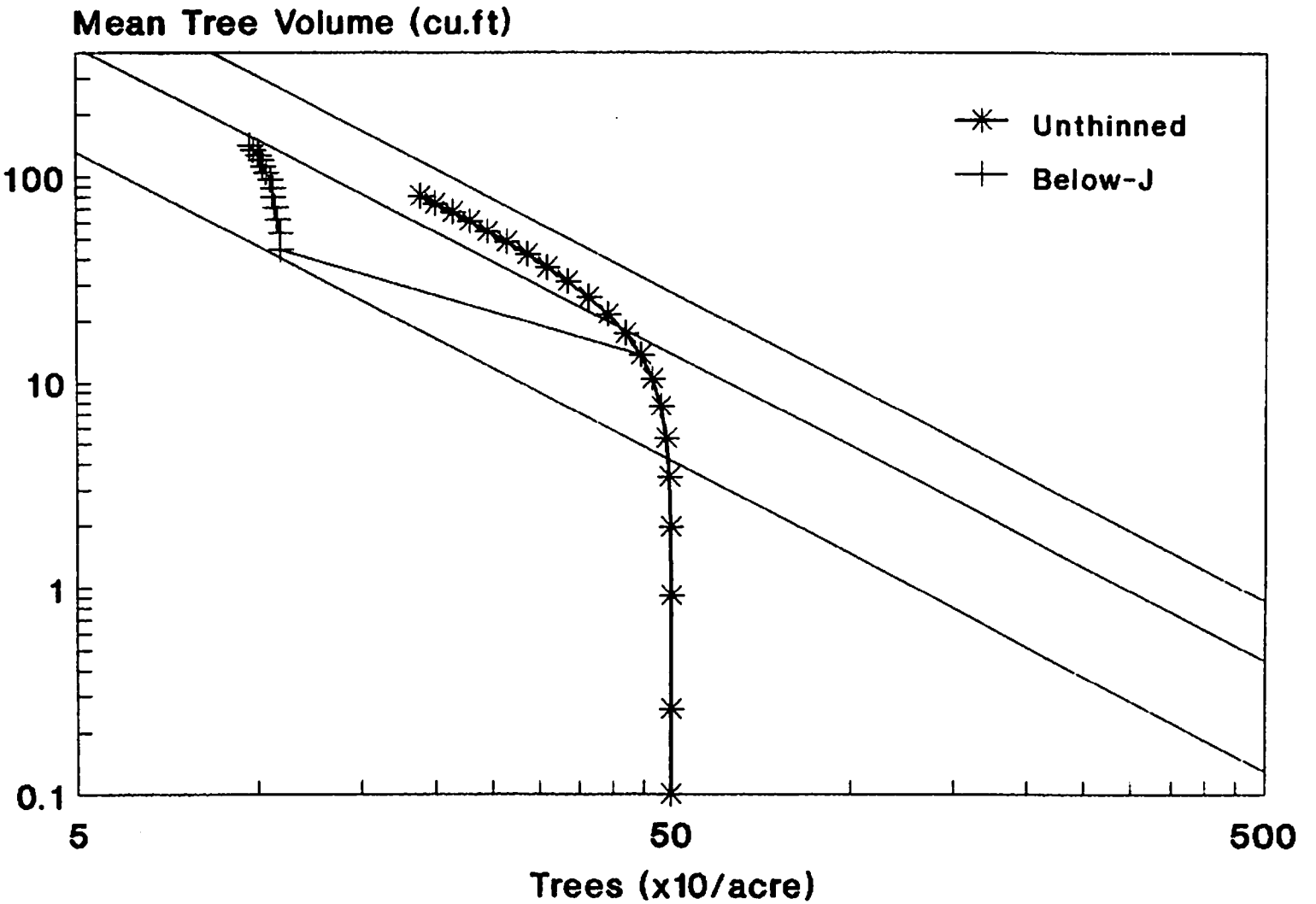
Density Management Diagram for DFSI=80
(Thinning from Below-Regime H)



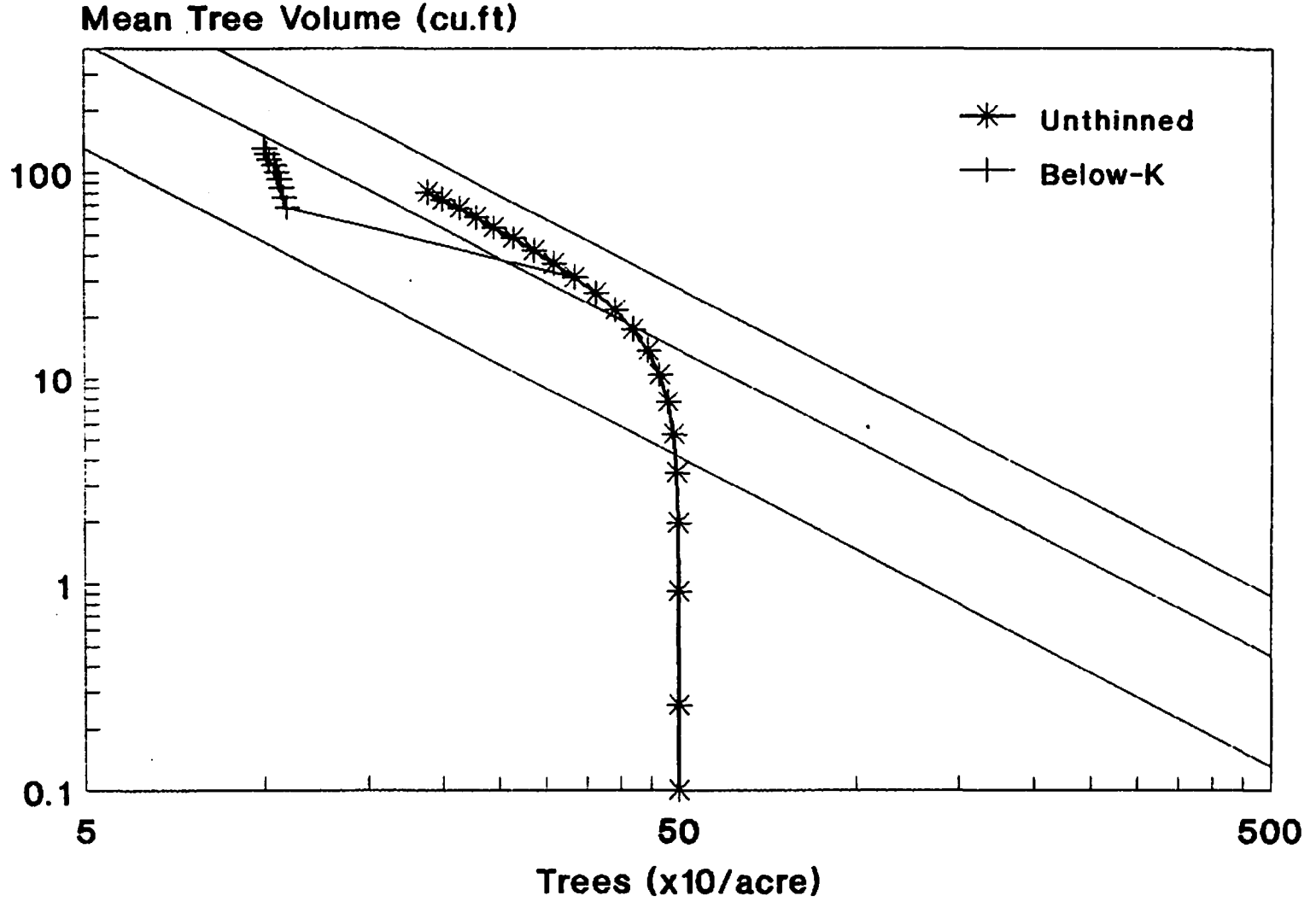
Density Management Diagram for DFSI=80
(Thinning from Below-Regime I)



Density Management Diagram for DFSI=80
(Thinning from Below-Regime J)



Density Management Diagram for DFSI=80
(Thinning from Below-Regime K)



Yield Tables of Thinning from Above

for DFSI = 80

Notation Used in the Yield Tables:

INST	=	Stand Identification
DFSI	=	Douglas-fir site index (feet)
A	=	Stand age at DBH (year)
TOPH	=	Stand top height (feet)
BA	=	Stand basal area (ft^2/acre)
QMD	=	Quadratic mean tree diameter (inch)
V	=	Stand total volume (ft^3/acre)
VG	=	Total volume increment in 6 yeras (ft^3/care)
MV	=	Stand mean tree volume (ft^3)
N	=	Number of surviving trees per acre
MORT	=	Number of dead trees in 6 years
RD	=	Drew-Flewelling's relative density index

(1) Unthinned Stand (DFSI=80, N=500)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	UNTH	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	UNTH	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	UNTH	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
4	UNTH	80	18	32.6	81.71	5.48	989.5	530.49	1.98	499	1	0.07
5	UNTH	80	24	42.8	110.89	6.40	1713.9	724.42	3.46	496	3	0.12
6	UNTH	80	30	52.4	141.09	7.27	2616.9	902.99	5.34	490	6	0.19
7	UNTH	80	36	61.3	171.72	8.10	3670.5	1053.64	7.66	479	10	0.26
8	UNTH	80	42	69.6	201.70	8.93	4830.8	1160.31	10.42	464	16	0.34
9	UNTH	80	48	77.2	229.76	9.75	6041.3	1210.53	13.64	443	21	0.41
10	UNTH	80	54	84.2	254.82	10.58	7243.8	1202.44	17.34	418	25	0.48
11	UNTH	80	60	90.6	276.26	11.40	8390.2	1146.40	21.51	390	28	0.53
12	UNTH	80	66	96.5	293.98	12.21	9449.9	1059.74	26.13	362	28	0.58
13	UNTH	80	72	101.8	308.28	13.01	10409.7	959.78	31.16	334	28	0.61
14	UNTH	80	78	106.8	319.65	13.79	11269.0	859.26	36.57	308	26	0.64
15	UNTH	80	84	111.3	328.65	14.55	12034.5	765.55	42.30	285	24	0.66
16	UNTH	80	90	115.5	335.77	15.29	12716.3	681.82	48.31	263	21	0.67
17	UNTH	80	96	119.4	341.42	16.01	13325.0	608.71	54.54	244	19	0.67
18	UNTH	80	102	123.0	345.94	16.70	13870.6	545.55	60.97	228	17	0.68
19	UNTH	80	108	126.3	349.59	17.36	14361.8	491.15	67.54	213	15	0.68
20	UNTH	80	114	129.4	352.56	18.00	14806.0	444.25	74.22	199	13	0.67
21	UNTH	80	120	132.2	355.00	18.62	15209.7	403.68	80.99	188	12	0.67

(2) Thinning from Above: Regime A (Thinned to N=436 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-A	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-A	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	A-A	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	A-A	80	12	20.9	2.68	1.06	22.9	-436.01	0.05	436	64	0.00
5	A-A	80	18	31.3	37.74	3.98	446.7	423.78	1.02	436	0	0.03
6	A-A	80	24	41.5	68.61	5.38	1040.2	593.46	2.39	435	1	0.07
7	A-A	80	30	51.1	99.14	6.48	1809.0	768.79	4.18	433	3	0.12
8	A-A	80	36	60.0	129.80	7.46	2735.0	926.00	6.40	427	5	0.18
9	A-A	80	42	68.3	160.21	8.38	3788.1	1053.12	9.05	419	9	0.25
10	A-A	80	48	75.9	189.59	9.25	4926.2	1138.10	12.13	406	13	0.32
11	A-A	80	54	82.9	216.98	10.10	6099.5	1173.30	15.65	390	16	0.39
12	A-A	80	60	89.3	241.57	10.94	7259.0	1159.52	19.60	370	19	0.45
13	A-A	80	66	95.2	262.92	11.76	8365.1	1106.06	23.98	349	21	0.50
14	A-A	80	72	100.6	280.92	12.56	9391.9	1026.81	28.76	327	22	0.55
15	A-A	80	78	105.5	295.80	13.34	10327.4	935.52	33.91	305	22	0.58
16	A-A	80	84	110.1	307.94	14.11	11170.1	842.68	39.38	284	21	0.61
17	A-A	80	90	114.3	317.79	14.85	11924.9	754.80	45.15	264	19	0.63
18	A-A	80	96	118.1	325.78	15.57	12599.9	675.06	51.15	246	18	0.64
19	A-A	80	102	121.7	332.27	16.27	13204.4	604.47	57.36	230	16	0.65
20	A-A	80	108	125.0	337.57	16.94	13747.2	542.79	63.73	216	14	0.65
21	A-A	80	114	128.1	341.92	17.59	14236.4	489.21	70.23	203	13	0.65
22	A-A	80	120	130.9	345.53	18.21	14679.1	442.72	76.83	191	12	0.65

(3) Thinning from Above: Regime B (Thinned to N=436 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-B	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-B	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	A-B	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	A-B	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	A-B	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	A-B	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
# 7	A-B	80	30	49.3	7.05	1.72	130.8	-2486.1	0.30	436	54	0.01
8	A-B	80	36	58.3	42.03	4.21	880.0	749.2	2.02	436	0	0.06
9	A-B	80	42	66.6	73.91	5.60	1731.1	851.1	4.00	433	3	0.12
10	A-B	80	48	74.2	105.12	6.72	2703.0	971.8	6.34	427	6	0.18
11	A-B	80	54	81.2	135.67	7.73	3772.9	1069.9	9.06	416	10	0.25
12	A-B	80	60	87.6	165.03	8.67	4904.4	1131.5	12.20	402	14	0.32
13	A-B	80	66	93.4	192.45	9.58	6054.8	1150.5	15.76	384	18	0.38
14	A-B	80	72	98.8	217.29	10.47	7183.2	1128.4	19.76	364	21	0.44
15	A-B	80	78	103.8	239.19	11.33	8256.7	1073.5	24.18	341	22	0.49
16	A-B	80	84	108.3	258.04	12.18	9254.2	997.5	29.01	319	22	0.53
17	A-B	80	90	112.5	274.00	13.00	10165.6	911.5	34.20	297	22	0.57
18	A-B	80	96	116.4	287.38	13.80	10989.8	824.2	39.71	277	20	0.59
19	A-B	80	102	120.0	298.52	14.57	11730.9	741.1	45.49	258	19	0.61
20	A-B	80	108	123.3	307.80	15.31	12395.9	665.1	51.50	241	17	0.62
21	A-B	80	114	126.4	315.53	16.03	12993.1	597.2	57.70	225	16	0.63
22	A-B	80	120	129.2	322.00	16.72	13530.5	537.4	64.05	211	14	0.63

(4) Thinning from Above: Regime C (Thinned to N=303 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-C	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-C	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	A-C	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	A-C	80	12	20.9	2.68	1.27	22.9	-436.01	0.08	303	197	0.00
5	A-C	80	18	31.3	37.70	4.78	446.3	423.34	1.47	303	0	0.03
6	A-C	80	24	41.5	67.94	6.42	1030.2	583.92	3.40	303	0	0.06
7	A-C	80	30	51.1	97.21	7.69	1774.3	744.10	5.88	302	1	0.10
8	A-C	80	36	60.0	125.98	8.78	2656.1	881.82	8.86	300	2	0.15
9	A-C	80	42	68.3	154.09	9.76	3645.9	989.76	12.30	296	3	0.20
10	A-C	80	48	75.9	181.03	10.67	4707.7	1061.83	16.15	291	5	0.26
11	A-C	80	54	82.9	206.22	11.52	5802.6	1094.91	20.38	285	7	0.32
12	A-C	80	60	89.3	229.17	12.33	6893.1	1090.45	24.93	277	8	0.37
13	A-C	80	66	95.2	249.55	13.09	7947.5	1054.43	29.78	267	10	0.42
14	A-C	80	72	100.6	267.25	13.83	8943.2	995.66	34.91	256	11	0.46
15	A-C	80	78	105.5	282.36	14.54	9866.6	923.44	40.28	245	11	0.50
16	A-C	80	84	110.1	295.09	15.22	10712.4	845.77	45.88	234	11	0.53
17	A-C	80	90	114.3	305.75	15.88	11480.9	768.51	51.67	222	11	0.55
18	A-C	80	96	118.1	314.62	16.53	12176.2	695.33	57.65	211	11	0.57
19	A-C	80	102	121.7	322.02	17.15	12804.4	628.15	63.77	201	10	0.59
20	A-C	80	108	125.0	328.19	17.75	13372.1	567.69	70.03	191	10	0.60
21	A-C	80	114	128.1	333.35	18.34	13886.0	513.92	76.38	182	9	0.60
22	A-C	80	120	130.9	337.69	18.90	14352.4	466.40	82.82	173	8	0.61

(5) Thinning from Above: Regime D (Thinned to N=303 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-D	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-D	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	A-D	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	A-D	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	A-D	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	A-D	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
# 7	A-D	80	30	49.3	7.05	2.07	130.8	-2486.1	0.43	303	187	0.01
8	A-D	80	36	58.3	41.84	5.03	876.3	745.5	2.89	303	0	0.05
9	A-D	80	42	66.6	72.70	6.65	1703.1	826.9	5.64	302	1	0.10
10	A-D	80	48	74.2	102.18	7.91	2628.9	925.8	8.78	299	2	0.15
11	A-D	80	54	81.2	130.54	9.00	3632.7	1003.8	12.30	295	4	0.20
12	A-D	80	60	87.6	157.52	9.98	4685.2	1052.5	16.17	290	6	0.26
13	A-D	80	66	93.4	182.72	10.89	5754.2	1069.0	20.38	282	7	0.31
14	A-D	80	72	98.8	205.78	11.75	6809.3	1055.1	24.90	273	9	0.36
15	A-D	80	78	103.8	226.46	12.56	7825.3	1016.0	29.71	263	10	0.41
16	A-D	80	84	108.3	244.70	13.33	8784.2	958.9	34.80	252	11	0.45
17	A-D	80	90	112.5	260.55	14.08	9675.4	891.2	40.13	241	11	0.48
18	A-D	80	96	116.4	274.19	14.79	10494.5	819.1	45.68	230	11	0.51
19	A-D	80	102	120.0	285.86	15.49	11242.0	747.5	51.44	219	11	0.54
20	A-D	80	108	123.3	295.80	16.15	11921.2	679.2	57.36	208	11	0.55
21	A-D	80	114	126.4	304.26	16.80	12537.4	616.1	63.43	198	10	0.57
22	A-D	80	120	129.2	311.48	17.42	13096.2	558.9	69.62	188	10	0.58

(6) Thinning from Above: Regime E (Thinned to N=194 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-E	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-E	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	A-E	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	A-E	80	12	20.9	2.68	1.59	22.9	-436.01	0.12	194	306	0.00
5	A-E	80	18	31.3	37.66	5.97	445.8	422.90	2.30	194	0	0.02
6	A-E	80	24	41.5	67.27	7.98	1020.3	574.48	5.26	194	0	0.05
7	A-E	80	30	51.1	95.32	9.50	1740.5	720.20	8.99	194	0	0.08
8	A-E	80	36	60.0	122.32	10.78	2580.2	839.69	13.37	193	1	0.12
9	A-E	80	42	68.3	148.22	11.90	3509.6	929.37	18.28	192	1	0.16
10	A-E	80	48	75.9	172.78	12.89	4497.1	987.53	23.60	191	1	0.20
11	A-E	80	54	82.9	195.69	13.80	5511.6	1014.51	29.24	189	2	0.24
12	A-E	80	60	89.3	216.70	14.62	6524.6	1012.96	35.09	186	3	0.29
13	A-E	80	66	95.2	235.64	15.38	7512.2	987.61	41.10	183	3	0.33
14	A-E	80	72	100.6	252.45	16.08	8456.5	944.33	47.22	179	4	0.37
15	A-E	80	78	105.5	267.18	16.73	9345.7	889.19	53.40	175	4	0.40
16	A-E	80	84	110.1	279.97	17.35	10173.3	827.62	59.63	171	4	0.43
17	A-E	80	90	114.3	291.01	17.93	10937.3	763.94	65.89	166	5	0.45
18	A-E	80	96	118.1	300.48	18.49	11638.5	701.26	72.19	161	5	0.48
19	A-E	80	102	121.7	308.59	19.02	12280.1	641.60	78.51	156	5	0.50
20	A-E	80	108	125.0	315.54	19.53	12866.2	586.10	84.84	152	5	0.51
21	A-E	80	114	128.1	321.51	20.03	13401.5	535.26	91.19	147	5	0.52
22	A-E	80	120	130.9	326.63	20.51	13890.7	489.18	97.55	142	5	0.53

(7) Thinning from Above: Regime F (Thinned to N=194 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-F	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-F	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	A-F	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	A-F	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	A-F	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	A-F	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
# 7	A-F	80	30	49.3	7.05	2.58	130.8	-2486.1	0.67	194	296	0.01
8	A-F	80	36	58.3	41.66	6.28	872.5	741.7	4.50	194	0	0.04
9	A-F	80	42	66.6	71.50	8.23	1675.7	803.2	8.65	194	0	0.08
10	A-F	80	48	74.2	99.35	9.72	2557.4	881.7	13.26	193	1	0.11
11	A-F	80	54	81.2	125.63	10.96	3498.5	941.1	18.25	192	1	0.16
12	A-F	80	60	87.6	150.31	12.04	4474.7	976.2	23.55	190	2	0.20
13	A-F	80	66	93.4	173.26	13.01	5461.6	986.8	29.09	188	2	0.24
14	A-F	80	72	98.8	194.32	13.88	6436.9	975.4	34.81	185	3	0.28
15	A-F	80	78	103.8	213.42	14.68	7382.6	945.7	40.66	182	3	0.32
16	A-F	80	84	108.3	230.54	15.42	8285.0	902.4	46.61	178	4	0.36
17	A-F	80	90	112.5	245.74	16.11	9135.3	850.3	52.63	174	4	0.39
18	A-F	80	96	116.4	259.14	16.76	9928.7	793.4	58.71	169	4	0.42
19	A-F	80	102	120.0	270.89	17.38	10663.8	735.0	64.83	164	5	0.44
20	A-F	80	108	123.3	281.15	17.96	11341.3	677.6	70.99	160	5	0.46
21	A-F	80	114	126.4	290.10	18.52	11964.1	622.7	77.18	155	5	0.48
22	A-F	80	120	129.2	297.90	19.06	12535.4	571.4	83.39	150	5	0.50

(8) Thinning from Above: Regime G (Thinned to N=194 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-G	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-G	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	A-G	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	A-G	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	A-G	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	A-G	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
7	A-G	80	36	61.3	171.72	8.10	3670.5	1053.6	7.66	479	10	0.26
8	A-G	80	42	69.6	201.70	8.93	4830.8	1160.3	10.42	464	16	0.34
9	A-G	80	48	77.2	229.76	9.75	6041.3	1210.5	13.64	443	21	0.41
#10	A-G	80	48	72.7	11.49	3.30	302.1	-5739.2	1.56	194	249	0.01
11	A-G	80	54	79.7	43.19	6.39	1206.1	904.0	6.22	194	0	0.05
12	A-G	80	60	86.1	71.08	8.21	2112.3	906.2	10.93	193	1	0.09
13	A-G	80	66	92.0	96.99	9.62	3045.7	933.4	15.85	192	1	0.14
14	A-G	80	72	97.4	121.24	10.80	3995.8	950.1	20.98	190	2	0.18
15	A-G	80	78	102.3	143.84	11.84	4946.9	951.0	26.28	188	2	0.22
16	A-G	80	84	106.9	164.74	12.76	5883.1	936.3	31.73	185	3	0.26
17	A-G	80	90	111.1	183.91	13.61	6791.1	908.0	37.29	182	3	0.30
18	A-G	80	96	114.9	201.34	14.39	7660.3	869.2	42.95	178	4	0.33
19	A-G	80	102	118.5	217.06	15.11	8483.5	823.2	48.69	174	4	0.36
20	A-G	80	108	121.8	231.16	15.80	9256.4	772.9	54.50	170	4	0.39
21	A-G	80	114	124.9	243.75	16.44	9977.4	721.0	60.37	165	5	0.41
22	A-G	80	120	127.8	254.95	17.06	10646.8	669.4	66.29	161	5	0.44

(9) Thinning from Above: Regime H (Thinned to N=109 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-H	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-H	80	6	12.1	26.25	3.10	130.6	130.57	0.26	500	0	0.01
3	A-H	80	12	22.2	53.61	4.43	459.0	328.39	0.92	500	0	0.03
# 4	A-H	80	12	20.9	2.68	2.12	22.9	-436.01	0.21	109	391	0.00
5	A-H	80	18	31.3	37.62	7.96	445.4	422.46	4.09	109	0	0.02
6	A-H	80	24	41.5	66.61	10.59	1010.5	565.13	9.27	109	0	0.03
7	A-H	80	30	51.1	93.49	12.54	1707.6	697.08	15.68	109	0	0.06
8	A-H	80	36	60.0	118.80	14.15	2507.3	799.65	23.04	109	0	0.08
9	A-H	80	42	68.3	142.63	15.52	3379.7	872.39	31.11	109	0	0.11
10	A-H	80	48	75.9	164.93	16.71	4296.5	916.82	39.65	108	0	0.14
11	A-H	80	54	82.9	185.59	17.75	5232.2	935.68	48.45	108	0	0.18
12	A-H	80	60	89.3	204.54	18.68	6164.8	932.66	57.35	107	0	0.21
13	A-H	80	66	95.2	221.73	19.50	7076.9	912.05	66.21	107	1	0.24
14	A-H	80	72	100.6	237.21	20.24	7955.1	878.26	74.94	106	1	0.26
15	A-H	80	78	105.5	251.02	20.90	8790.6	835.46	83.47	105	1	0.29
16	A-H	80	84	110.1	263.29	21.51	9577.8	787.25	91.77	104	1	0.32
17	A-H	80	90	114.3	274.13	22.05	10314.4	736.53	99.82	103	1	0.34
18	A-H	80	96	118.1	283.69	22.56	10999.9	685.49	107.62	102	1	0.36
19	A-H	80	102	121.7	292.10	23.02	11635.5	635.68	115.18	101	1	0.38
20	A-H	80	108	125.0	299.50	23.46	12223.7	588.14	122.51	100	1	0.39
21	A-H	80	114	128.1	306.01	23.87	12767.1	543.45	129.63	98	1	0.41
22	A-H	80	120	130.9	311.75	24.25	13269.0	501.93	136.56	97	1	0.42

(10) Thinning from Above: Regime I (Thinned to N=109 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-I	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-I	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	A-I	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	A-I	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	A-I	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	A-I	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
# 7	A-I	80	30	49.3	7.05	3.44	130.8	-2486.1	1.20	109	381	0.00
8	A-I	80	36	58.3	41.48	8.35	868.8	738.0	7.97	109	0	0.03
9	A-I	80	42	66.6	70.33	10.88	1648.7	780.0	15.14	109	0	0.06
10	A-I	80	48	74.2	96.63	12.76	2488.5	839.8	22.87	109	0	0.08
11	A-I	80	54	81.2	120.95	14.29	3370.6	882.1	31.04	109	0	0.11
12	A-I	80	60	87.6	143.47	15.59	4274.8	904.2	39.48	108	0	0.14
13	A-I	80	66	93.4	164.23	16.71	5182.2	907.4	48.05	108	0	0.17
14	A-I	80	72	98.8	183.25	17.70	6076.8	894.6	56.63	107	1	0.20
15	A-I	80	78	103.8	200.57	18.57	6945.9	869.1	65.13	107	1	0.23
16	A-I	80	84	108.3	216.23	19.35	7780.0	834.1	73.48	106	1	0.26
17	A-I	80	90	112.5	230.34	20.05	8572.9	792.8	81.64	105	1	0.28
18	A-I	80	96	116.4	242.99	20.69	9320.8	747.9	89.58	104	1	0.31
19	A-I	80	102	120.0	254.29	21.28	10022.2	701.4	97.31	103	1	0.33
20	A-I	80	108	123.3	264.38	21.81	10677.1	655.0	104.82	102	1	0.35
21	A-I	80	114	126.4	273.38	22.31	11286.9	609.7	112.11	101	1	0.37
22	A-I	80	120	129.2	281.39	22.78	11853.3	566.5	119.20	99	1	0.38

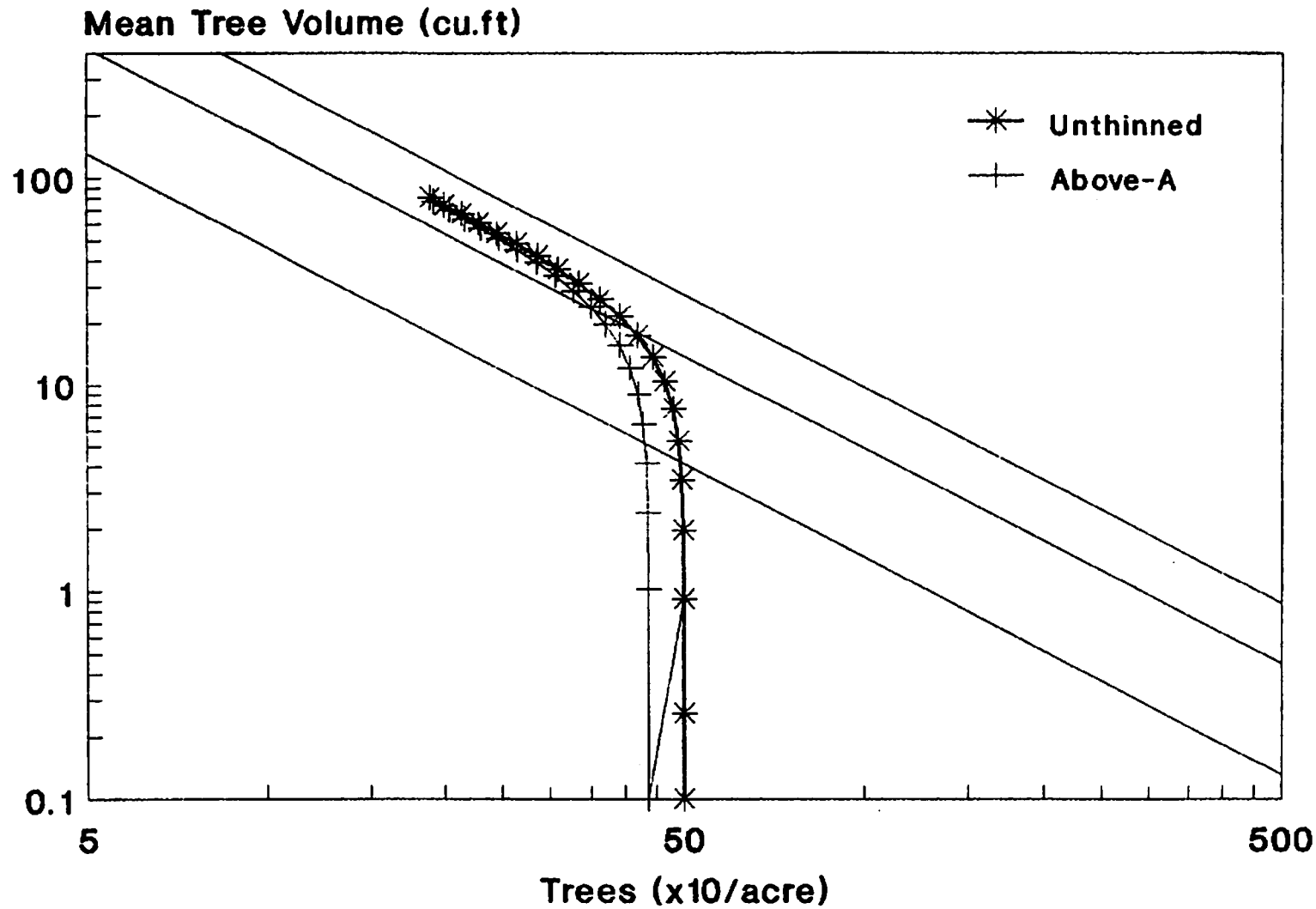
(11) Thinning from Above: Regime J (Thinned to N=109 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-J	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-J	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	A-J	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	A-J	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	A-J	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	A-J	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
7	A-J	80	36	61.3	171.72	8.10	3670.5	1053.6	7.66	479	10	0.26
8	A-J	80	42	69.6	201.70	8.93	4830.8	1160.3	10.42	464	16	0.34
9	A-J	80	48	77.2	229.76	9.75	6041.3	1210.5	13.64	443	21	0.41
#10	A-J	80	48	72.7	11.49	4.40	302.1	-5739.2	2.77	109	334	0.01
11	A-J	80	54	79.7	42.86	8.49	1197.1	895.0	10.99	109	0	0.04
12	A-J	80	60	86.1	69.68	10.83	2071.5	874.5	19.03	109	0	0.07
13	A-J	80	66	92.0	94.06	12.60	2955.2	883.6	27.20	109	0	0.10
14	A-J	80	72	97.4	116.48	14.04	3841.7	886.5	35.46	108	0	0.13
15	A-J	80	78	102.3	137.13	15.26	4720.4	878.7	43.74	108	0	0.16
16	A-J	80	84	106.9	156.12	16.33	5580.8	860.4	51.97	107	1	0.19
17	A-J	80	90	111.1	173.52	17.26	6414.2	833.4	60.09	107	1	0.21
18	A-J	80	96	114.9	189.40	18.10	7214.0	799.8	68.06	106	1	0.24
19	A-J	80	102	118.5	203.84	18.85	7975.8	761.8	75.86	105	1	0.26
20	A-J	80	108	121.8	216.93	19.54	8696.8	721.0	83.47	104	1	0.29
21	A-J	80	114	124.9	228.79	20.17	9375.9	679.1	90.89	103	1	0.31
22	A-J	80	120	127.8	239.50	20.74	10013.1	637.3	98.11	102	1	0.33

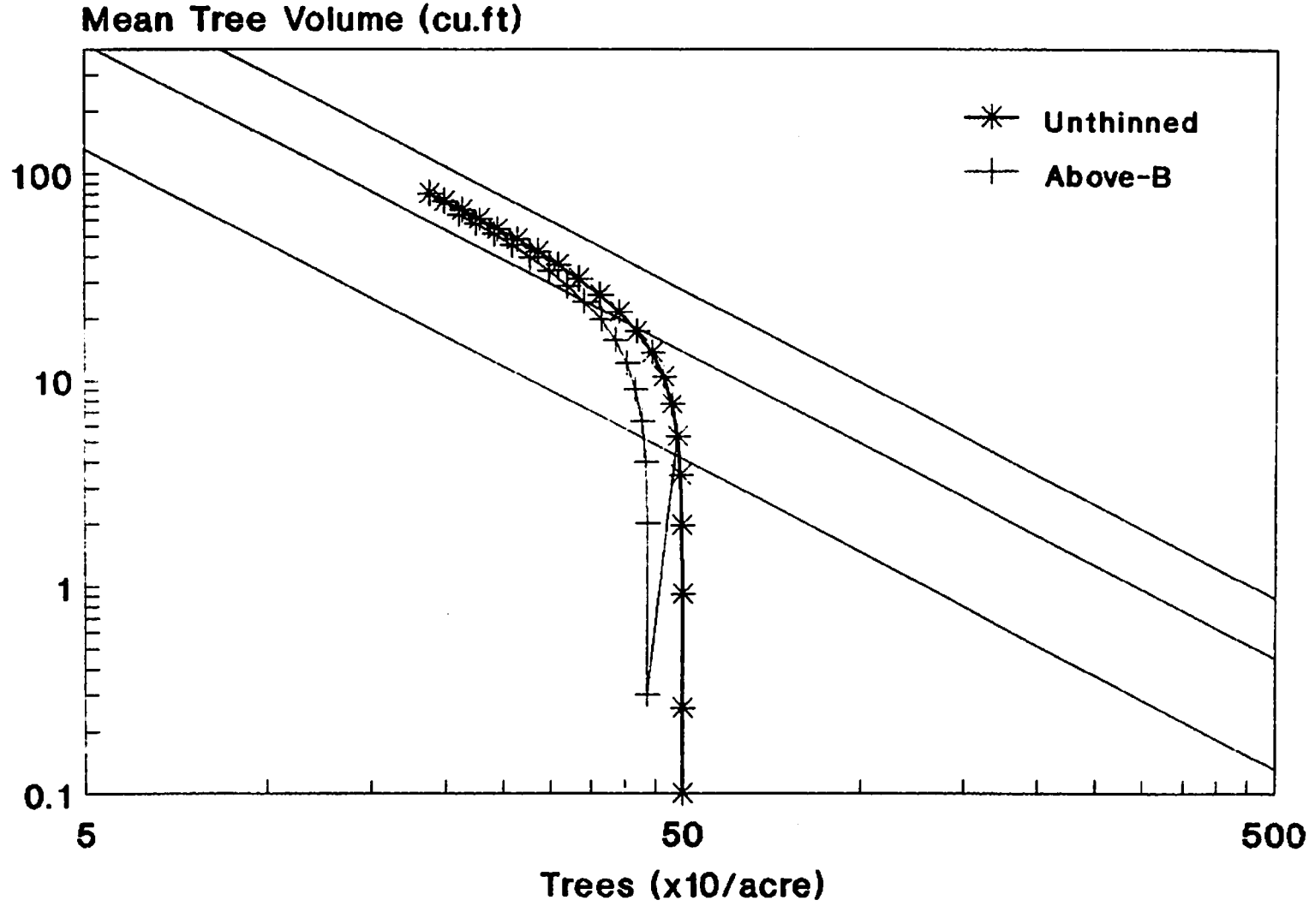
(12) Thinning from Above: Regime K (Thinned to N=109 at Year 72)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-K	80	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-K	80	6	12.1	26.25	3.10	130.6	130.6	0.26	500	0	0.01
3	A-K	80	12	22.2	53.61	4.43	459.0	328.4	0.92	500	0	0.03
4	A-K	80	18	32.6	81.71	5.48	989.5	530.5	1.98	499	1	0.07
5	A-K	80	24	42.8	110.89	6.40	1713.9	724.4	3.46	496	3	0.12
6	A-K	80	30	52.4	141.09	7.27	2616.9	903.0	5.34	490	6	0.19
7	A-K	80	36	61.3	171.72	8.10	3670.5	1053.6	7.66	479	10	0.26
8	A-K	80	42	69.6	201.70	8.93	4830.8	1160.3	10.42	464	16	0.34
9	A-K	80	48	77.2	229.76	9.75	6041.3	1210.5	13.64	443	21	0.41
10	A-K	80	54	84.2	254.82	10.58	7243.8	1202.4	17.34	418	25	0.48
11	A-K	80	60	90.6	276.26	11.40	8390.2	1146.4	21.51	390	28	0.53
12	A-K	80	66	96.5	293.98	12.21	9449.9	1059.7	26.13	362	28	0.58
13	A-K	80	72	101.8	308.28	13.01	10409.7	959.8	31.16	334	28	0.61
#14	A-K	80	72	96.0	15.41	5.09	520.5	-9889.2	4.78	109	225	0.02
15	A-K	80	78	100.9	42.56	8.46	1478.0	957.5	13.57	109	0	0.05
16	A-K	80	84	105.5	66.13	10.56	2372.5	894.5	21.81	109	0	0.08
17	A-K	80	90	109.7	87.54	12.16	3238.9	866.4	29.85	108	0	0.11
18	A-K	80	96	113.5	107.22	13.49	4080.6	841.7	37.75	108	0	0.14
19	A-K	80	102	117.1	125.36	14.62	4895.5	814.8	45.50	108	1	0.16
20	A-K	80	108	120.4	142.09	15.61	5680.1	784.6	53.10	107	1	0.19
21	A-K	80	114	123.5	157.49	16.49	6431.6	751.6	60.54	106	1	0.21
22	A-K	80	120	126.4	171.65	17.28	7148.1	716.5	67.81	105	1	0.24

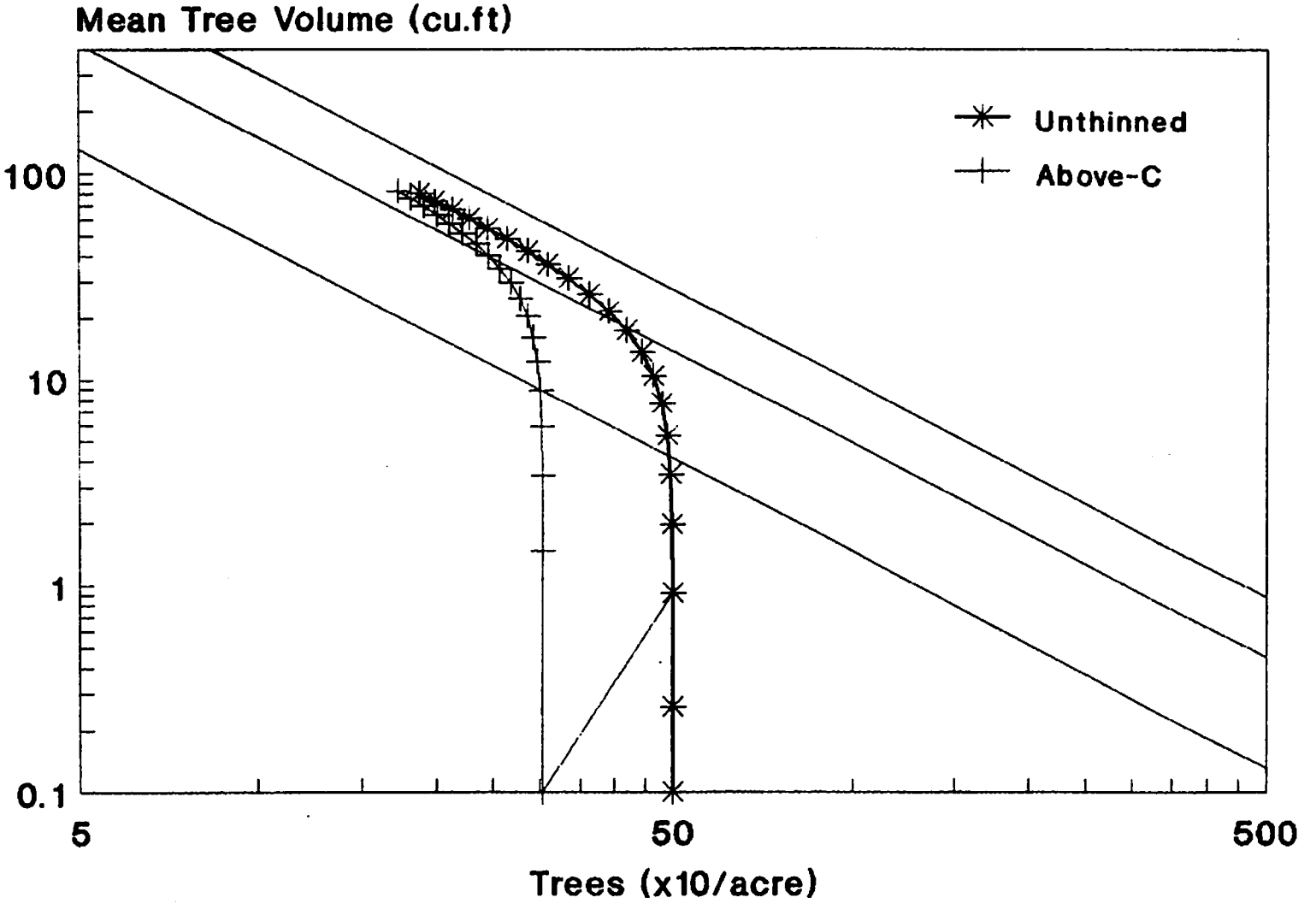
Density Management Diagram for DFSI=80
(Thinning from Above-Regime A)



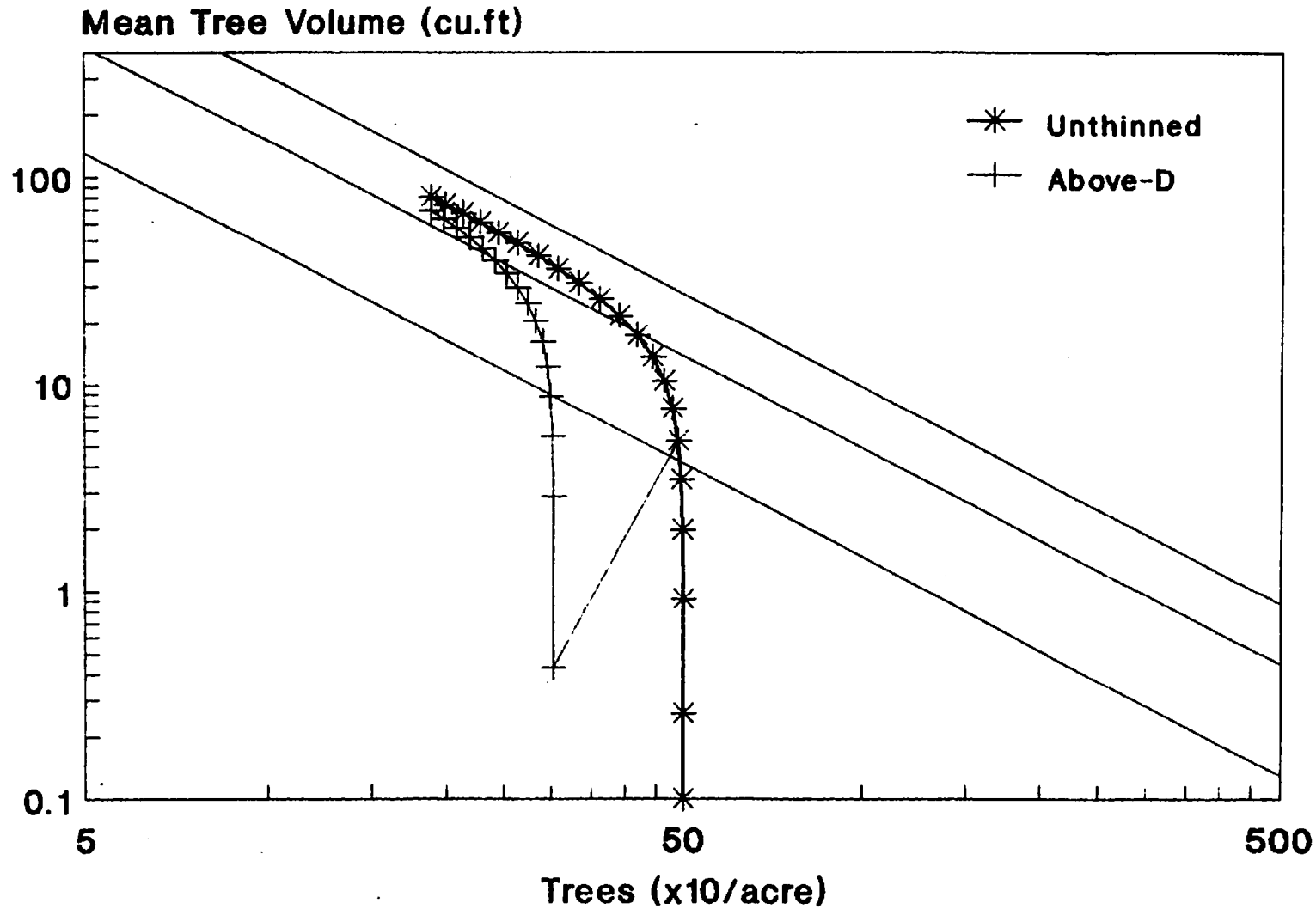
Density Management Diagram for DFSI=80
(Thinning from Above-Regime B)



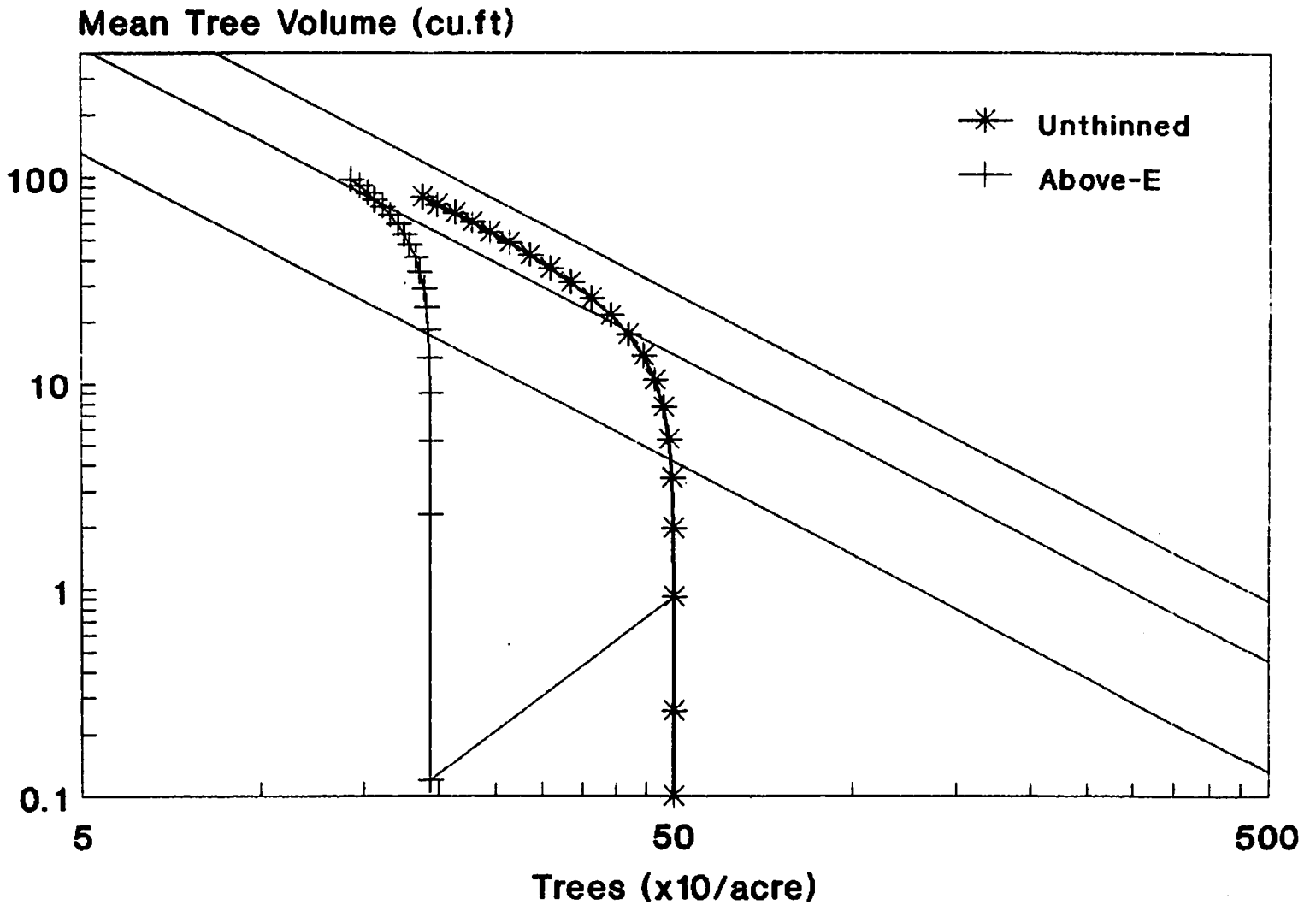
Density Management Diagram for DFSI=80
(Thinning from Above-Regime C)



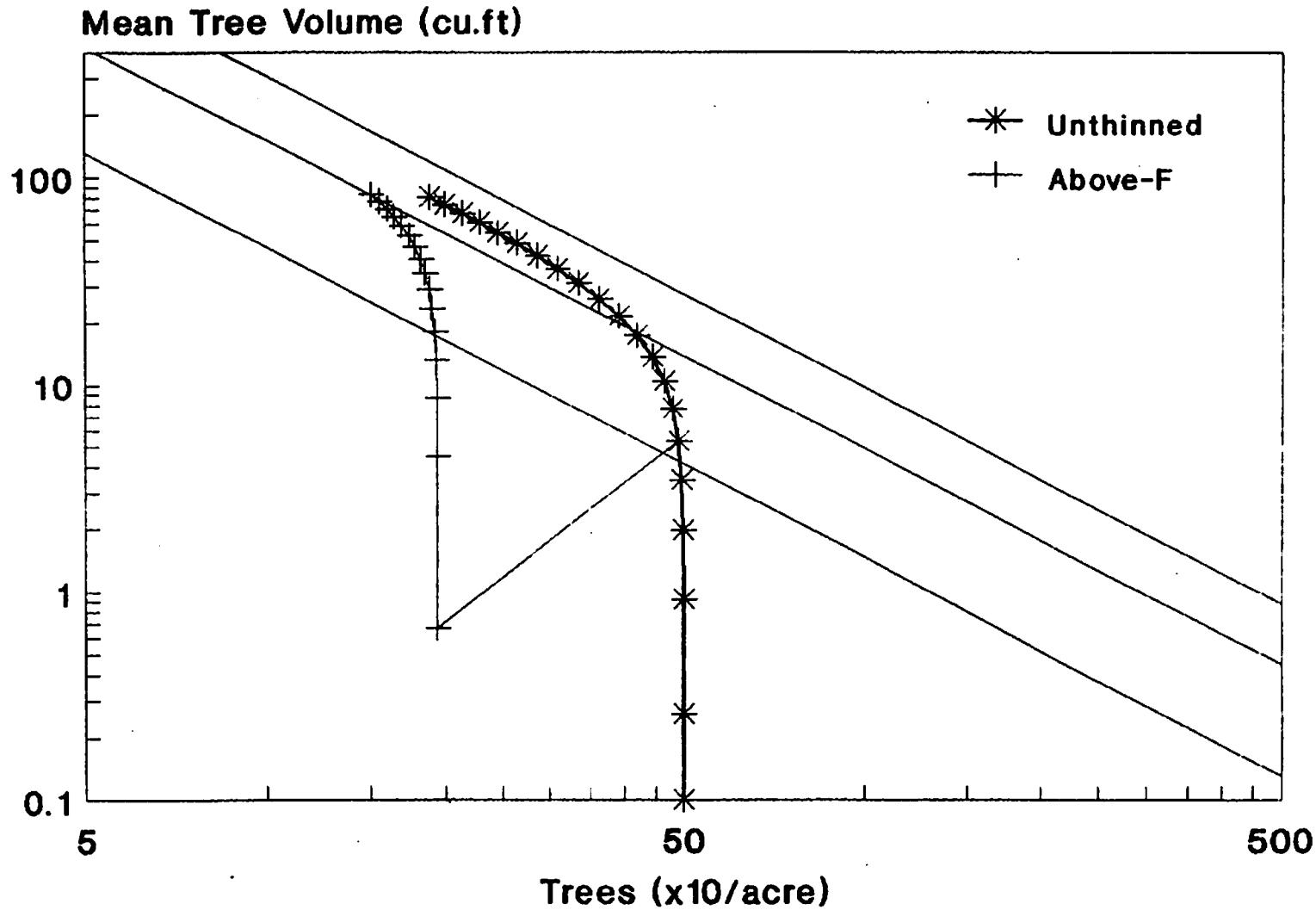
Density Management Diagram for DFSI=80
(Thinning from Above-Regime D)



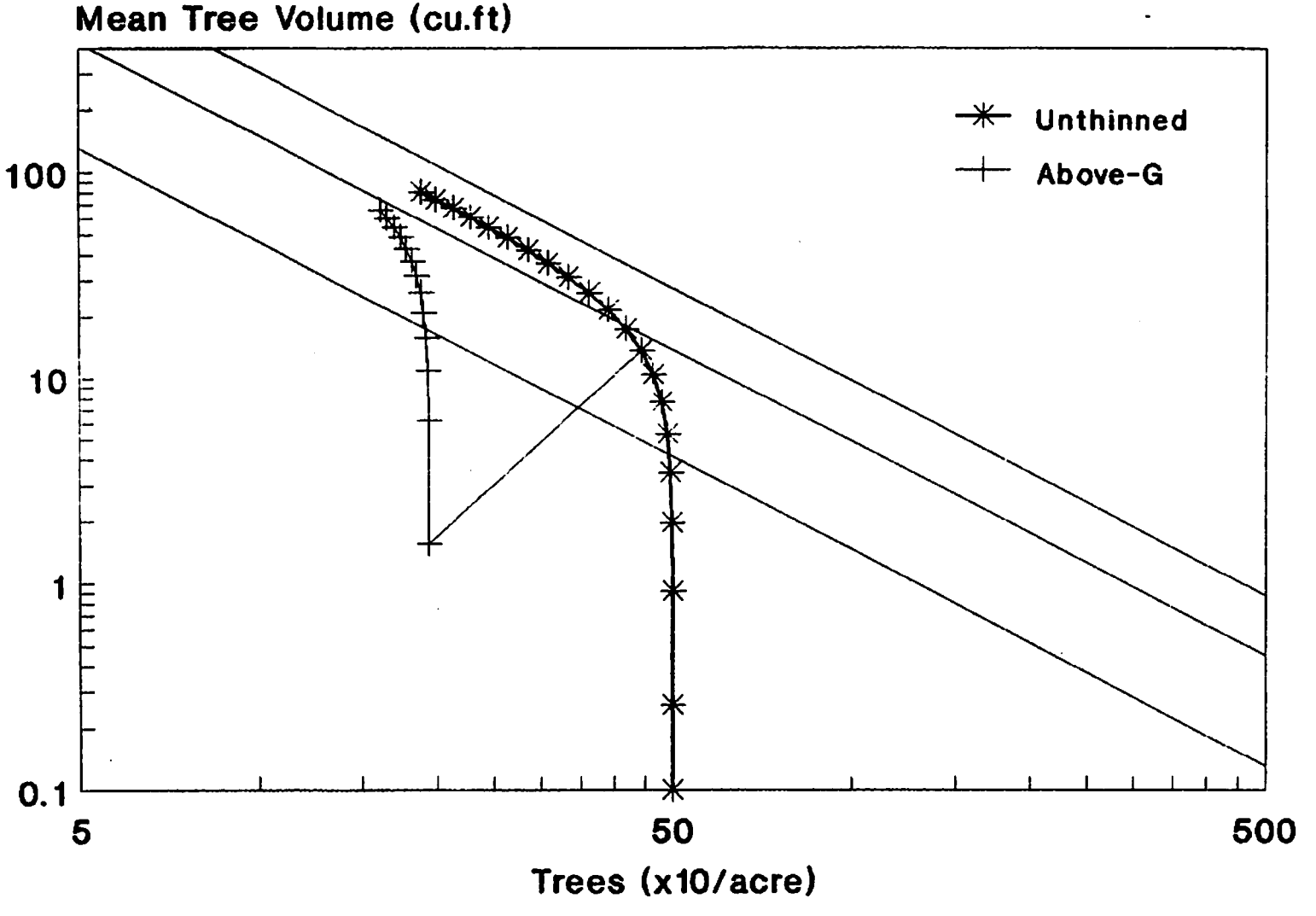
Density Management Diagram for DFSI=80
(Thinning from Above-Regime E)



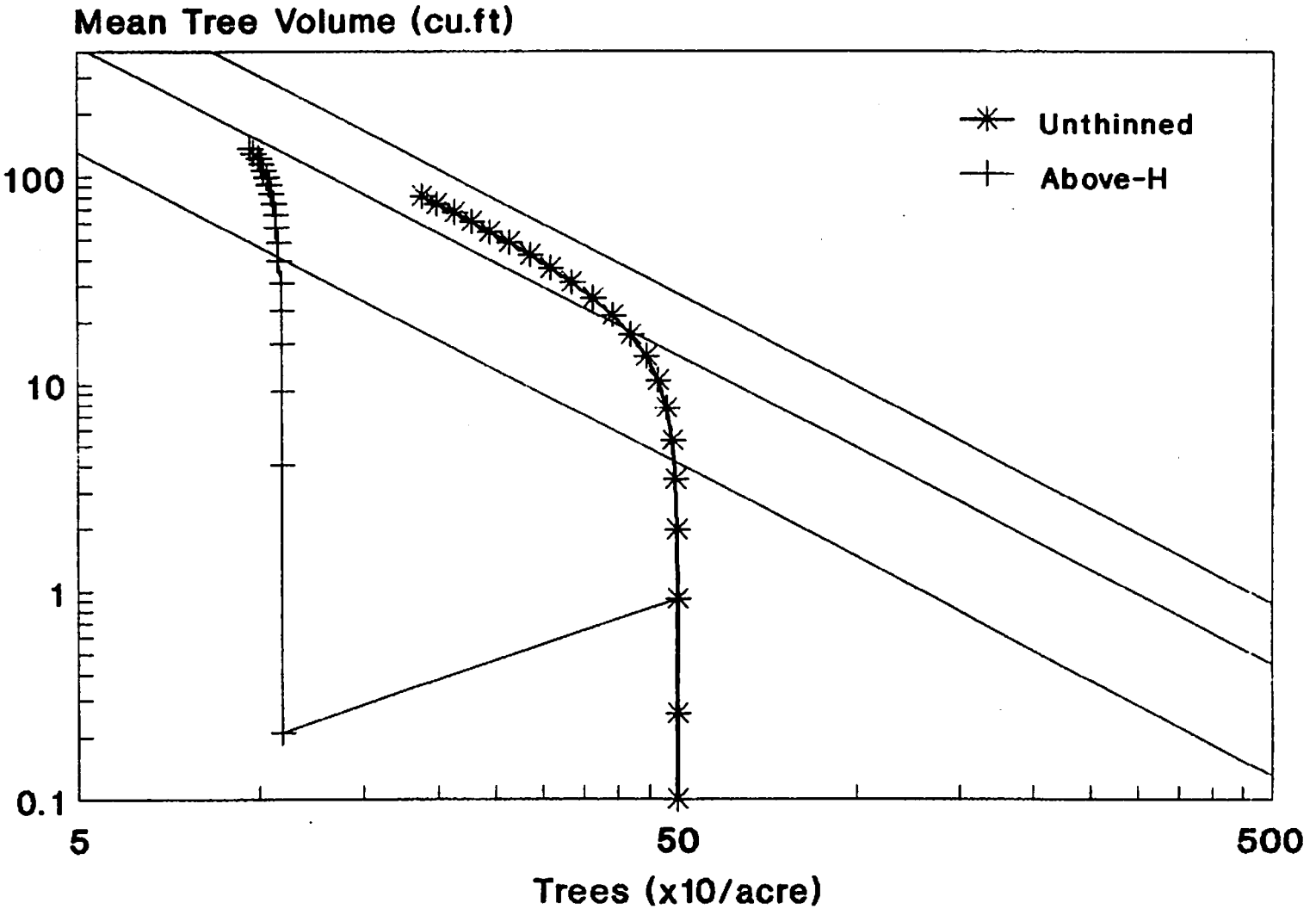
Density Management Diagram for DFSI=80
(Thinning from Above-Regime F)



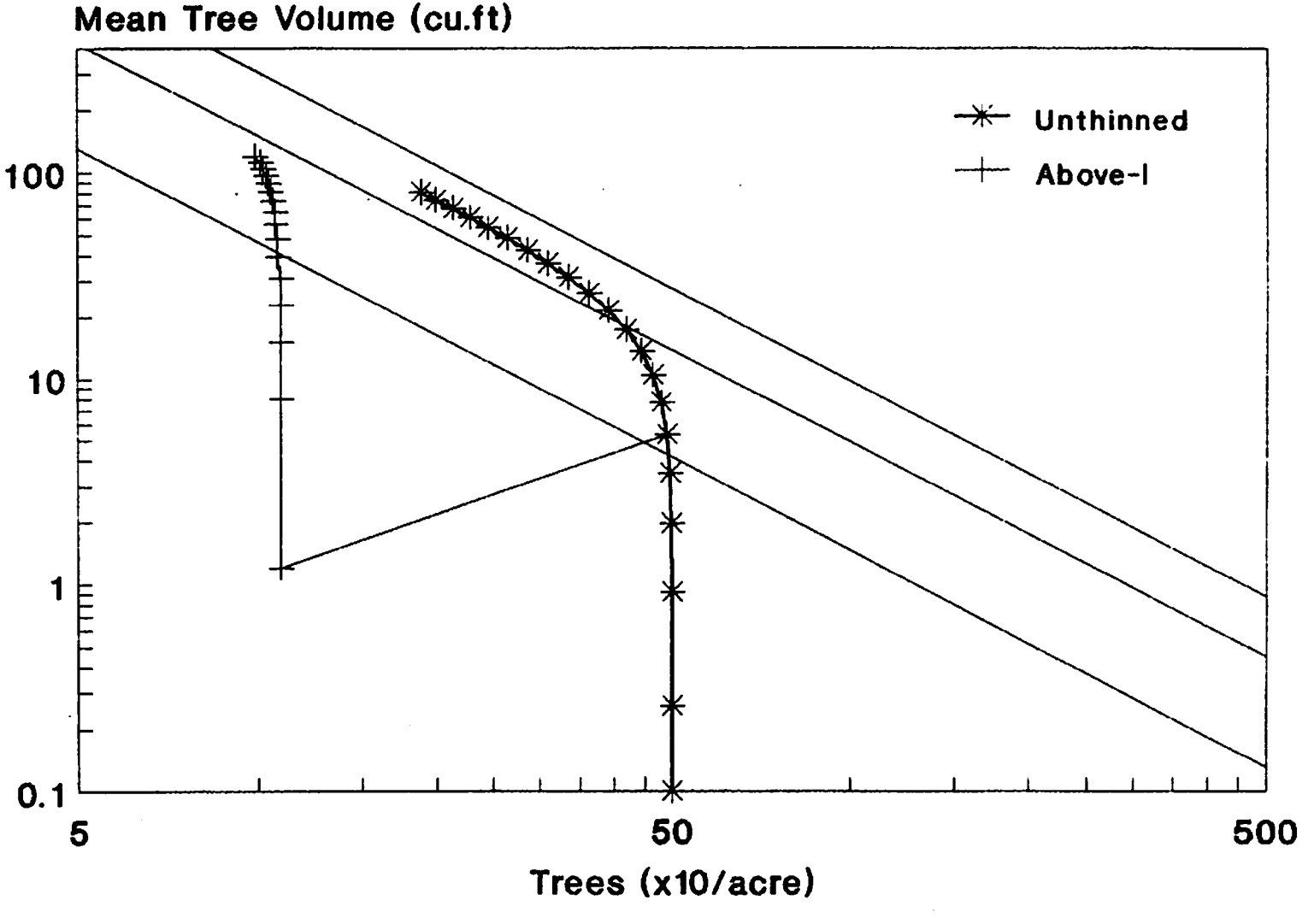
Density Management Diagram for DFSI=80
(Thinning from Above-Regime G)



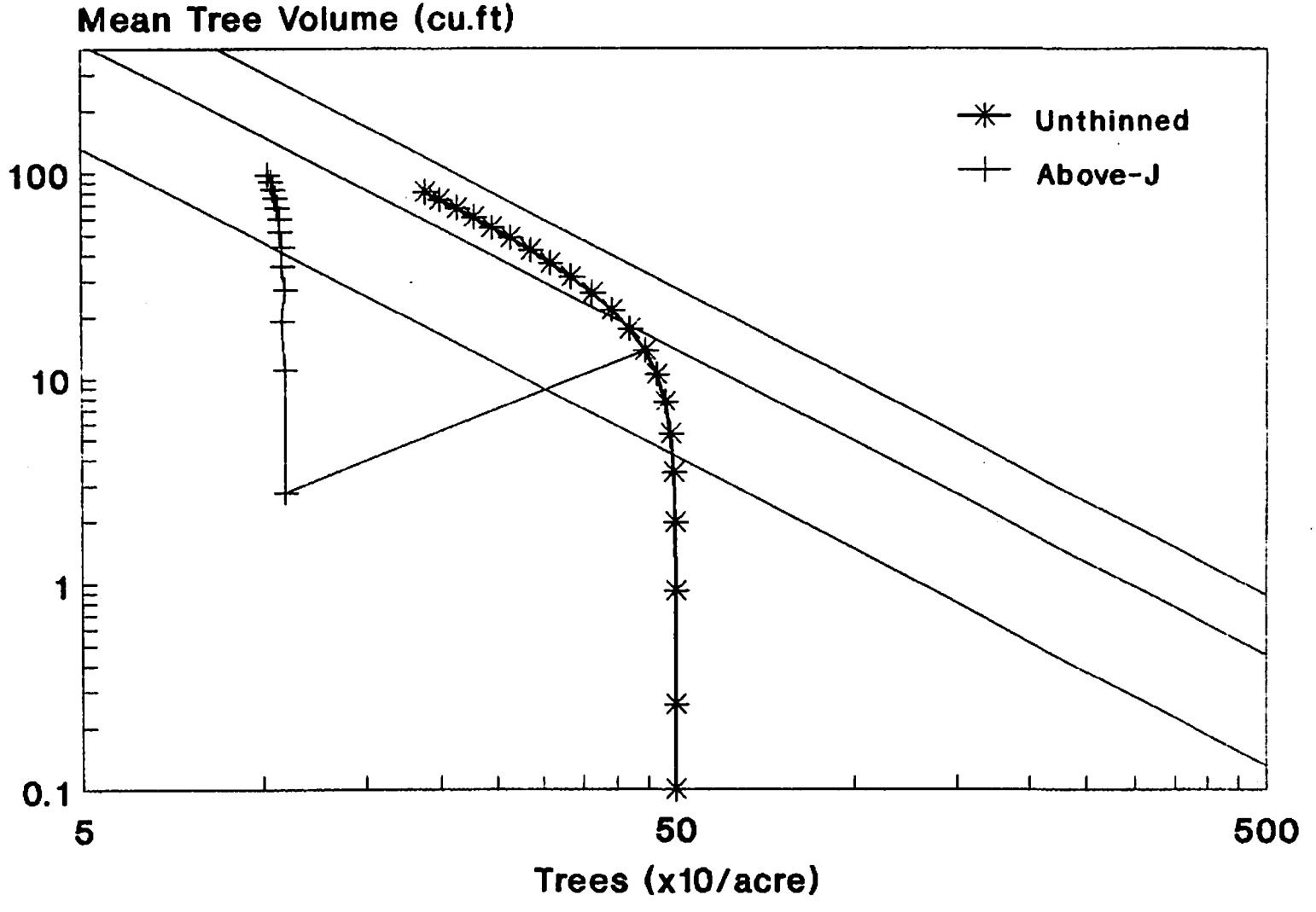
Density Management Diagram for DFSI=80
(Thinning from Above-Regime H)



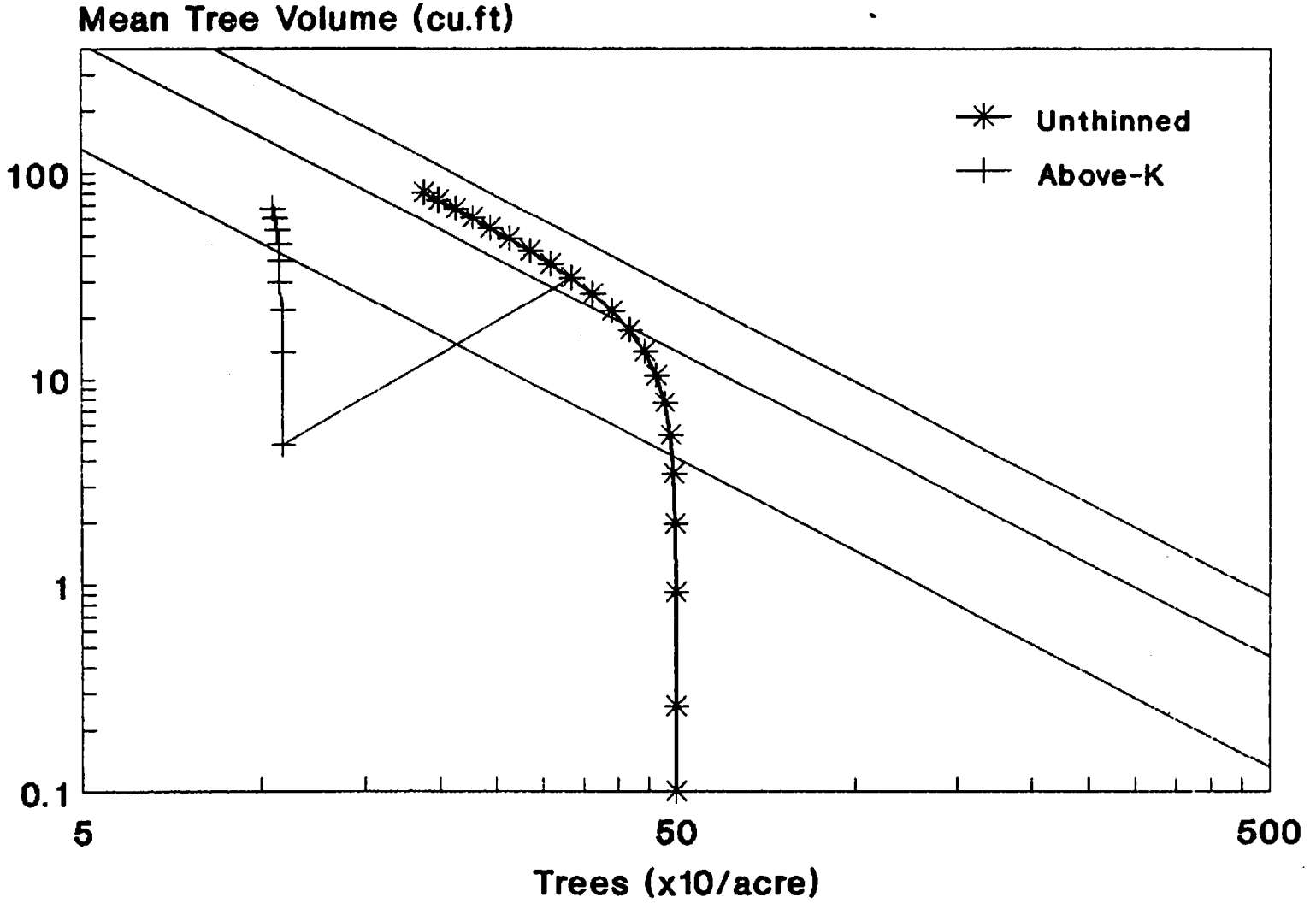
Density Management Diagram for DFSI=80
(Thinning from Above-Regime I)



Density Management Diagram for DFSI=80
(Thinning from Above-Regime J)



Density Management Diagram for DFSI=80
(Thinning from Above-Regime K)



Appendix D

Yield tables and Douglas-fir density management diagrams for thinning regimes for site index 95

Yield Tables of Thinning Across Distribution

for DFSI = 95

Notation Used in the Yield Tables:

INST = Stand Identification
DFSI = Douglas-fir site index (feet)
A = Stand age at DBH (year)
TOPH = Stand top height (feet)
BA = Stand basal area (ft^2/acre)
QMD = Quadratic mean tree diameter (inch)
V = Stand total volume (ft^3/acre)
VG = Total volume increment in 6 yeras (ft^3/care)
MV = Stand mean tree volume (ft^3)
N = Number of surviving trees per acre
MORT = Number of dead trees in 6 years
RD = Drew-Flewelling's relative density index

(1) Unthinned Stand (DFSI=95, N=500)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	UNTH	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	UNTH	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	UNTH	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
4	UNTH	95	18	39.3	102.21	6.14	1462.8	793.93	2.94	497	2	0.11
5	UNTH	95	24	51.3	140.71	7.25	2563.2	1100.38	5.23	490	7	0.18
6	UNTH	95	30	62.6	181.29	8.35	3943.6	1380.47	8.28	476	14	0.28
7	UNTH	95	36	72.8	221.90	9.48	5532.8	1589.12	12.21	453	23	0.38
8	UNTH	95	42	82.2	259.60	10.63	7213.3	1680.55	17.12	421	32	0.48
9	UNTH	95	48	90.6	291.83	11.81	8857.0	1643.69	23.07	384	37	0.56
10	UNTH	95	54	98.3	317.52	12.99	10369.1	1512.05	30.03	345	39	0.62
11	UNTH	95	60	105.2	337.00	14.15	11706.5	1337.44	37.93	309	37	0.66
12	UNTH	95	66	111.5	351.38	15.28	12867.1	1160.57	46.65	276	33	0.69
13	UNTH	95	72	117.2	361.91	16.38	13869.2	1002.10	56.05	247	28	0.70
14	UNTH	95	78	122.4	369.64	17.42	14737.1	867.99	66.01	223	24	0.71
15	UNTH	95	84	127.1	375.37	18.42	15494.2	757.05	76.40	203	20	0.71
16	UNTH	95	90	131.4	379.68	19.37	16159.9	665.68	87.14	185	17	0.71
17	UNTH	95	96	135.4	382.98	20.28	16750.0	590.10	98.13	171	15	0.71
18	UNTH	95	102	139.0	385.53	21.15	17277.0	527.01	109.30	158	13	0.70
19	UNTH	95	108	142.4	387.55	21.97	17750.8	473.84	120.60	147	11	0.69
20	UNTH	95	114	145.5	389.16	22.76	18179.4	428.55	131.98	138	9	0.69
21	UNTH	95	120	148.3	390.47	23.51	18569.0	389.62	143.38	130	8	0.68

(2) Thinning Across Distribution: Regime A (Thinned to N=436 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-A	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-A	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	M-A	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	M-A	95	12	26.6	57.81	4.93	584.2	-84.62	1.34	436	64	0.04
5	M-A	95	18	39.3	93.71	6.29	1343.3	759.07	3.09	435	1	0.09
6	M-A	95	24	51.3	131.51	7.49	2398.6	1055.30	5.58	430	4	0.16
7	M-A	95	30	62.6	170.98	8.63	3723.4	1324.84	8.85	421	9	0.25
8	M-A	95	36	72.8	210.57	9.77	5255.1	1531.67	12.99	404	16	0.34
9	M-A	95	42	82.2	247.82	10.91	6892.0	1636.86	18.06	382	23	0.43
10	M-A	95	48	90.6	280.45	12.06	8517.7	1625.70	24.09	354	28	0.52
11	M-A	95	54	98.3	307.19	13.20	10037.9	1520.23	31.08	323	31	0.58
12	M-A	95	60	105.2	328.05	14.33	11401.3	1363.37	38.95	293	30	0.63
13	M-A	95	66	111.5	343.83	15.44	12595.6	1194.31	47.60	265	28	0.66
14	M-A	95	72	117.2	355.61	16.50	13632.2	1036.60	56.93	239	25	0.68
15	M-A	95	78	122.4	364.39	17.53	14531.8	899.60	66.81	218	22	0.69
16	M-A	95	84	127.1	370.98	18.51	15316.3	784.48	77.12	199	19	0.70
17	M-A	95	90	131.4	375.98	19.45	16005.1	688.85	87.79	182	16	0.70
18	M-A	95	96	135.4	379.82	20.34	16614.6	609.44	98.71	168	14	0.70
19	M-A	95	102	139.0	382.82	21.20	17157.7	543.11	109.82	156	12	0.69
20	M-A	95	108	142.4	385.19	22.01	17644.9	487.26	121.07	146	10	0.69
21	M-A	95	114	145.5	387.10	22.79	18084.7	439.80	132.39	137	9	0.68
22	M-A	95	120	148.3	388.64	23.54	18483.8	399.10	143.75	129	8	0.68

(3) Thinning Across Distribution: Regime B (Thinned to N=436 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-B	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-B	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	M-B	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
4	M-B	95	18	39.3	102.21	6.14	1462.8	793.93	2.94	497	2	0.11
5	M-B	95	24	51.3	140.71	7.25	2563.2	1100.38	5.23	490	7	0.18
6	M-B	95	30	62.6	181.29	8.35	3943.6	1380.47	8.28	476	14	0.28
# 7	M-B	95	30	62.6	165.68	8.35	3610.1	-333.57	8.28	436	40	0.24
8	M-B	95	36	72.8	205.98	9.50	5142.7	1532.63	12.28	419	17	0.34
9	M-B	95	42	82.2	244.10	10.65	6790.4	1647.73	17.21	394	24	0.44
10	M-B	95	48	90.6	277.61	11.82	8433.2	1642.74	23.14	364	30	0.52
11	M-B	95	54	98.3	305.13	12.98	9971.7	1538.47	30.05	332	33	0.59
12	M-B	95	60	105.2	326.58	14.14	11351.0	1379.37	37.88	300	32	0.63
13	M-B	95	66	111.5	342.78	15.26	12557.8	1206.83	46.51	270	30	0.67
14	M-B	95	72	117.2	354.85	16.34	13603.7	1045.82	55.84	244	26	0.69
15	M-B	95	78	122.4	363.83	17.38	14509.9	906.23	65.72	221	23	0.70
16	M-B	95	84	127.1	370.56	18.38	15299.1	789.22	76.06	201	20	0.70
17	M-B	95	90	131.4	375.65	19.33	15991.4	692.28	86.74	184	17	0.70
18	M-B	95	96	135.4	379.56	20.24	16603.3	611.95	97.69	170	14	0.70
19	M-B	95	102	139.0	382.61	21.10	17148.3	544.99	108.83	158	12	0.69
20	M-B	95	108	142.4	385.02	21.93	17637.0	488.69	120.10	147	11	0.69
21	M-B	95	114	145.5	386.95	22.71	18077.9	440.90	131.45	138	9	0.68
22	M-B	95	120	148.3	388.52	23.47	18477.9	399.97	142.83	129	8	0.68

(4) Thinning Across Distribution: Regime C (Thinned to N=303 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-C	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-C	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	M-C	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	M-C	95	12	26.6	39.90	4.91	406.0	-262.84	1.34	303	197	0.02
5	M-C	95	18	39.3	76.39	6.80	1099.0	693.02	3.63	303	0	0.06
6	M-C	95	24	51.3	112.90	8.29	2064.9	965.85	6.86	301	1	0.12
7	M-C	95	30	62.6	149.92	9.61	3272.6	1207.71	10.99	298	3	0.18
8	M-C	95	36	72.8	186.73	10.83	4670.4	1397.80	15.99	292	6	0.26
9	M-C	95	42	82.2	221.91	11.99	6183.8	1513.38	21.85	283	9	0.34
10	M-C	95	48	90.6	253.92	13.11	7725.9	1542.11	28.50	271	12	0.41
11	M-C	95	54	98.3	281.62	14.18	9216.8	1490.89	35.90	257	14	0.48
12	M-C	95	60	105.2	304.58	15.22	10599.8	1382.96	43.99	241	16	0.53
13	M-C	95	66	111.5	323.01	16.23	11846.2	1246.47	52.71	225	16	0.57
14	M-C	95	72	117.2	337.51	17.21	12950.7	1104.45	61.98	209	16	0.60
15	M-C	95	78	122.4	348.81	18.15	13921.6	970.95	71.72	194	15	0.63
16	M-C	95	84	127.1	357.60	19.06	14773.9	852.33	81.85	180	14	0.64
17	M-C	95	90	131.4	364.47	19.93	15524.0	750.03	92.31	168	12	0.65
18	M-C	95	96	135.4	369.87	20.78	16187.0	663.05	103.02	157	11	0.65
19	M-C	95	102	139.0	374.16	21.58	16776.4	589.40	113.92	147	10	0.66
20	M-C	95	108	142.4	377.60	22.36	17303.4	526.96	124.95	138	9	0.66
21	M-C	95	114	145.5	380.39	23.10	17777.2	473.80	136.07	131	8	0.66
22	M-C	95	120	148.3	382.68	23.82	18205.4	428.26	147.23	124	7	0.65

(5) Thinning Across Distribution: Regime D (Thinned to N=303 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-D	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-D	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	M-D	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	M-D	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	M-D	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	M-D	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
# 7	M-D	95	30	62.6	114.36	8.32	2508.8	-1434.8	8.28	303	173	0.14
8	M-D	95	36	72.8	152.60	9.69	3830.9	1322.1	12.84	298	5	0.21
9	M-D	95	42	82.2	189.89	10.95	5306.8	1475.9	18.27	290	8	0.29
10	M-D	95	48	90.6	224.82	12.15	6855.8	1549.1	24.54	279	11	0.37
11	M-D	95	54	98.3	256.00	13.29	8393.2	1537.4	31.61	266	14	0.44
12	M-D	95	60	105.2	282.61	14.40	9849.0	1455.7	39.43	250	16	0.50
13	M-D	95	66	111.5	304.50	15.47	11179.6	1330.6	47.93	233	17	0.55
14	M-D	95	72	117.2	322.04	16.50	12367.9	1188.3	57.05	217	16	0.59
15	M-D	95	78	122.4	335.90	17.50	13415.7	1047.8	66.69	201	16	0.61
16	M-D	95	84	127.1	346.79	18.45	14335.2	919.5	76.77	187	14	0.63
17	M-D	95	90	131.4	355.34	19.37	15142.4	807.1	87.20	174	13	0.64
18	M-D	95	96	135.4	362.10	20.25	15853.3	710.9	97.91	162	12	0.65
19	M-D	95	102	139.0	367.49	21.09	16482.7	629.4	108.83	151	10	0.65
20	M-D	95	108	142.4	371.81	21.90	17043.0	560.3	119.89	142	9	0.66
21	M-D	95	114	145.5	375.33	22.67	17544.8	501.8	131.06	134	8	0.66
22	M-D	95	120	148.3	378.21	23.41	17996.6	451.8	142.28	126	7	0.65

(6) Thinning Across Distribution: Regime E (Thinned to N=194 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-E	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-E	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	M-E	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	M-E	95	12	26.6	25.34	4.89	260.0	-408.90	1.34	194	306	0.01
5	M-E	95	18	39.3	63.05	7.72	910.3	650.39	4.69	194	0	0.04
6	M-E	95	24	51.3	98.72	9.67	1810.0	899.66	9.35	194	0	0.08
7	M-E	95	30	62.6	133.63	11.28	2923.1	1113.14	15.17	193	1	0.13
8	M-E	95	36	72.8	167.61	12.69	4200.6	1277.49	21.99	191	2	0.19
9	M-E	95	42	82.2	199.97	13.95	5583.0	1382.37	29.65	188	3	0.25
10	M-E	95	48	90.6	229.84	15.11	7006.1	1423.09	37.96	185	4	0.31
11	M-E	95	54	98.3	256.53	16.18	8410.1	1403.96	46.79	180	5	0.36
12	M-E	95	60	105.2	279.65	17.17	9747.6	1337.54	56.02	174	6	0.41
13	M-E	95	66	111.5	299.19	18.09	10988.1	1240.48	65.57	168	6	0.46
14	M-E	95	72	117.2	315.39	18.97	12116.8	1128.75	75.39	161	7	0.50
15	M-E	95	78	122.4	328.66	19.80	13131.5	1014.66	85.45	154	7	0.53
16	M-E	95	84	127.1	339.45	20.60	14037.6	906.08	95.70	147	7	0.55
17	M-E	95	90	131.4	348.23	21.36	14844.7	807.10	106.12	140	7	0.57
18	M-E	95	96	135.4	355.37	22.10	15563.9	719.18	116.68	133	6	0.58
19	M-E	95	102	139.0	361.21	22.81	16206.1	642.25	127.35	127	6	0.59
20	M-E	95	108	142.4	366.00	23.50	16781.5	575.44	138.10	122	6	0.60
21	M-E	95	114	145.5	369.97	24.16	17299.1	517.58	148.89	116	5	0.60
22	M-E	95	120	148.3	373.29	24.80	17766.6	467.45	159.71	111	5	0.60

(7) Thinning Across Distribution: Regime F (Thinned to N=194 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-F	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-F	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	M-F	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	M-F	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	M-F	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	M-F	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
# 7	M-F	95	30	62.6	72.62	8.28	1606.3	-2337.3	8.28	194	282	0.07
8	M-F	95	36	72.8	109.39	10.19	2762.9	1156.6	14.31	193	1	0.12
9	M-F	95	42	82.2	144.69	11.78	4063.6	1300.7	21.25	191	2	0.18
10	M-F	95	48	90.6	178.13	13.17	5455.4	1391.8	28.96	188	3	0.24
11	M-F	95	54	98.3	209.06	14.42	6879.8	1424.4	37.31	184	4	0.30
12	M-F	95	60	105.2	236.88	15.56	8281.8	1402.0	46.18	179	5	0.36
13	M-F	95	66	111.5	261.22	16.62	9617.5	1335.8	55.47	173	6	0.41
14	M-F	95	72	117.2	282.05	17.61	10858.3	1240.8	65.11	167	7	0.45
15	M-F	95	78	122.4	299.57	18.54	11989.8	1131.5	75.04	160	7	0.49
16	M-F	95	84	127.1	314.14	19.42	13009.3	1019.5	85.22	153	7	0.52
17	M-F	95	90	131.4	326.18	20.27	13921.6	912.3	95.61	146	7	0.54
18	M-F	95	96	135.4	336.11	21.07	14735.5	813.9	106.16	139	7	0.56
19	M-F	95	102	139.0	344.31	21.84	15461.5	726.0	116.85	132	6	0.57
20	M-F	95	108	142.4	351.10	22.58	16110.3	648.8	127.64	126	6	0.58
21	M-F	95	114	145.5	356.75	23.30	16691.8	581.5	138.50	121	6	0.59
22	M-F	95	120	148.3	361.48	23.98	17214.8	523.0	149.39	115	5	0.60

(8) Thinning Across Distribution: Regime G (Thinned to N=194 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-G	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-G	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	M-G	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	M-G	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	M-G	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	M-G	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
7	M-G	95	36	72.8	221.90	9.48	5532.8	1589.1	12.21	453	23	0.38
8	M-G	95	42	82.2	259.60	10.63	7213.3	1680.5	17.12	421	32	0.48
9	M-G	95	48	90.6	291.83	11.81	8857.0	1643.7	23.07	384	37	0.56
#10	M-G	95	48	90.6	145.60	11.73	4475.6	-4381.4	23.07	194	190	0.20
11	M-G	95	54	98.3	178.53	13.11	5891.9	1416.3	30.94	190	4	0.26
12	M-G	95	60	105.2	208.75	14.36	7315.2	1423.3	39.39	186	5	0.32
13	M-G	95	66	111.5	235.76	15.50	8696.6	1381.4	48.34	180	6	0.38
14	M-G	95	72	117.2	259.34	16.57	9999.4	1302.8	57.70	173	7	0.42
15	M-G	95	78	122.4	279.52	17.56	11201.3	1201.9	67.42	166	7	0.47
16	M-G	95	84	127.1	296.53	18.51	12293.0	1091.6	77.45	159	7	0.50
17	M-G	95	90	131.4	310.75	19.40	13274.6	981.6	87.72	151	7	0.53
18	M-G	95	96	135.4	322.57	20.26	14152.5	877.9	98.21	144	7	0.55
19	M-G	95	102	139.0	332.39	21.08	14936.2	783.7	108.86	137	7	0.56
20	M-G	95	108	142.4	340.57	21.86	15636.0	699.8	119.65	131	7	0.58
21	M-G	95	114	145.5	347.40	22.61	16262.3	626.3	130.52	125	6	0.59
22	M-G	95	120	148.3	353.13	23.33	16824.5	562.2	141.45	119	6	0.59

(9) Thinning Across Distribution: Regime H (Thinned to N=109 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-H	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-H	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	M-H	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	M-H	95	12	26.6	14.08	4.87	146.1	-522.80	1.34	109	391	0.00
5	M-H	95	18	39.3	53.58	9.49	775.9	629.85	7.12	109	0	0.03
6	M-H	95	24	51.3	88.67	12.22	1628.9	852.95	14.95	109	0	0.05
7	M-H	95	30	62.6	121.74	14.33	2667.7	1038.84	24.53	109	0	0.09
8	M-H	95	36	72.8	153.08	16.09	3842.7	1175.01	35.43	108	0	0.13
9	M-H	95	42	82.2	182.44	17.60	5102.3	1259.53	47.27	108	1	0.17
10	M-H	95	48	90.6	209.49	18.93	6396.8	1294.50	59.67	107	1	0.21
11	M-H	95	54	98.3	233.95	20.10	7682.7	1285.97	72.33	106	1	0.26
12	M-H	95	60	105.2	255.65	21.13	8925.7	1242.99	85.02	105	1	0.30
13	M-H	95	66	111.5	274.62	22.05	10101.6	1175.85	97.58	104	1	0.33
14	M-H	95	72	117.2	290.99	22.89	11195.9	1094.34	109.92	102	2	0.36
15	M-H	95	78	122.4	304.99	23.65	12202.5	1006.57	122.01	100	2	0.39
16	M-H	95	84	127.1	316.89	24.34	13120.9	918.49	133.84	98	2	0.42
17	M-H	95	90	131.4	326.98	24.99	13955.0	834.01	145.41	96	2	0.44
18	M-H	95	96	135.4	335.53	25.60	14710.3	755.38	156.76	94	2	0.46
19	M-H	95	102	139.0	342.78	26.18	15394.0	683.65	167.90	92	2	0.48
20	M-H	95	108	142.4	348.94	26.73	16013.0	619.06	178.85	90	2	0.49
21	M-H	95	114	145.5	354.19	27.26	16574.4	561.36	189.62	87	2	0.50
22	M-H	95	120	148.3	358.69	27.76	17084.5	510.08	200.24	85	2	0.51

(10) Thinning Across Distribution: Regime I (Thinned to N=109 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-I	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-I	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	M-I	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	M-I	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	M-I	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	M-I	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
# 7	M-I	95	30	62.6	40.36	8.24	902.5	-3041.1	8.28	109	367	0.03
8	M-I	95	36	72.8	77.46	11.42	1968.9	1066.4	18.08	109	0	0.07
9	M-I	95	42	82.2	111.42	13.71	3144.3	1175.4	28.95	109	0	0.11
10	M-I	95	48	90.6	142.95	15.57	4395.6	1251.3	40.64	108	0	0.15
11	M-I	95	54	98.3	172.05	17.13	5681.9	1286.4	52.87	107	1	0.19
12	M-I	95	60	105.2	198.57	18.49	6965.0	1283.1	65.39	107	1	0.23
13	M-I	95	66	111.5	222.41	19.68	8212.9	1247.8	77.98	105	1	0.27
14	M-I	95	72	117.2	243.56	20.73	9401.7	1188.8	90.49	104	1	0.31
15	M-I	95	78	122.4	262.11	21.68	10516.3	1114.5	102.85	102	2	0.34
16	M-I	95	84	127.1	278.25	22.54	11548.5	1032.2	114.99	100	2	0.37
17	M-I	95	90	131.4	292.20	23.33	12496.2	947.7	126.91	98	2	0.40
18	M-I	95	96	135.4	304.21	24.05	13361.4	865.2	138.59	96	2	0.42
19	M-I	95	102	139.0	314.55	24.73	14148.4	787.1	150.06	94	2	0.44
20	M-I	95	108	142.4	323.43	25.37	14863.3	714.8	161.32	92	2	0.46
21	M-I	95	114	145.5	331.09	25.97	15512.3	649.0	172.40	90	2	0.47
22	M-I	95	120	148.3	337.69	26.55	16102.1	589.8	183.31	88	2	0.49

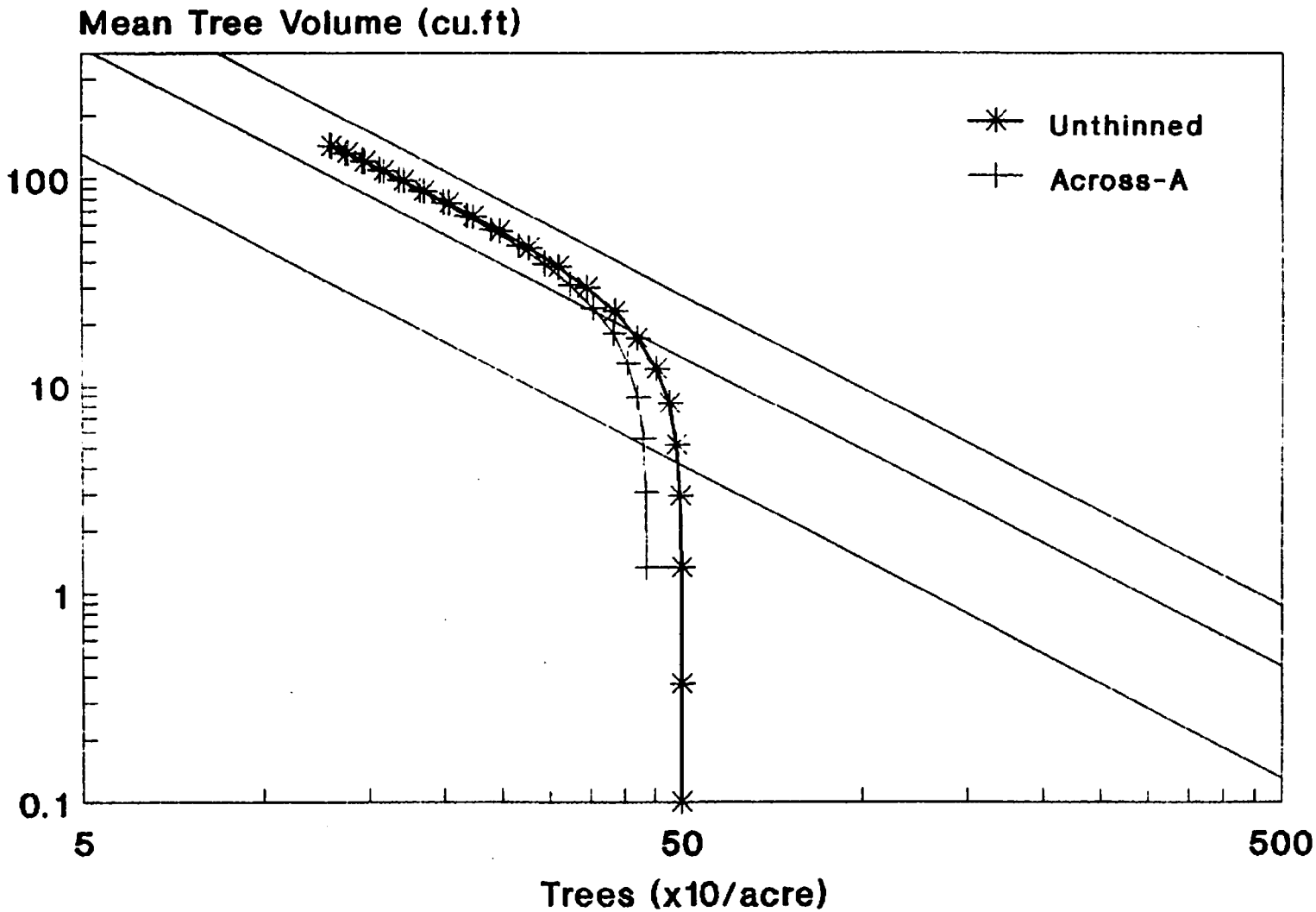
(11) Thinning Across Distribution: Regime J (Thinned to N=109 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-J	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-J	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	M-J	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	M-J	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	M-J	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	M-J	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
7	M-J	95	36	72.8	221.90	9.48	5532.8	1589.1	12.21	453	23	0.38
8	M-J	95	42	82.2	259.60	10.63	7213.3	1680.5	17.12	421	32	0.48
9	M-J	95	48	90.6	291.83	11.81	8857.0	1643.7	23.07	384	37	0.56
#10	M-J	95	48	90.6	80.93	11.67	2514.6	-6342.4	23.07	109	275	0.08
11	M-J	95	54	98.3	113.38	13.84	3773.0	1258.4	34.74	109	0	0.13
12	M-J	95	60	105.2	143.28	15.60	5055.7	1282.7	46.84	108	1	0.17
13	M-J	95	66	111.5	170.67	17.10	6332.9	1277.1	59.17	107	1	0.21
14	M-J	95	72	117.2	195.51	18.40	7577.2	1244.3	71.57	106	1	0.25
15	M-J	95	78	122.4	217.78	19.55	8767.4	1190.2	83.92	104	1	0.29
16	M-J	95	84	127.1	237.58	20.58	9888.9	1121.5	96.15	103	2	0.32
17	M-J	95	90	131.4	255.02	21.51	10933.4	1044.5	108.21	101	2	0.35
18	M-J	95	96	135.4	270.30	22.36	11897.7	964.3	120.07	99	2	0.38
19	M-J	95	102	139.0	283.64	23.15	12782.6	884.9	131.73	97	2	0.41
20	M-J	95	108	142.4	295.26	23.88	13591.5	808.8	143.19	95	2	0.43
21	M-J	95	114	145.5	305.38	24.57	14329.1	737.6	154.47	93	2	0.45
22	M-J	95	120	148.3	314.19	25.22	15001.3	672.2	165.58	91	2	0.46

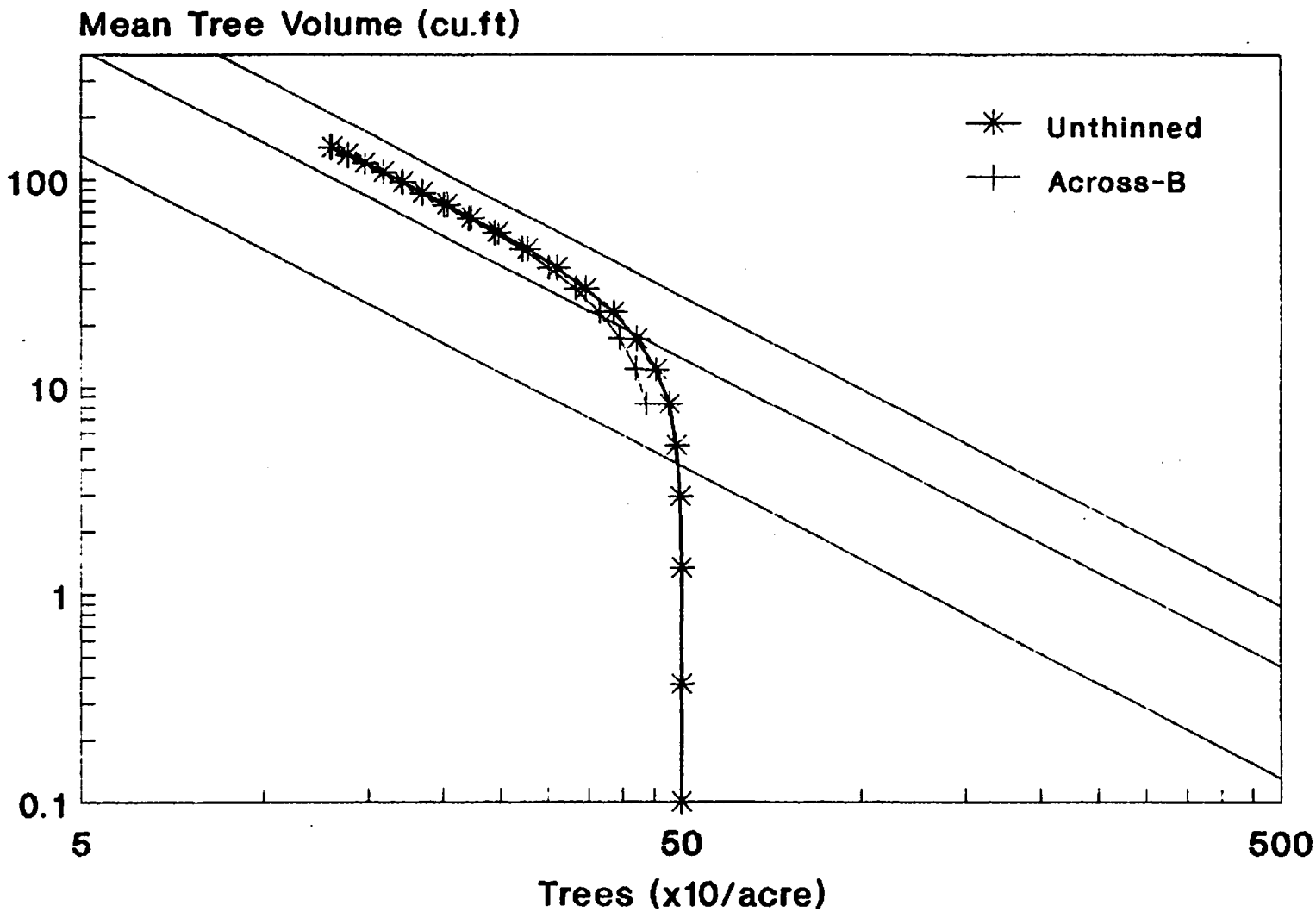
(12) Thinning Across Distribution: Regime K (Thinned to N=109 at Year 72)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-K	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-K	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	M-K	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	M-K	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	M-K	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	M-K	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
7	M-K	95	36	72.8	221.90	9.48	5532.8	1589.1	12.21	453	23	0.38
8	M-K	95	42	82.2	259.60	10.63	7213.3	1680.5	17.12	421	32	0.48
9	M-K	95	48	90.6	291.83	11.81	8857.0	1643.7	23.07	384	37	0.56
10	M-K	95	54	98.3	317.52	12.99	10369.1	1512.0	30.03	345	39	0.62
11	M-K	95	60	105.2	337.00	14.15	11706.5	1337.4	37.93	309	37	0.66
12	M-K	95	66	111.5	351.38	15.28	12867.1	1160.6	46.65	276	33	0.69
13	M-K	95	72	117.2	361.91	16.38	13869.2	1002.1	56.05	247	28	0.70
#14	M-K	95	72	117.2	157.00	16.25	6109.4	-7759.7	56.05	109	138	0.21
15	M-K	95	78	122.4	181.77	17.59	7342.1	1232.6	68.13	108	1	0.25
16	M-K	95	84	127.1	204.11	18.77	8519.7	1177.6	80.17	106	1	0.28
17	M-K	95	90	131.4	224.08	19.82	9629.9	1110.2	92.10	105	2	0.32
18	M-K	95	96	135.4	241.81	20.78	10665.5	1035.6	103.89	103	2	0.35
19	M-K	95	102	139.0	257.47	21.66	11623.8	958.3	115.53	101	2	0.38
20	M-K	95	108	142.4	271.25	22.47	12505.4	881.7	127.01	98	2	0.40
21	M-K	95	114	145.5	283.35	23.23	13313.6	808.1	138.32	96	2	0.42
22	M-K	95	120	148.3	293.96	23.95	14052.6	739.1	149.49	94	2	0.44

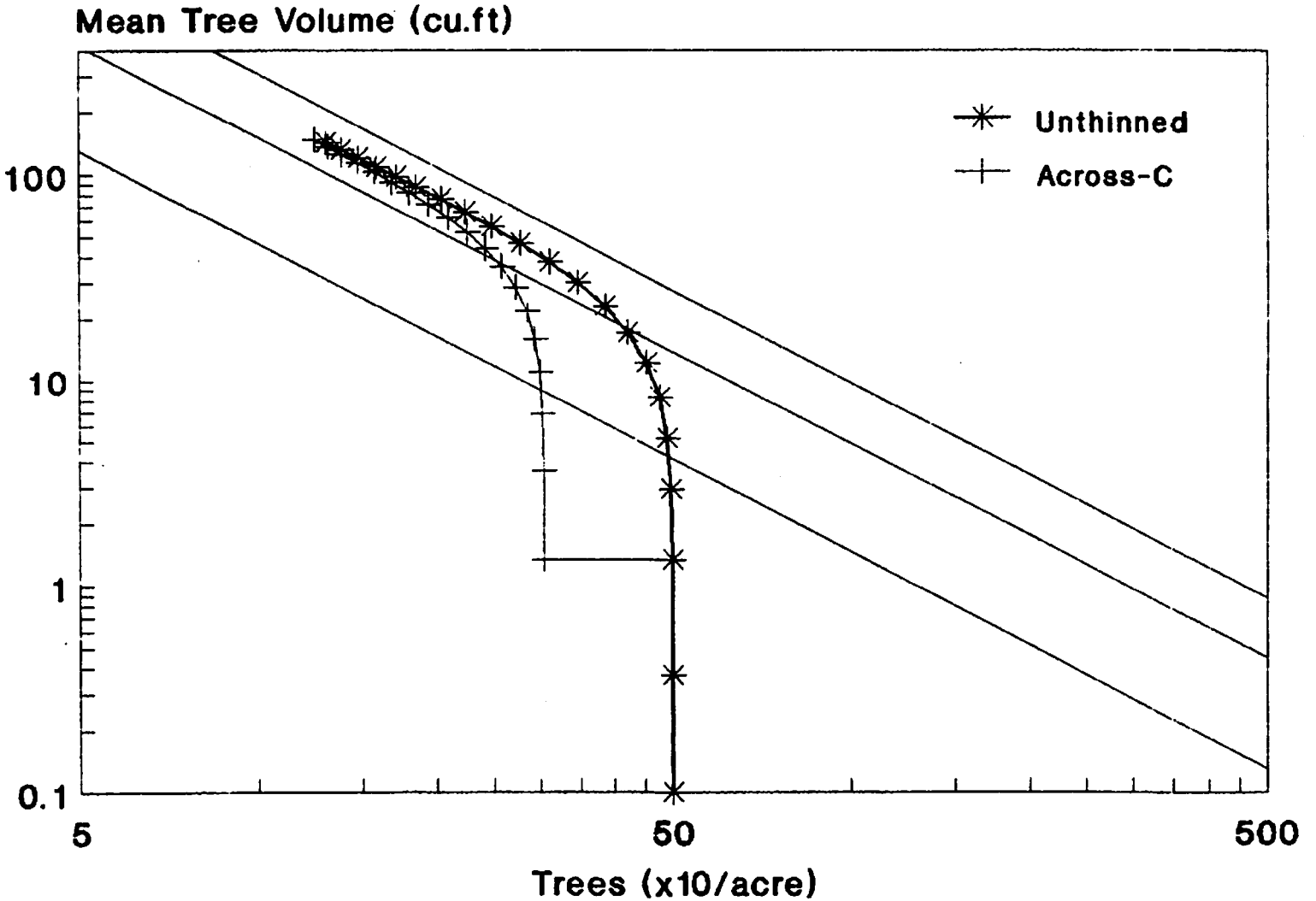
Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime A)



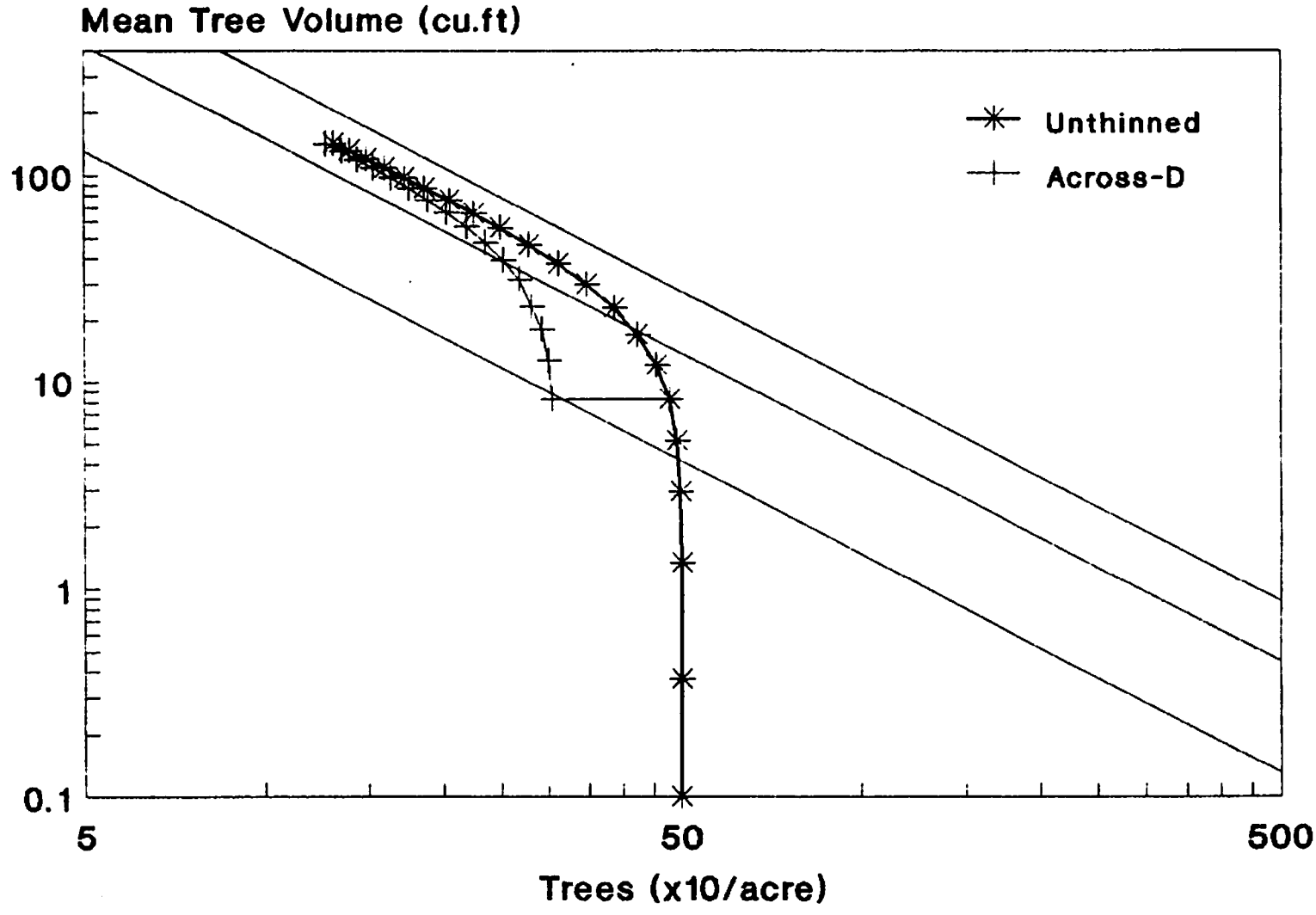
Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime B)



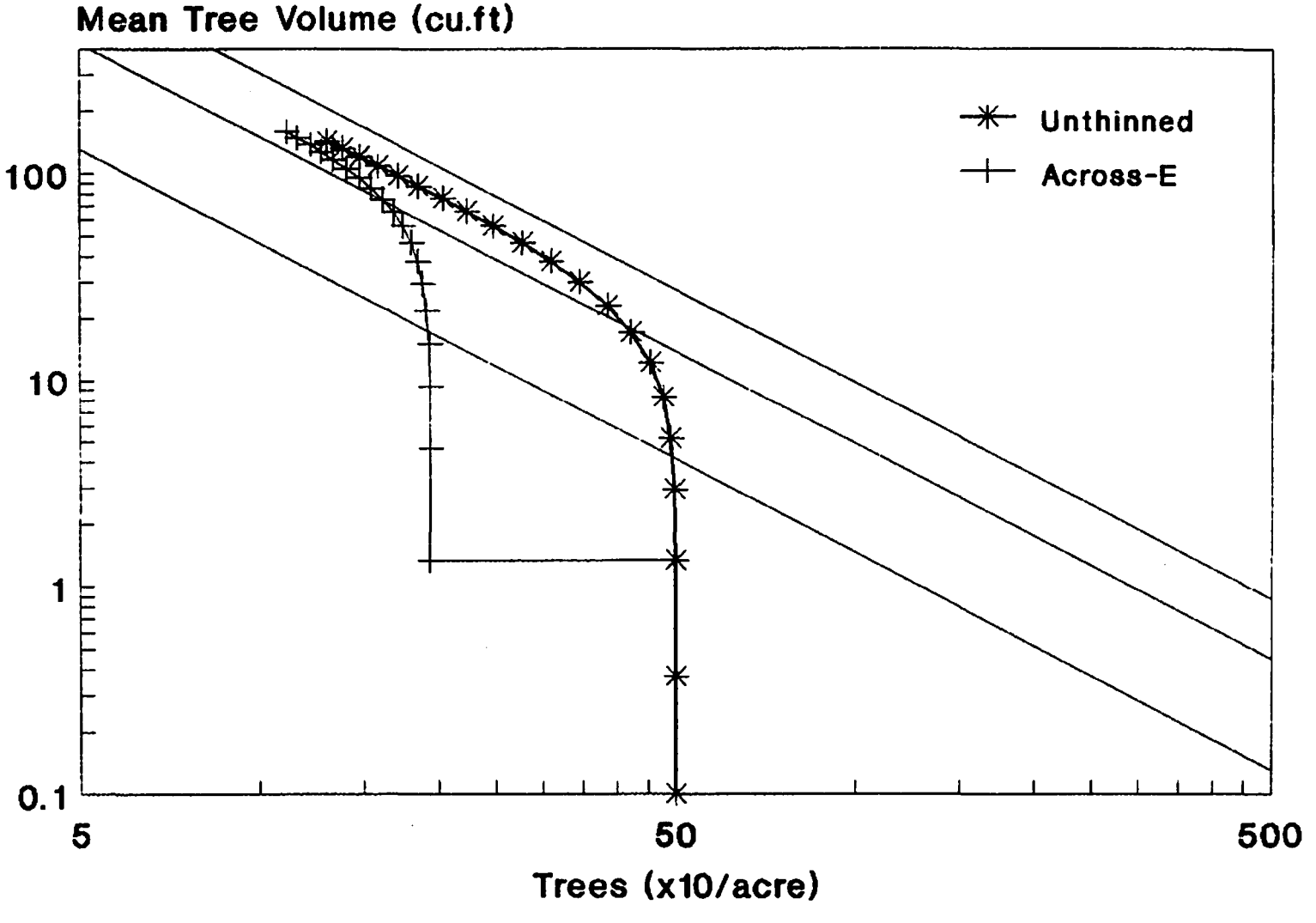
Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime C)



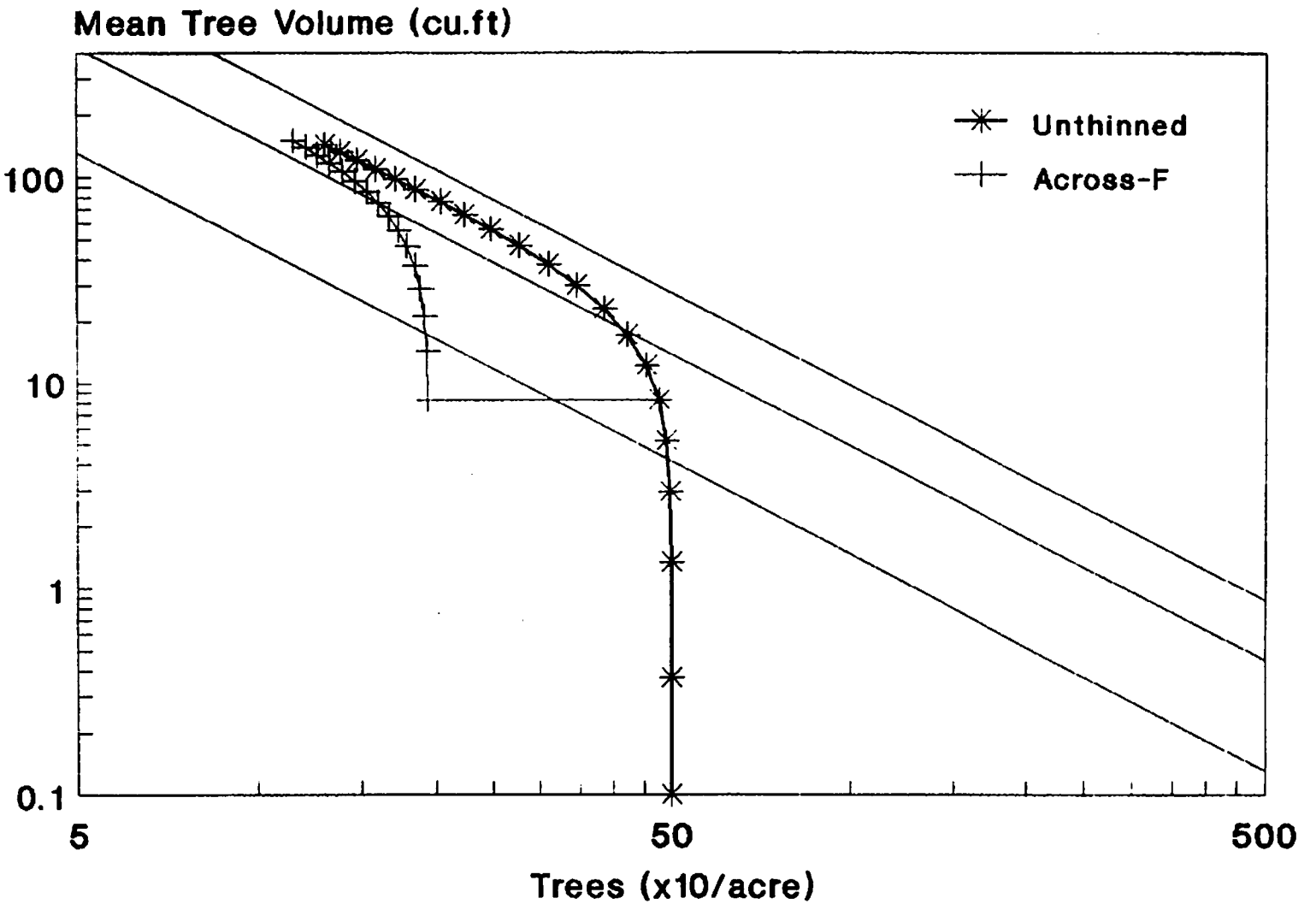
Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime D)



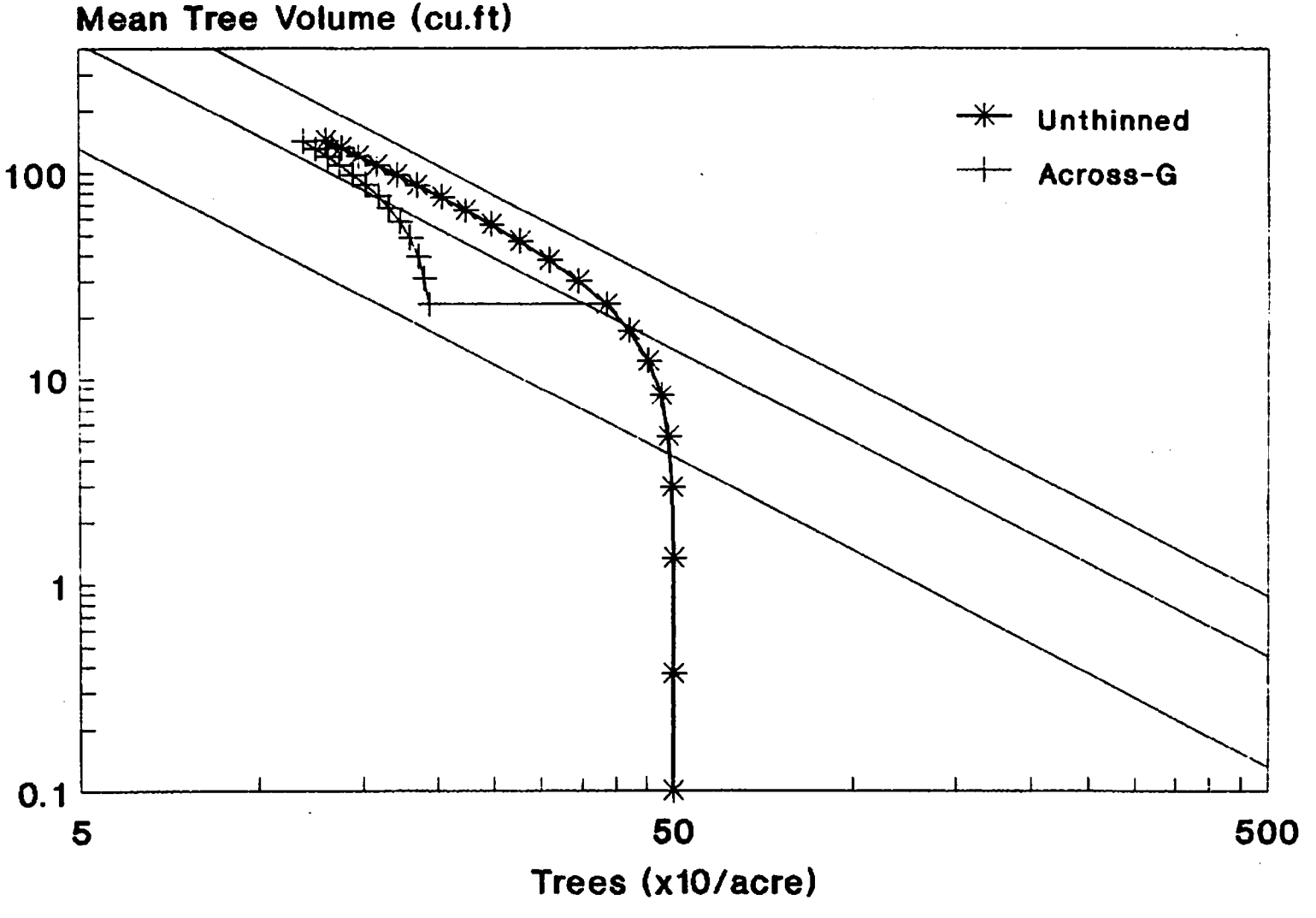
Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime E)



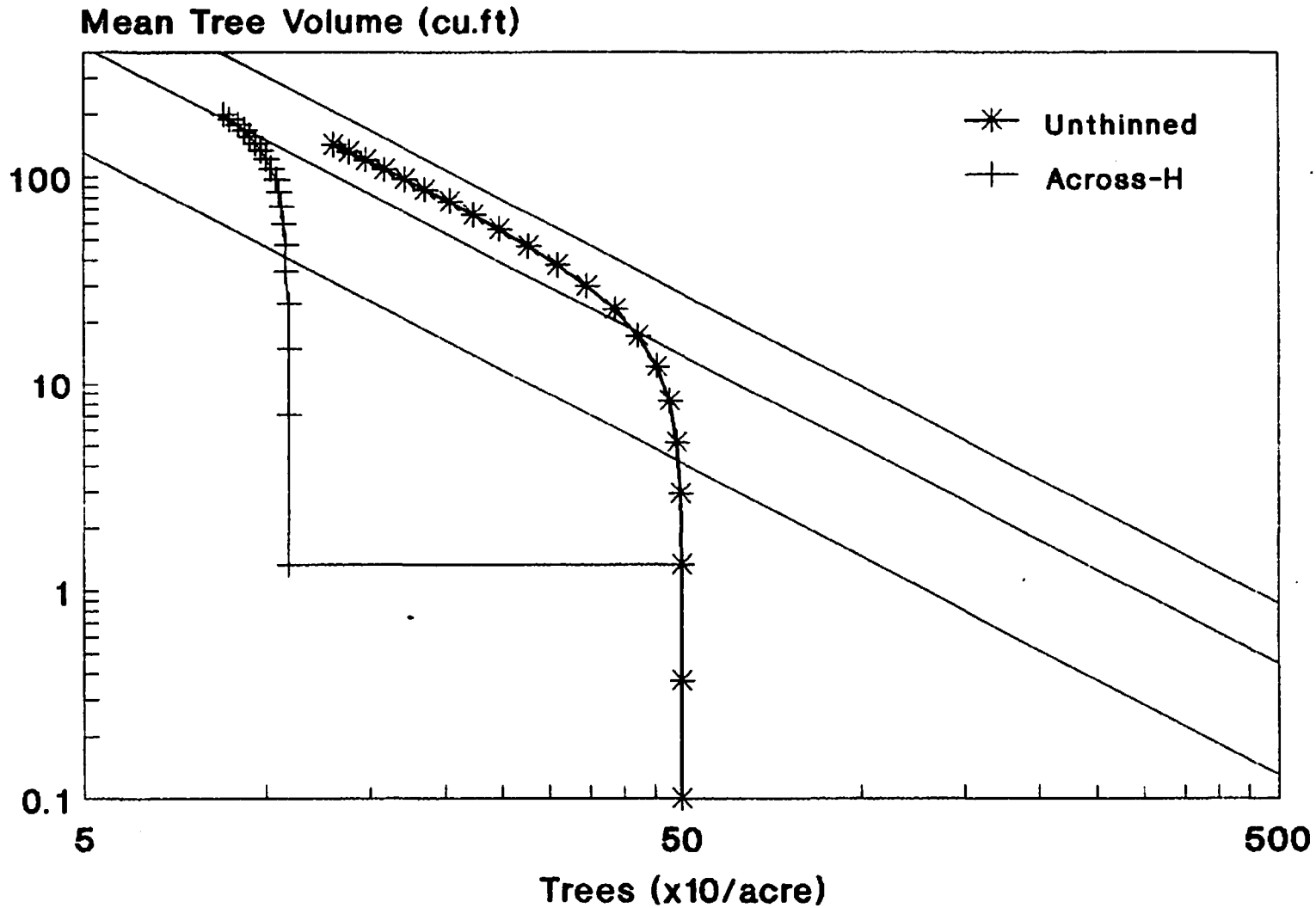
Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime F)



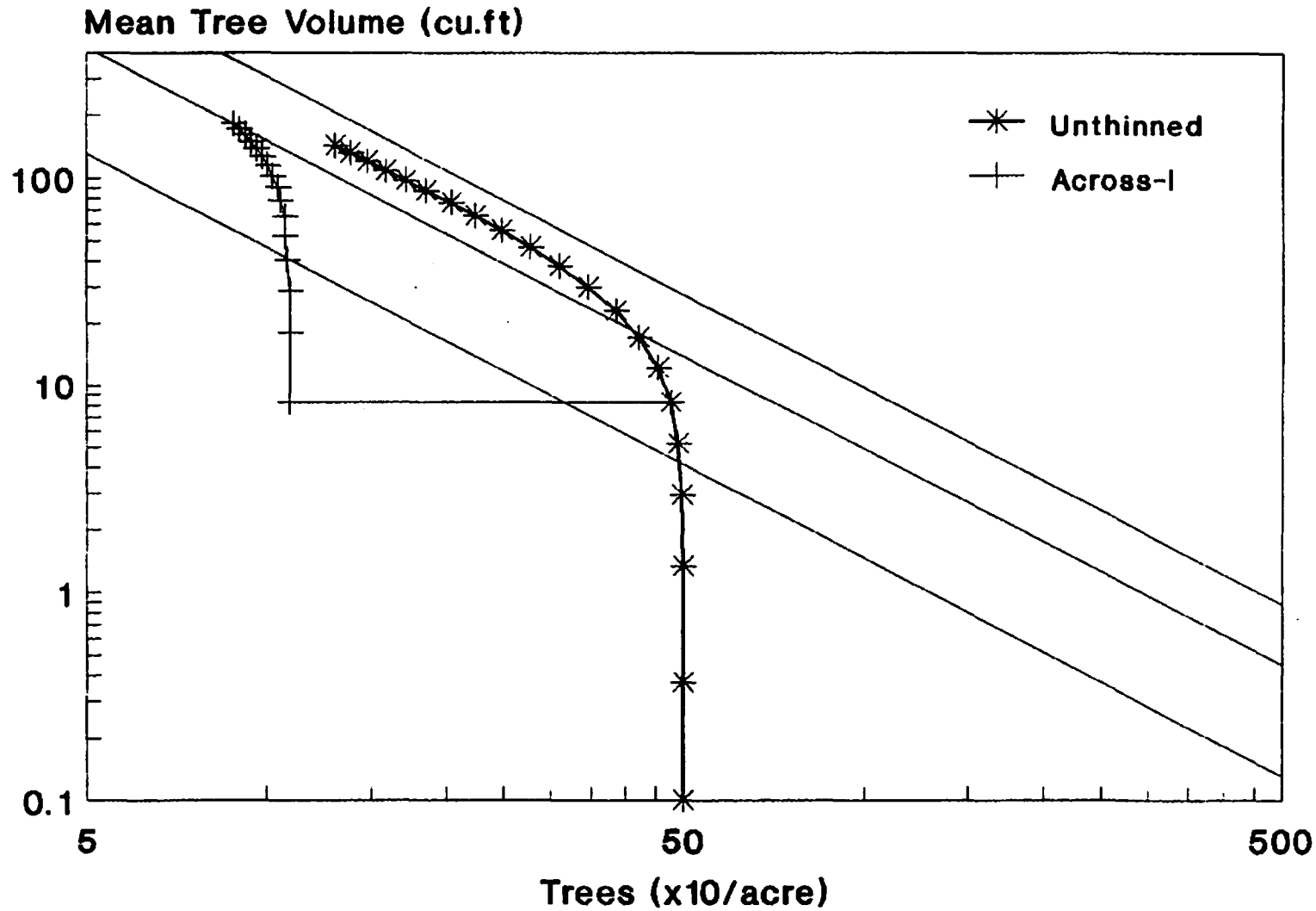
Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime G)



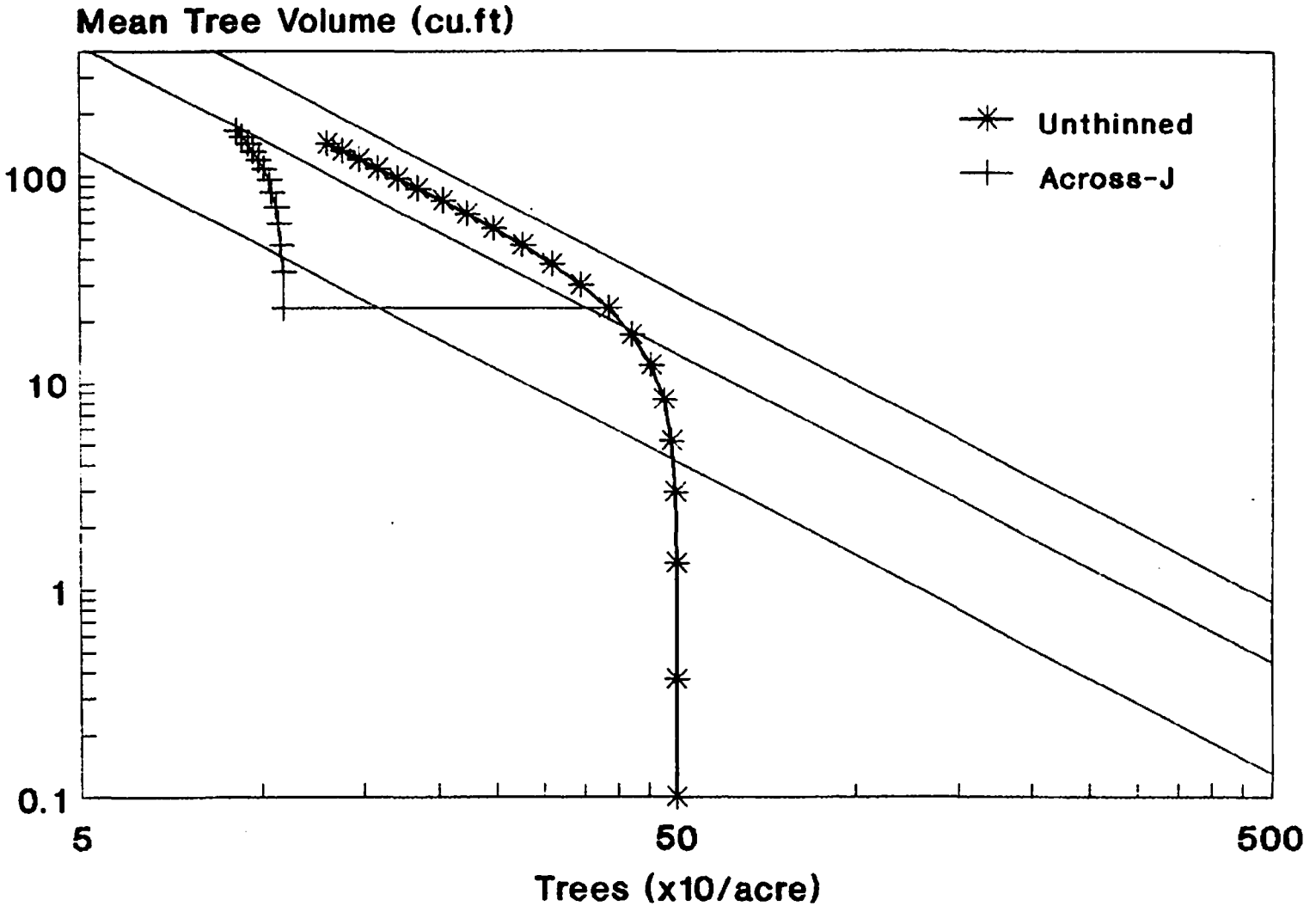
Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime H)



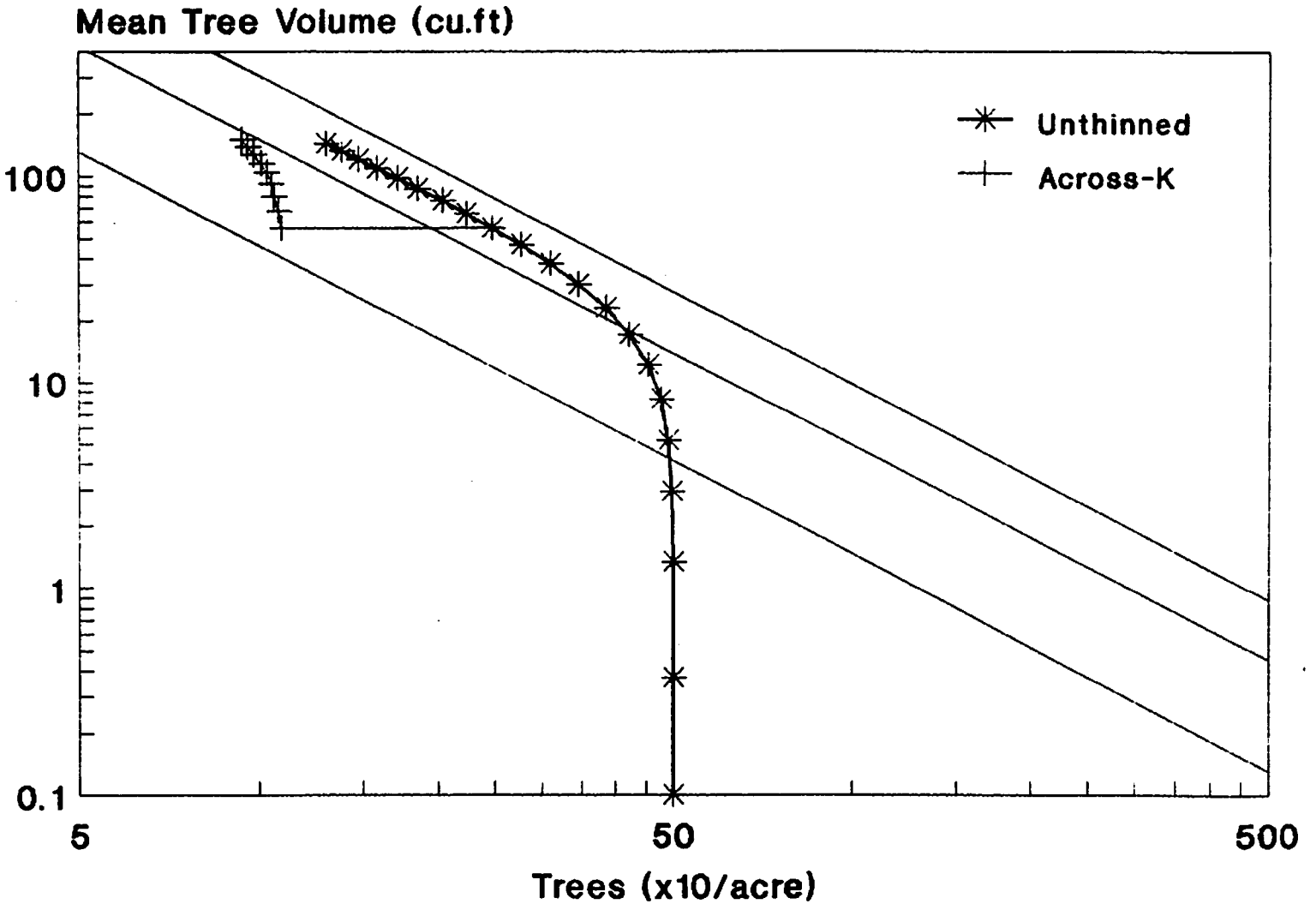
Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime I)



Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime J)



Density Management Diagram for DFSI=95
(Thinning Across Distribution-Regime K)



Yield Tables of Thinning from Below

for DFSI = 95

Notation Used in the Yield Tables:

INST	=	Stand Identification
DFSI	=	Douglas-fir site index (feet)
A	=	Stand age at DBH (year)
TOPH	=	Stand top height (feet)
BA	=	Stand basal area (ft^2/acre)
QMD	=	Quadratic mean tree diameter (inch)
V	=	Stand total volume (ft^3/acre)
VG	=	Total volume increment in 6 yeras (ft^3/care)
MV	=	Stand mean tree volume (ft^3)
N	=	Number of surviving trees per acre
MORT	=	Number of dead trees in 6 years
RD	=	Drew-Flewelling's relative density index

(1) Unthinned Stand (DFSI=95, N=500)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	UNTH	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	UNTH	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	UNTH	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
4	UNTH	95	18	39.3	102.21	6.14	1462.8	793.93	2.94	497	2	0.11
5	UNTH	95	24	51.3	140.71	7.25	2563.2	1100.38	5.23	490	7	0.18
6	UNTH	95	30	62.6	181.29	8.35	3943.6	1380.47	8.28	476	14	0.28
7	UNTH	95	36	72.8	221.90	9.48	5532.8	1589.12	12.21	453	23	0.38
8	UNTH	95	42	82.2	259.60	10.63	7213.3	1680.55	17.12	421	32	0.48
9	UNTH	95	48	90.6	291.83	11.81	8857.0	1643.69	23.07	384	37	0.56
10	UNTH	95	54	98.3	317.52	12.99	10369.1	1512.05	30.03	345	39	0.62
11	UNTH	95	60	105.2	337.00	14.15	11706.5	1337.44	37.93	309	37	0.66
12	UNTH	95	66	111.5	351.38	15.28	12867.1	1160.57	46.65	276	33	0.69
13	UNTH	95	72	117.2	361.91	16.38	13869.2	1002.10	56.05	247	28	0.70
14	UNTH	95	78	122.4	369.64	17.42	14737.1	867.99	66.01	223	24	0.71
15	UNTH	95	84	127.1	375.37	18.42	15494.2	757.05	76.40	203	20	0.71
16	UNTH	95	90	131.4	379.68	19.37	16159.9	665.68	87.14	185	17	0.71
17	UNTH	95	96	135.4	382.98	20.28	16750.0	590.10	98.13	171	15	0.71
18	UNTH	95	102	139.0	385.53	21.15	17277.0	527.01	109.30	158	13	0.70
19	UNTH	95	108	142.4	387.55	21.97	17750.8	473.84	120.60	147	11	0.69
20	UNTH	95	114	145.5	389.16	22.76	18179.4	428.55	131.98	138	9	0.69
21	UNTH	95	120	148.3	390.47	23.51	18569.0	389.62	143.38	130	8	0.68

(2) Thinning from Below: Regime A (Thinned to N=436 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-A	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-A	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	B-A	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	B-A	95	12	26.6	61.75	5.10	623.3	-45.52	1.43	436	64	0.04
5	B-A	95	18	39.3	97.40	6.41	1395.2	771.86	3.21	434	2	0.09
6	B-A	95	24	51.3	135.08	7.59	2462.5	1067.34	5.73	430	5	0.16
7	B-A	95	30	62.6	174.44	8.73	3797.3	1334.76	9.04	420	10	0.25
8	B-A	95	36	72.8	213.82	9.85	5334.8	1537.50	13.21	404	16	0.35
9	B-A	95	42	82.2	250.75	10.99	6972.0	1637.15	18.32	381	23	0.44
10	B-A	95	48	90.6	282.97	12.13	8592.7	1620.77	24.38	352	28	0.52
11	B-A	95	54	98.3	309.27	13.27	10104.7	1511.96	31.39	322	31	0.59
12	B-A	95	60	105.2	329.73	14.40	11458.7	1353.97	39.28	292	30	0.63
13	B-A	95	66	111.5	345.18	15.49	12644.0	1185.35	47.95	264	28	0.66
14	B-A	95	72	117.2	356.69	16.55	13672.8	1028.80	57.29	239	25	0.68
15	B-A	95	78	122.4	365.26	17.57	14566.0	893.15	67.17	217	22	0.69
16	B-A	95	84	127.1	371.69	18.55	15345.2	779.25	77.49	198	19	0.70
17	B-A	95	90	131.4	376.57	19.49	16029.9	684.65	88.15	182	16	0.70
18	B-A	95	96	135.4	380.32	20.38	16635.9	606.06	99.07	168	14	0.70
19	B-A	95	102	139.0	383.24	21.23	17176.3	540.38	110.18	156	12	0.69
20	B-A	95	108	142.4	385.56	22.05	17661.3	485.03	121.42	145	10	0.69
21	B-A	95	114	145.5	387.41	22.82	18099.3	437.96	132.74	136	9	0.68
22	B-A	95	120	148.3	388.92	23.57	18496.8	397.57	144.09	128	8	0.68

(3) Thinning from Below: Regime B (Thinned to N=436 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-B	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-B	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	B-B	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
4	B-B	95	18	39.3	102.21	6.14	1462.8	793.93	2.94	497	2	0.11
5	B-B	95	24	51.3	140.71	7.25	2563.2	1100.38	5.23	490	7	0.18
6	B-B	95	30	62.6	181.29	8.35	3943.6	1380.47	8.28	476	14	0.28
# 7	B-B	95	30	62.6	170.37	8.46	3710.4	-233.29	8.51	436	40	0.25
8	B-B	95	36	72.8	210.44	9.60	5252.0	1541.61	12.55	418	18	0.35
9	B-B	95	42	82.2	248.16	10.75	6901.1	1649.15	17.53	394	25	0.44
10	B-B	95	48	90.6	281.12	11.91	8537.8	1636.66	23.50	363	30	0.53
11	B-B	95	54	98.3	308.04	13.07	10065.2	1527.39	30.45	331	33	0.59
12	B-B	95	60	105.2	328.94	14.22	11431.6	1366.43	38.30	298	32	0.64
13	B-B	95	66	111.5	344.68	15.33	12625.9	1194.35	46.96	269	30	0.67
14	B-B	95	72	117.2	356.37	16.41	13660.9	1034.91	56.30	243	26	0.69
15	B-B	95	78	122.4	365.06	17.45	14558.0	897.17	66.19	220	23	0.70
16	B-B	95	84	127.1	371.56	18.44	15339.9	781.87	76.53	200	19	0.70
17	B-B	95	90	131.4	376.48	19.38	16026.3	686.36	87.22	184	17	0.70
18	B-B	95	96	135.4	380.26	20.28	16633.4	607.19	98.16	169	14	0.70
19	B-B	95	102	139.0	383.21	21.15	17174.6	541.13	109.30	157	12	0.69
20	B-B	95	108	142.4	385.53	21.97	17660.1	485.54	120.56	146	11	0.69
21	B-B	95	114	145.5	387.40	22.75	18098.4	438.31	131.90	137	9	0.68
22	B-B	95	120	148.3	388.91	23.50	18496.3	397.82	143.28	129	8	0.68

(4) Thinning from Below: Regime C (Thinned to N=303 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-C	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-C	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	B-C	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	B-C	95	12	26.6	61.73	6.11	623.1	-45.75	2.06	303	197	0.04
5	B-C	95	18	39.3	96.28	7.64	1379.5	756.35	4.56	302	1	0.08
6	B-C	95	24	51.3	131.83	8.97	2404.3	1024.87	8.00	301	2	0.13
7	B-C	95	30	62.6	168.07	10.19	3661.2	1256.92	12.34	297	4	0.20
8	B-C	95	36	72.8	203.90	11.35	5091.8	1430.55	17.54	290	7	0.28
9	B-C	95	42	82.2	237.72	12.46	6616.1	1524.33	23.57	281	10	0.36
10	B-C	95	48	90.6	268.01	13.54	8146.7	1530.57	30.37	268	12	0.43
11	B-C	95	54	98.3	293.80	14.58	9608.2	1461.55	37.90	254	15	0.49
12	B-C	95	60	105.2	314.88	15.59	10951.6	1343.40	46.09	238	16	0.54
13	B-C	95	66	111.5	331.60	16.57	12155.5	1203.87	54.88	222	16	0.58
14	B-C	95	72	117.2	344.64	17.52	13219.2	1063.68	64.19	206	16	0.61
15	B-C	95	78	122.4	354.74	18.44	14153.7	934.52	73.97	191	15	0.63
16	B-C	95	84	127.1	362.55	19.32	14974.8	821.03	84.12	178	13	0.64
17	B-C	95	90	131.4	368.64	20.18	15698.4	723.69	94.58	166	12	0.65
18	B-C	95	96	135.4	373.42	21.00	16339.5	641.09	105.28	155	11	0.66
19	B-C	95	102	139.0	377.21	21.80	16910.7	571.13	116.17	146	10	0.66
20	B-C	95	108	142.4	380.25	22.56	17422.4	511.74	127.18	137	9	0.66
21	B-C	95	114	145.5	382.71	23.29	17883.4	461.06	138.27	129	8	0.66
22	B-C	95	120	148.3	384.73	24.00	18301.0	417.53	149.41	122	7	0.65

(5) Thinning from Below: Regime D (Thinned to N=303 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-D	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-D	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	B-D	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
4	B-D	95	18	39.3	102.21	6.14	1462.8	793.93	2.94	497	2	0.11
5	B-D	95	24	51.3	140.71	7.25	2563.2	1100.38	5.23	490	7	0.18
6	B-D	95	30	62.6	181.29	8.35	3943.6	1380.47	8.28	476	14	0.28
# 7	B-D	95	30	62.6	160.04	9.84	3489.4	-454.22	11.52	303	173	0.20
8	B-D	95	36	72.8	196.52	11.02	4910.8	1421.38	16.57	296	7	0.27
9	B-D	95	42	82.2	231.16	12.16	6436.8	1526.00	22.45	287	10	0.35
10	B-D	95	48	90.6	262.38	13.25	7978.7	1541.87	29.14	274	13	0.43
11	B-D	95	54	98.3	289.12	14.32	9457.8	1479.13	36.57	259	15	0.49
12	B-D	95	60	105.2	311.06	15.35	10821.2	1363.39	44.68	242	16	0.54
13	B-D	95	66	111.5	328.52	16.35	12044.5	1223.31	53.42	225	17	0.58
14	B-D	95	72	117.2	342.15	17.31	13125.5	1080.97	62.71	209	16	0.61
15	B-D	95	78	122.4	352.72	18.25	14074.6	949.13	72.47	194	15	0.63
16	B-D	95	84	127.1	360.90	19.15	14907.6	833.03	82.63	180	14	0.65
17	B-D	95	90	131.4	367.27	20.02	15641.1	733.43	93.09	168	12	0.65
18	B-D	95	96	135.4	372.27	20.86	16290.0	648.97	103.81	157	11	0.66
19	B-D	95	102	139.0	376.23	21.66	16867.6	577.53	114.72	147	10	0.66
20	B-D	95	108	142.4	379.40	22.43	17384.5	516.96	125.75	138	9	0.66
21	B-D	95	114	145.5	381.98	23.17	17849.9	465.36	136.87	130	8	0.66
22	B-D	95	120	148.3	384.08	23.89	18271.0	421.10	148.03	123	7	0.66

(6) Thinning from Below: Regime E (Thinned to N=194 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-E	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-E	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	B-E	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	B-E	95	12	26.6	54.99	7.21	556.2	-112.63	2.87	194	306	0.03
5	B-E	95	18	39.3	89.10	9.18	1278.3	722.12	6.60	194	0	0.06
6	B-E	95	24	51.3	122.99	10.80	2245.9	967.60	11.62	193	1	0.10
7	B-E	95	30	62.6	156.59	12.22	3415.5	1169.59	17.77	192	1	0.15
8	B-E	95	36	72.8	189.27	13.51	4732.9	1317.34	24.87	190	2	0.21
9	B-E	95	42	82.2	220.12	14.68	6134.7	1401.86	32.75	187	3	0.27
10	B-E	95	48	90.6	248.23	15.76	7556.1	1421.38	41.23	183	4	0.33
11	B-E	95	54	98.3	273.00	16.76	8939.8	1383.67	50.17	178	5	0.39
12	B-E	95	60	105.2	294.15	17.70	10243.6	1303.79	59.48	172	6	0.43
13	B-E	95	66	111.5	311.80	18.58	11442.7	1199.09	69.07	166	7	0.48
14	B-E	95	72	117.2	326.28	19.41	12527.5	1084.79	78.92	159	7	0.51
15	B-E	95	78	122.4	338.03	20.21	13499.2	971.72	88.98	152	7	0.54
16	B-E	95	84	127.1	347.53	20.98	14365.4	866.27	99.23	145	7	0.56
17	B-E	95	90	131.4	355.21	21.72	15136.8	771.37	109.64	138	7	0.57
18	B-E	95	96	135.4	361.43	22.43	15824.6	687.77	120.18	132	6	0.59
19	B-E	95	102	139.0	366.51	23.13	16439.5	614.94	130.83	126	6	0.59
20	B-E	95	108	142.4	370.67	23.79	16991.4	551.84	141.54	120	6	0.60
21	B-E	95	114	145.5	374.10	24.44	17488.6	497.22	152.31	115	5	0.60
22	B-E	95	120	148.3	376.96	25.07	17938.5	449.87	163.09	110	5	0.61

(7) Thinning from Below: Regime F (Thinned to N=194 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-F	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-F	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	B-F	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
4	B-F	95	18	39.3	102.21	6.14	1462.8	793.93	2.94	497	2	0.11
5	B-F	95	24	51.3	140.71	7.25	2563.2	1100.38	5.23	490	7	0.18
6	B-F	95	30	62.6	181.29	8.35	3943.6	1380.47	8.28	476	14	0.28
# 7	B-F	95	30	62.6	142.56	11.61	3114.9	-828.73	16.06	194	282	0.14
8	B-F	95	36	72.8	176.12	12.96	4409.9	1294.99	22.95	192	2	0.20
9	B-F	95	42	82.2	207.98	14.19	5802.5	1392.64	30.65	189	3	0.26
10	B-F	95	48	90.6	237.25	15.32	7227.8	1425.30	38.99	185	4	0.32
11	B-F	95	54	98.3	263.25	16.36	8626.5	1398.64	47.83	180	5	0.37
12	B-F	95	60	105.2	285.65	17.33	9952.8	1326.32	57.06	174	6	0.42
13	B-F	95	66	111.5	304.47	18.24	11178.3	1225.52	66.61	168	7	0.47
14	B-F	95	72	117.2	319.99	19.10	12290.4	1112.09	76.42	161	7	0.50
15	B-F	95	78	122.4	332.65	19.92	13288.3	997.86	86.47	154	7	0.53
16	B-F	95	84	127.1	342.92	20.71	14178.4	890.13	96.71	147	7	0.55
17	B-F	95	90	131.4	351.25	21.47	14970.9	792.52	107.13	140	7	0.57
18	B-F	95	96	135.4	358.00	22.20	15677.1	706.18	117.68	133	7	0.58
19	B-F	95	102	139.0	363.52	22.90	16307.9	630.81	128.35	127	6	0.59
20	B-F	95	108	142.4	368.04	23.58	16873.4	565.46	139.09	121	6	0.60
21	B-F	95	114	145.5	371.79	24.24	17382.3	508.91	149.87	116	5	0.60
22	B-F	95	120	148.3	374.90	24.88	17842.2	459.92	160.68	111	5	0.61

(8) Thinning from Below: Regime G (Thinned to N=194 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-G	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-G	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	B-G	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	B-G	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	B-G	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	B-G	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
7	B-G	95	36	72.8	221.90	9.48	5532.8	1589.1	12.21	453	23	0.38
8	B-G	95	42	82.2	259.60	10.63	7213.3	1680.5	17.12	421	32	0.48
9	B-G	95	48	90.6	291.83	11.81	8857.0	1643.7	23.07	384	37	0.56
#10	B-G	95	48	90.6	203.93	13.88	6229.8	-2627.2	32.11	194	190	0.28
11	B-G	95	54	98.3	233.30	15.04	7661.8	1432.0	40.52	189	5	0.34
12	B-G	95	60	105.2	259.22	16.11	9047.9	1386.1	49.42	183	6	0.40
13	B-G	95	66	111.5	281.47	17.11	10348.8	1300.9	58.72	176	7	0.44
14	B-G	95	72	117.2	300.16	18.05	11542.2	1193.3	68.36	169	7	0.48
15	B-G	95	78	122.4	315.62	18.95	12619.9	1077.8	78.30	161	8	0.52
16	B-G	95	84	127.1	328.29	19.80	13584.3	964.4	88.48	154	8	0.54
17	B-G	95	90	131.4	338.64	20.62	14443.4	859.1	98.87	146	7	0.56
18	B-G	95	96	135.4	347.09	21.40	15207.9	764.5	109.44	139	7	0.58
19	B-G	95	102	139.0	354.01	22.15	15889.3	681.4	120.13	132	7	0.59
20	B-G	95	108	142.4	359.71	22.88	16498.3	609.0	130.93	126	6	0.60
21	B-G	95	114	145.5	364.43	23.58	17044.6	546.3	141.79	120	6	0.60
22	B-G	95	120	148.3	368.36	24.25	17536.6	492.0	152.68	115	5	0.61

(9) Thinning from Below: Regime H (Thinned to N=109 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-H	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-H	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	B-H	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	B-H	95	12	26.6	58.76	9.94	593.7	-75.20	5.45	109	391	0.02
5	B-H	95	18	39.3	91.48	12.41	1311.9	718.25	12.04	109	0	0.04
6	B-H	95	24	51.3	123.23	14.41	2250.2	938.30	20.67	109	0	0.08
7	B-H	95	30	62.6	153.88	16.12	3357.5	1107.28	30.91	109	0	0.11
8	B-H	95	36	72.8	183.06	17.61	4580.3	1222.81	42.32	108	0	0.15
9	B-H	95	42	82.2	210.28	18.93	5865.5	1285.19	54.49	108	1	0.20
10	B-H	95	48	90.6	235.12	20.09	7164.2	1298.69	67.08	107	1	0.24
11	B-H	95	54	98.3	257.32	21.13	8435.6	1271.40	79.80	106	1	0.28
12	B-H	95	60	105.2	276.78	22.05	9649.4	1213.78	92.45	104	1	0.32
13	B-H	95	66	111.5	293.58	22.88	10786.0	1136.63	104.90	103	2	0.35
14	B-H	95	72	117.2	307.93	23.63	11835.4	1049.43	117.10	101	2	0.38
15	B-H	95	78	122.4	320.08	24.33	12794.9	959.48	129.02	99	2	0.41
16	B-H	95	84	127.1	330.32	24.97	13666.7	871.79	140.67	97	2	0.43
17	B-H	95	90	131.4	338.94	25.57	14456.1	789.38	152.08	95	2	0.45
18	B-H	95	96	135.4	346.21	26.14	15169.8	713.78	163.26	93	2	0.47
19	B-H	95	102	139.0	352.34	26.68	15815.4	645.52	174.25	91	2	0.49
20	B-H	95	108	142.4	357.53	27.20	16399.9	584.50	185.06	89	2	0.50
21	B-H	95	114	145.5	361.94	27.70	16930.1	530.26	195.71	87	2	0.51
22	B-H	95	120	148.3	365.71	28.18	17412.3	482.21	206.21	84	2	0.52

(10) Thinning from Below: Regime I (Thinned to N=109 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-I	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-I	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	B-I	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
4	B-I	95	18	39.3	102.21	6.14	1462.8	793.93	2.94	497	2	0.11
5	B-I	95	24	51.3	140.71	7.25	2563.2	1100.38	5.23	490	7	0.18
6	B-I	95	30	62.6	181.29	8.35	3943.6	1380.47	8.28	476	14	0.28
# 7	B-I	95	30	62.6	152.34	16.01	3324.5	-619.17	30.50	109	367	0.11
8	B-I	95	36	72.8	181.64	17.51	4545.5	1221.06	41.85	109	0	0.15
9	B-I	95	42	82.2	208.99	18.84	5830.3	1284.71	53.98	108	1	0.20
10	B-I	95	48	90.6	233.97	20.01	7129.6	1299.31	66.53	107	1	0.24
11	B-I	95	54	98.3	256.29	21.05	8402.5	1272.89	79.22	106	1	0.28
12	B-I	95	60	105.2	275.87	21.98	9618.3	1215.87	91.84	105	1	0.32
13	B-I	95	66	111.5	292.79	22.81	10757.4	1139.04	104.28	103	2	0.35
14	B-I	95	72	117.2	307.24	23.57	11809.3	1051.94	116.46	101	2	0.38
15	B-I	95	78	122.4	319.47	24.26	12771.3	961.95	128.37	99	2	0.41
16	B-I	95	84	127.1	329.80	24.91	13645.4	874.11	140.02	97	2	0.43
17	B-I	95	90	131.4	338.49	25.51	14436.9	791.49	151.42	95	2	0.45
18	B-I	95	96	135.4	345.80	26.08	15152.5	715.68	162.61	93	2	0.47
19	B-I	95	102	139.0	351.98	26.63	15799.7	647.20	173.60	91	2	0.49
20	B-I	95	108	142.4	357.21	27.15	16385.7	585.98	184.41	89	2	0.50
21	B-I	95	114	145.5	361.66	27.65	16917.3	531.56	195.06	87	2	0.51
22	B-I	95	120	148.3	365.45	28.14	17400.6	483.35	205.57	85	2	0.52

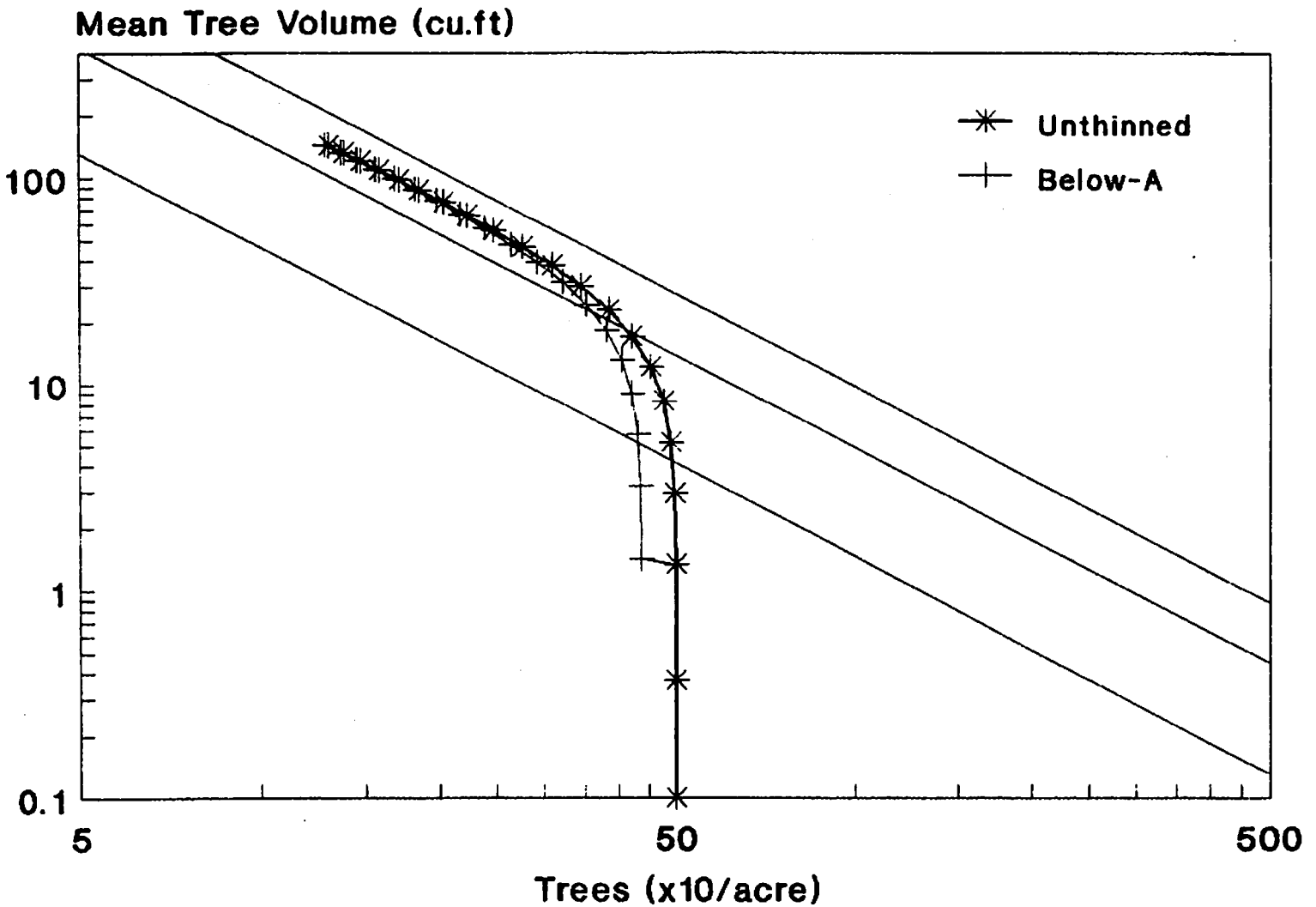
(11) Thinning from Below: Regime J (Thinned to N=109 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-J	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-J	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	B-J	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	B-J	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	B-J	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	B-J	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
7	B-J	95	36	72.8	221.90	9.48	5532.8	1589.1	12.21	453	23	0.38
8	B-J	95	42	82.2	259.60	10.63	7213.3	1680.5	17.12	421	32	0.48
9	B-J	95	48	90.6	291.83	11.81	8857.0	1643.7	23.07	384	37	0.56
#10	B-J	95	48	90.6	217.91	19.15	6649.0	-2208.0	61.00	109	275	0.22
11	B-J	95	54	98.3	241.77	20.27	7934.8	1285.8	73.52	108	1	0.27
12	B-J	95	60	105.2	262.85	21.26	9172.5	1237.7	86.05	107	1	0.31
13	B-J	95	66	111.5	281.20	22.16	10339.2	1166.7	98.44	105	2	0.34
14	B-J	95	72	117.2	296.96	22.96	11421.6	1082.5	110.63	103	2	0.37
15	B-J	95	78	122.4	310.39	23.70	12414.8	993.2	122.57	101	2	0.40
16	B-J	95	84	127.1	321.77	24.39	13319.3	904.5	134.26	99	2	0.43
17	B-J	95	90	131.4	331.38	25.02	14139.3	820.0	145.72	97	2	0.45
18	B-J	95	96	135.4	339.50	25.62	14881.3	741.9	156.96	95	2	0.47
19	B-J	95	102	139.0	346.37	26.19	15552.2	671.0	168.02	93	2	0.48
20	B-J	95	108	142.4	352.19	26.74	16159.5	607.3	178.90	90	2	0.50
21	B-J	95	114	145.5	357.15	27.26	16710.1	550.6	189.62	88	2	0.51
22	B-J	95	120	148.3	361.38	27.76	17210.4	500.3	200.20	86	2	0.51

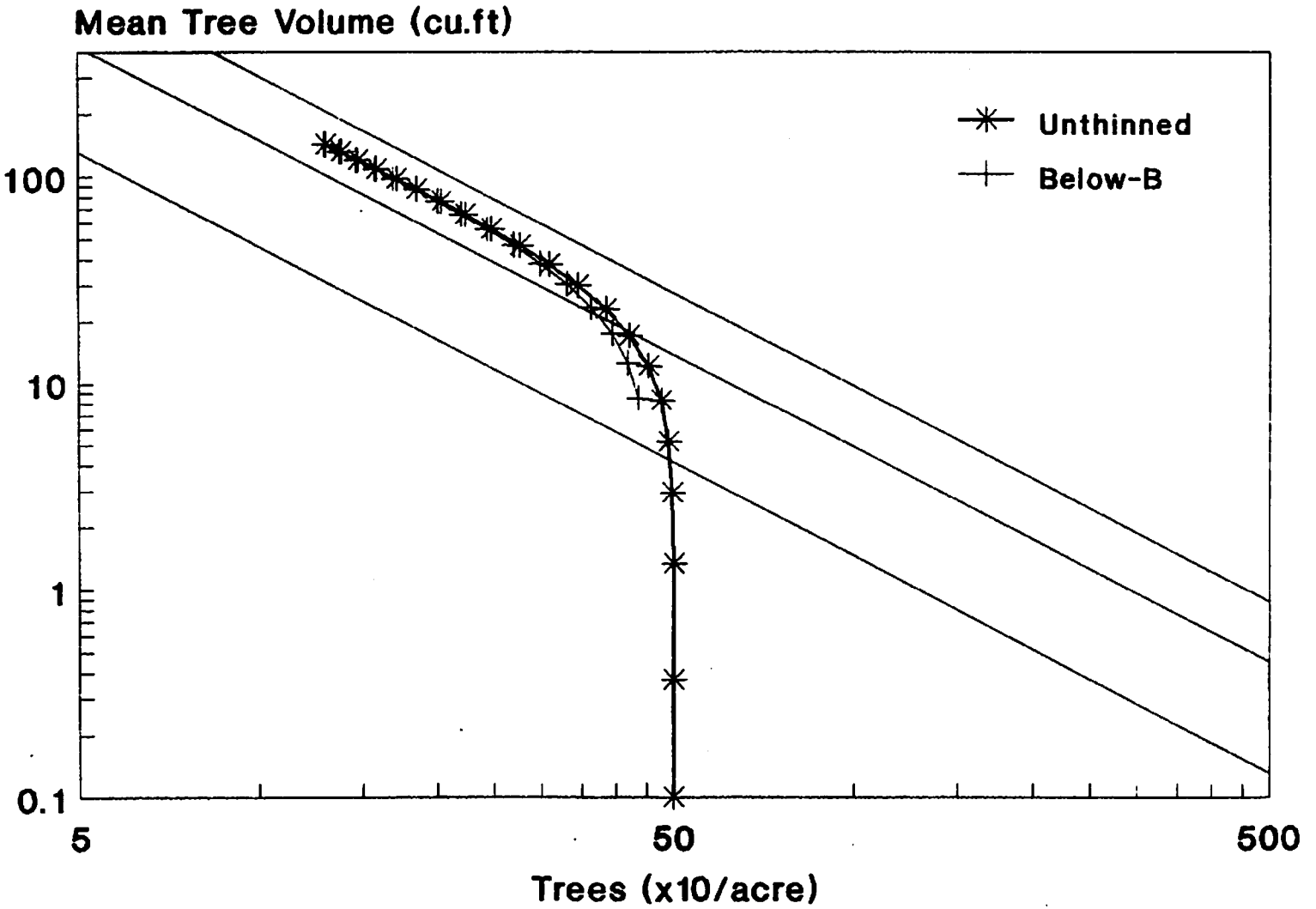
(12) Thinning from Below: Regime K (Thinned to N=109 at Year 72)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-K	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-K	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	B-K	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	B-K	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	B-K	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	B-K	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
7	B-K	95	36	72.8	221.90	9.48	5532.8	1589.1	12.21	453	23	0.38
8	B-K	95	42	82.2	259.60	10.63	7213.3	1680.5	17.12	421	32	0.48
9	B-K	95	48	90.6	291.83	11.81	8857.0	1643.7	23.07	384	37	0.56
10	B-K	95	54	98.3	317.52	12.99	10369.1	1512.0	30.03	345	39	0.62
11	B-K	95	60	105.2	337.00	14.15	11706.5	1337.4	37.93	309	37	0.66
12	B-K	95	66	111.5	351.38	15.28	12867.1	1160.6	46.65	276	33	0.69
13	B-K	95	72	117.2	361.91	16.38	13869.2	1002.1	56.05	247	28	0.70
#14	B-K	95	72	117.2	214.81	19.01	8311.2	-5557.9	76.25	109	138	0.28
15	B-K	95	78	122.4	235.90	20.07	9482.8	1171.5	88.35	107	2	0.32
16	B-K	95	84	127.1	254.46	21.04	10578.5	1095.7	100.33	105	2	0.35
17	B-K	95	90	131.4	270.68	21.91	11592.3	1013.8	112.15	103	2	0.38
18	B-K	95	96	135.4	284.78	22.72	12522.9	930.7	123.79	101	2	0.41
19	B-K	95	102	139.0	296.99	23.47	13372.9	850.0	135.26	99	2	0.43
20	B-K	95	108	142.4	307.56	24.17	14146.8	773.9	146.56	97	2	0.45
21	B-K	95	114	145.5	316.70	24.83	14850.5	703.7	157.70	94	2	0.47
22	B-K	95	120	148.3	324.63	25.46	15490.3	639.8	168.69	92	2	0.48

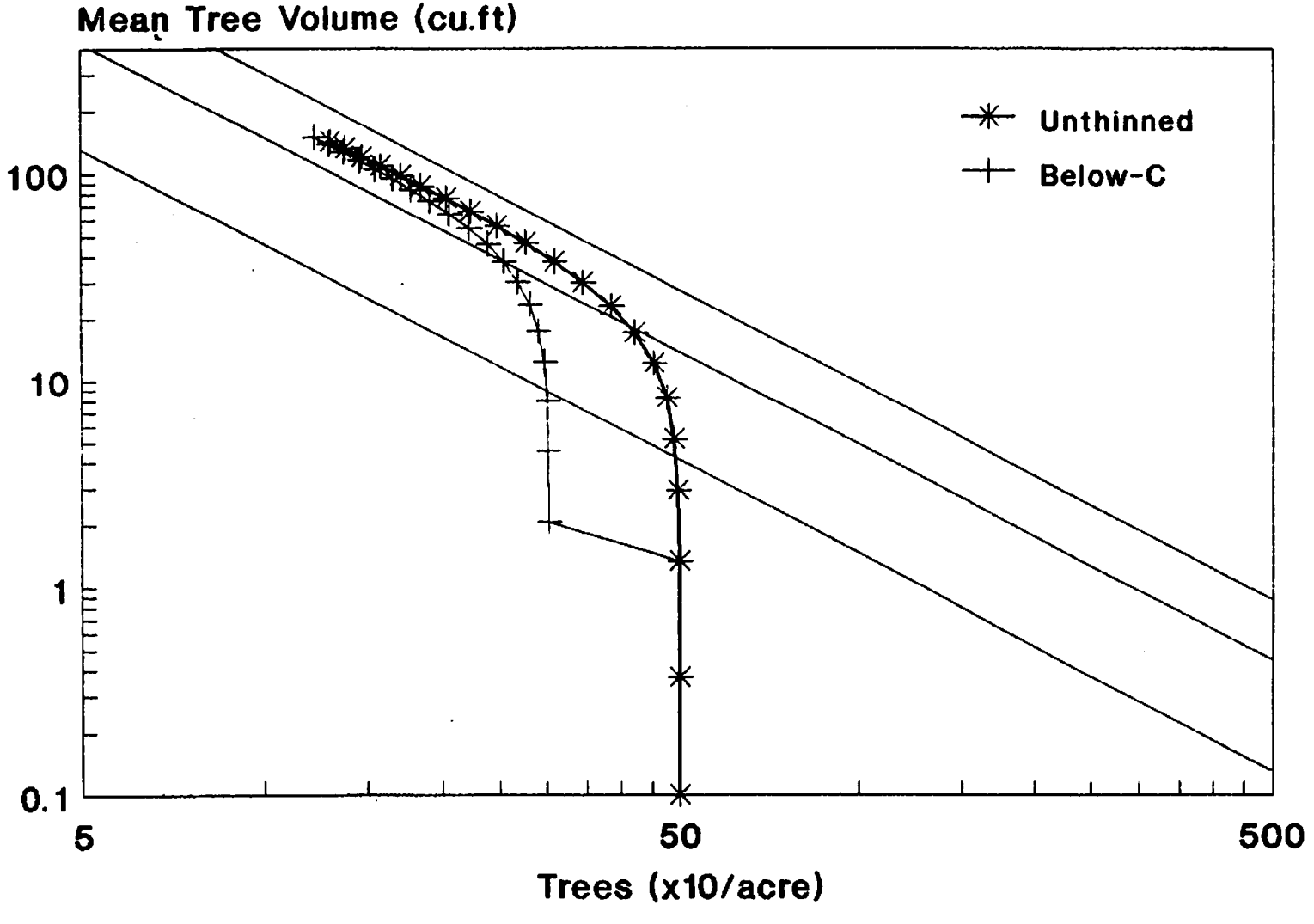
Density Management Diagram for DFSI=95
(Thinning from Below-Regime A)



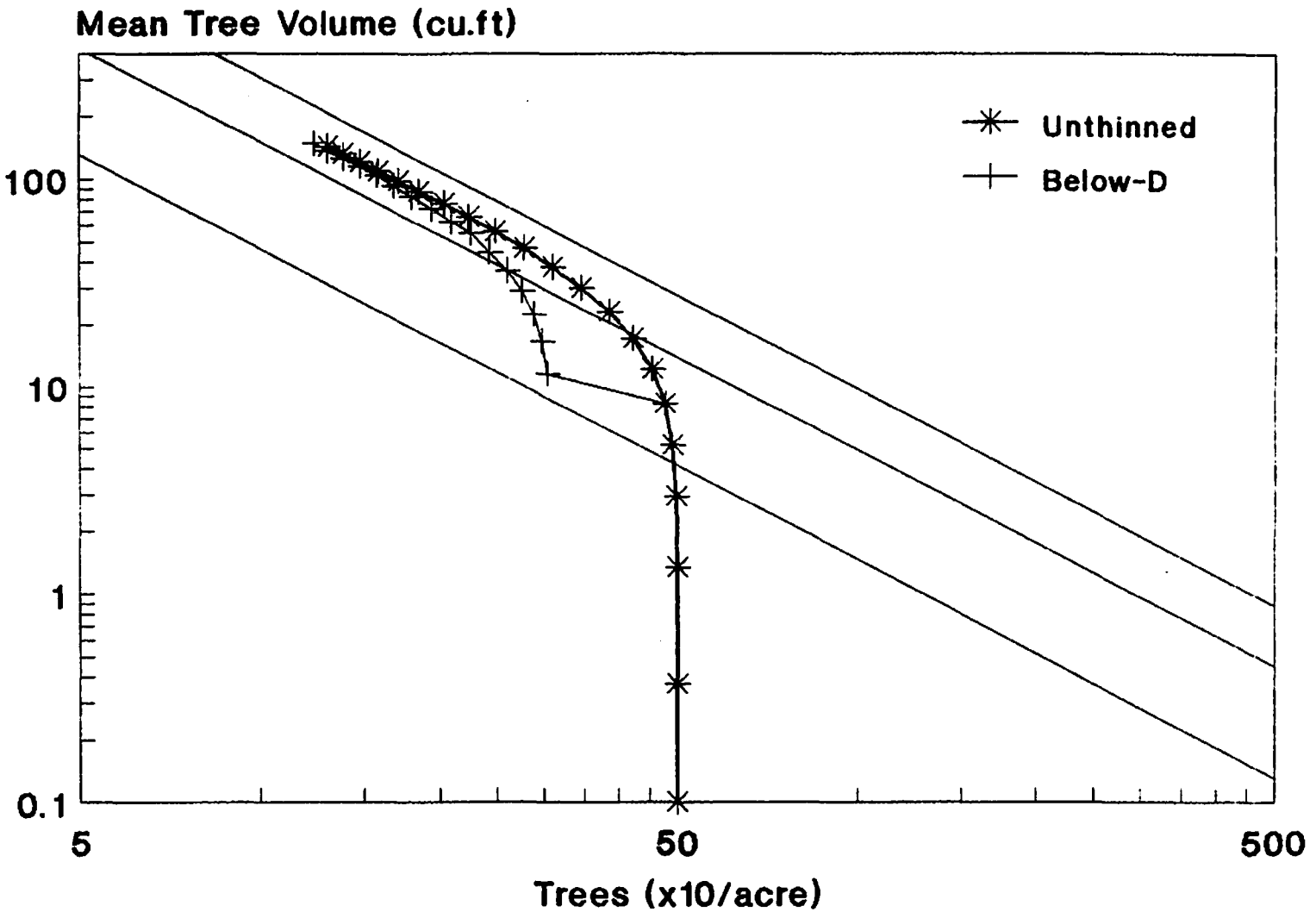
Density Management Diagram for DFSI=95
(Thinning from Below-Regime B)



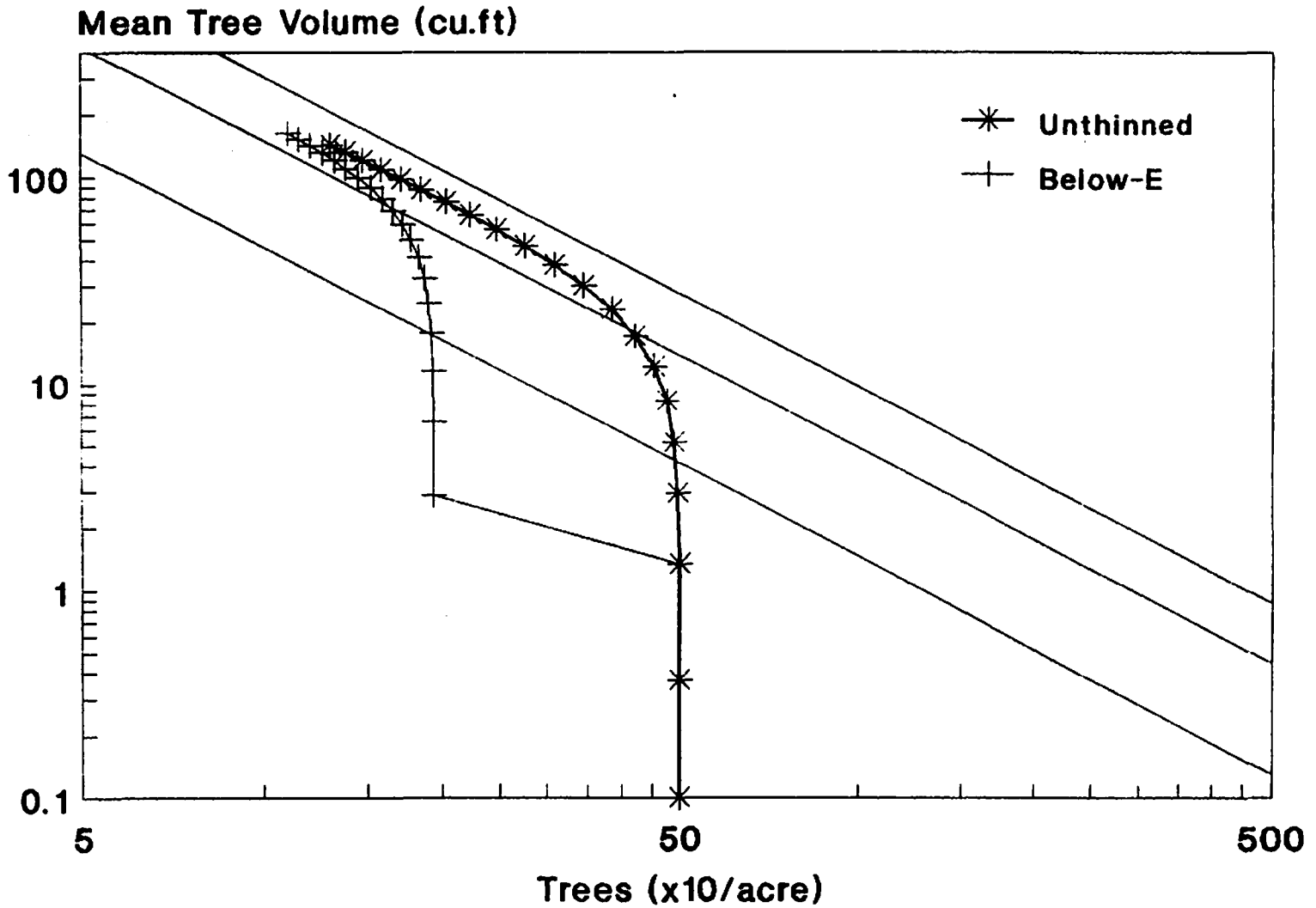
Density Management Diagram for DFSI=95
(Thinning from Below-Regime C)



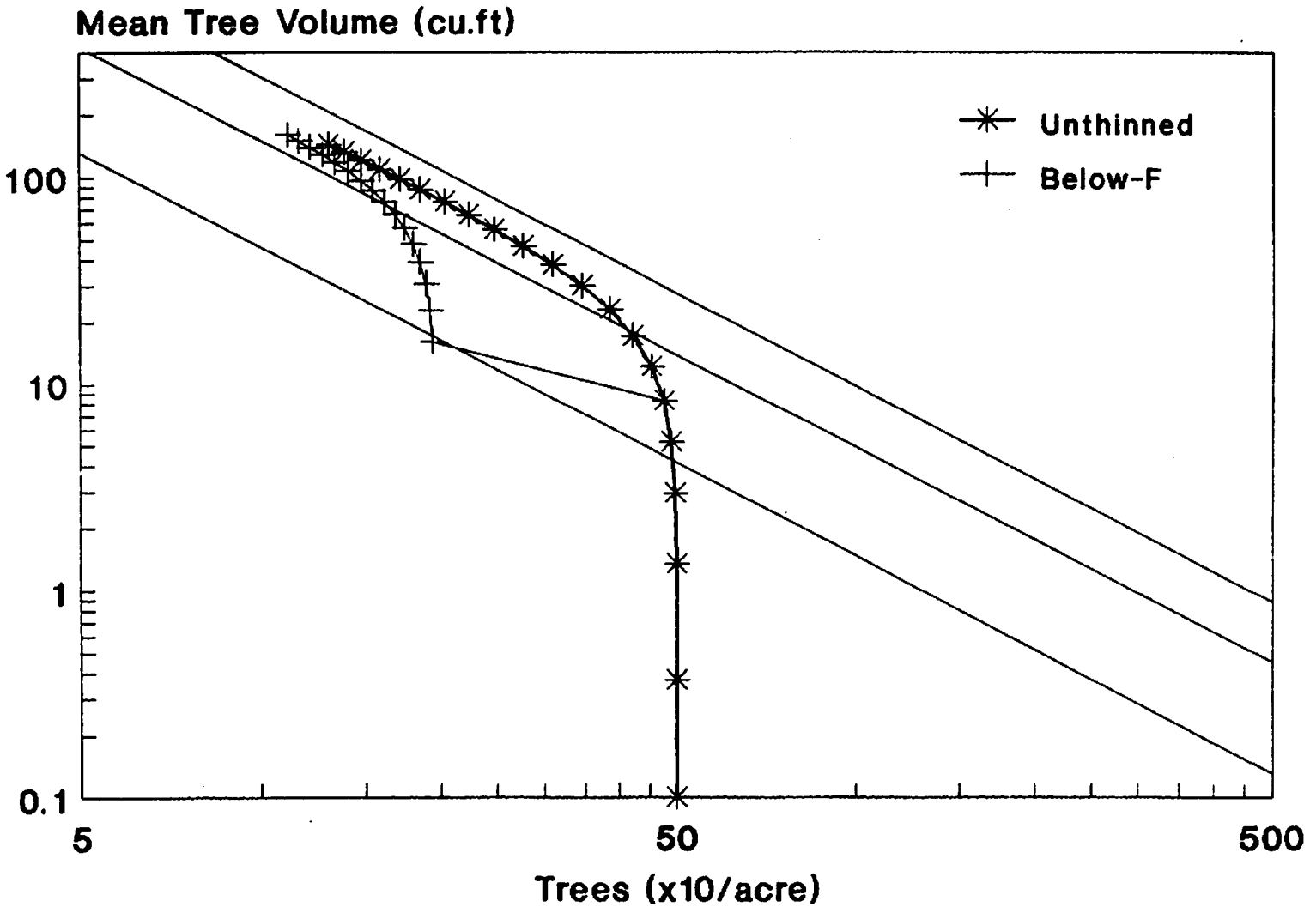
Density Management Diagram for DFSI=95
(Thinning from Below-Regime D)



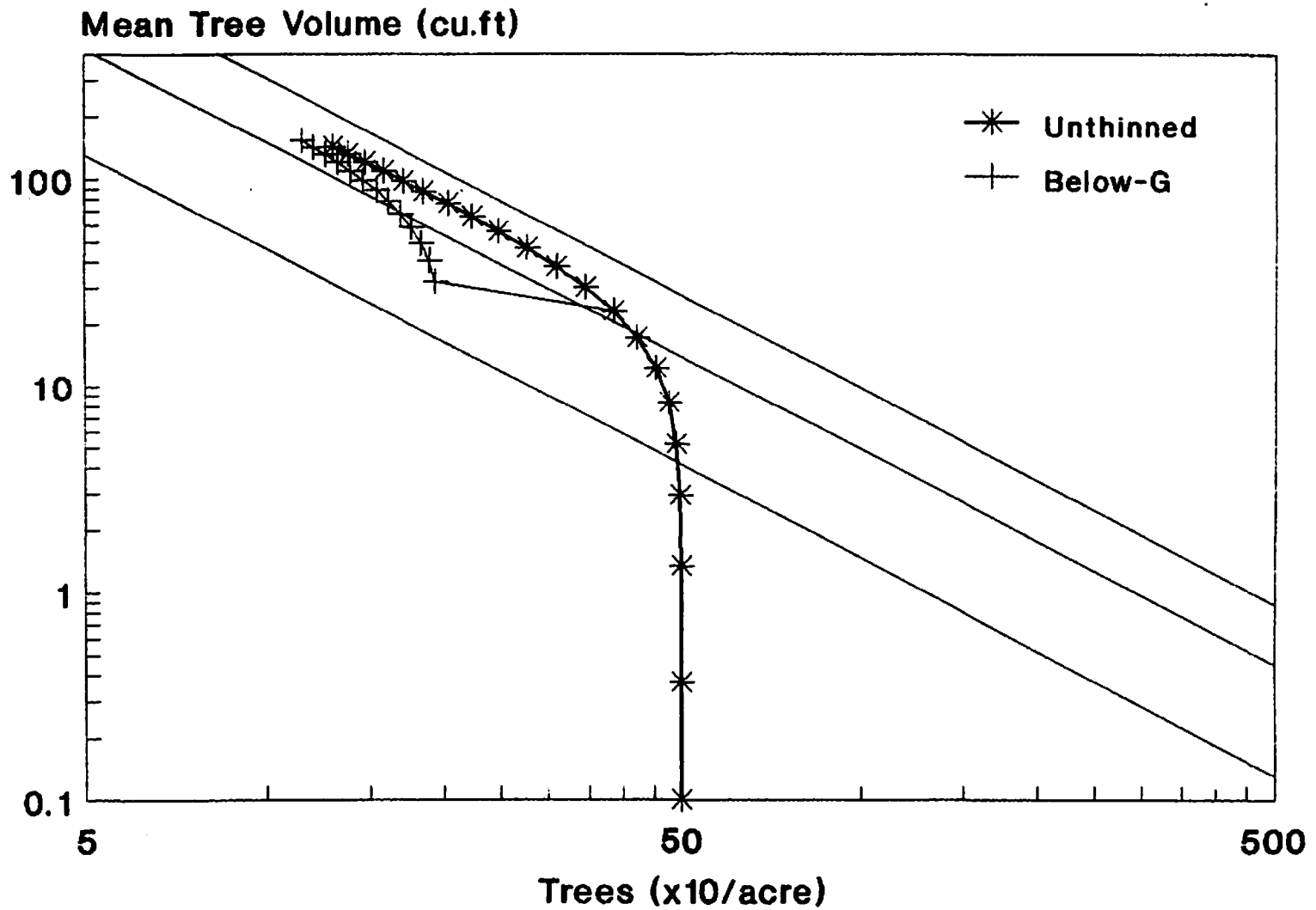
Density Management Diagram for DFSI=95
(Thinning from Below-Regime E)



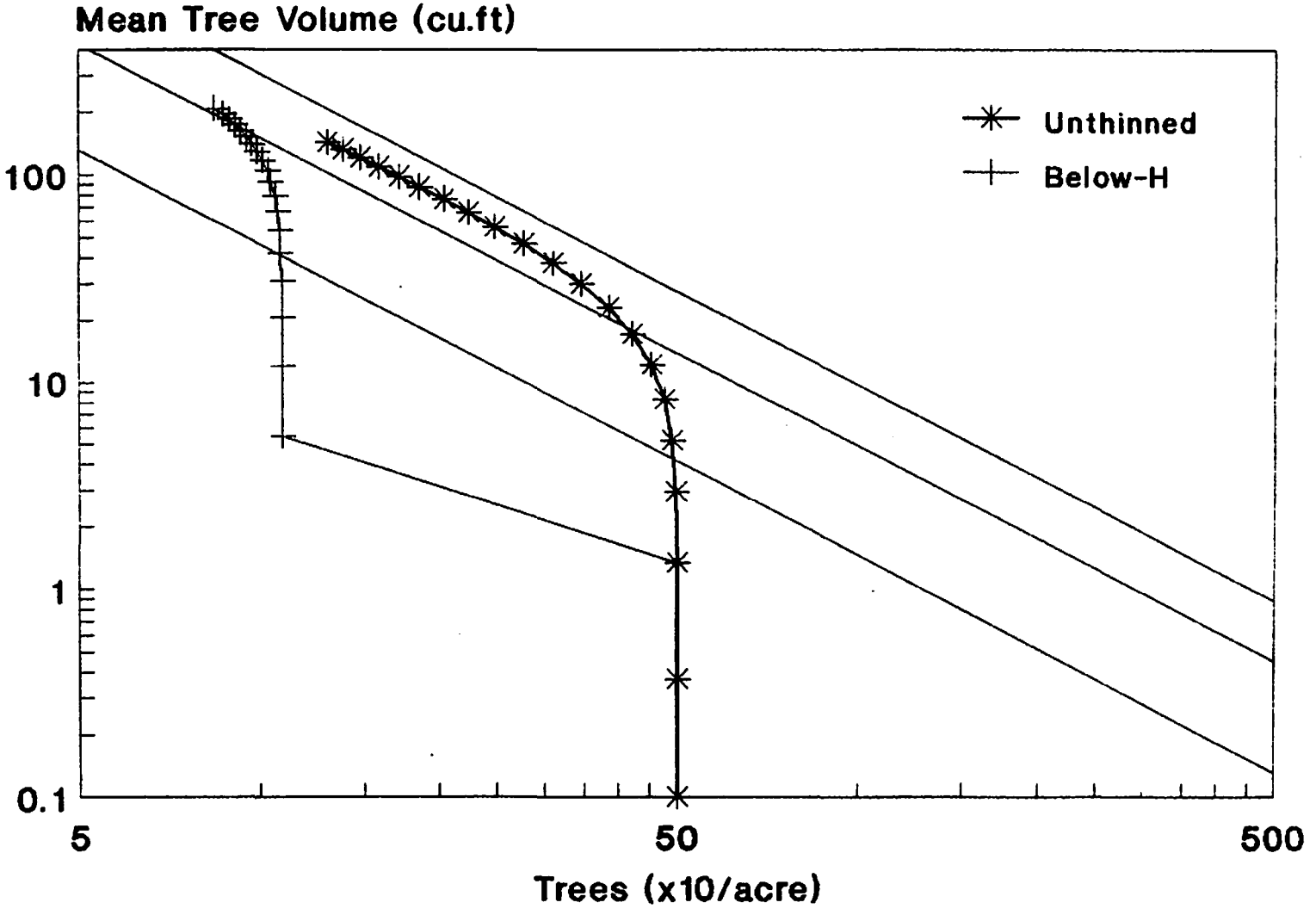
Density Management Diagram for DFSI=95
(Thinning from Below-Regime F)



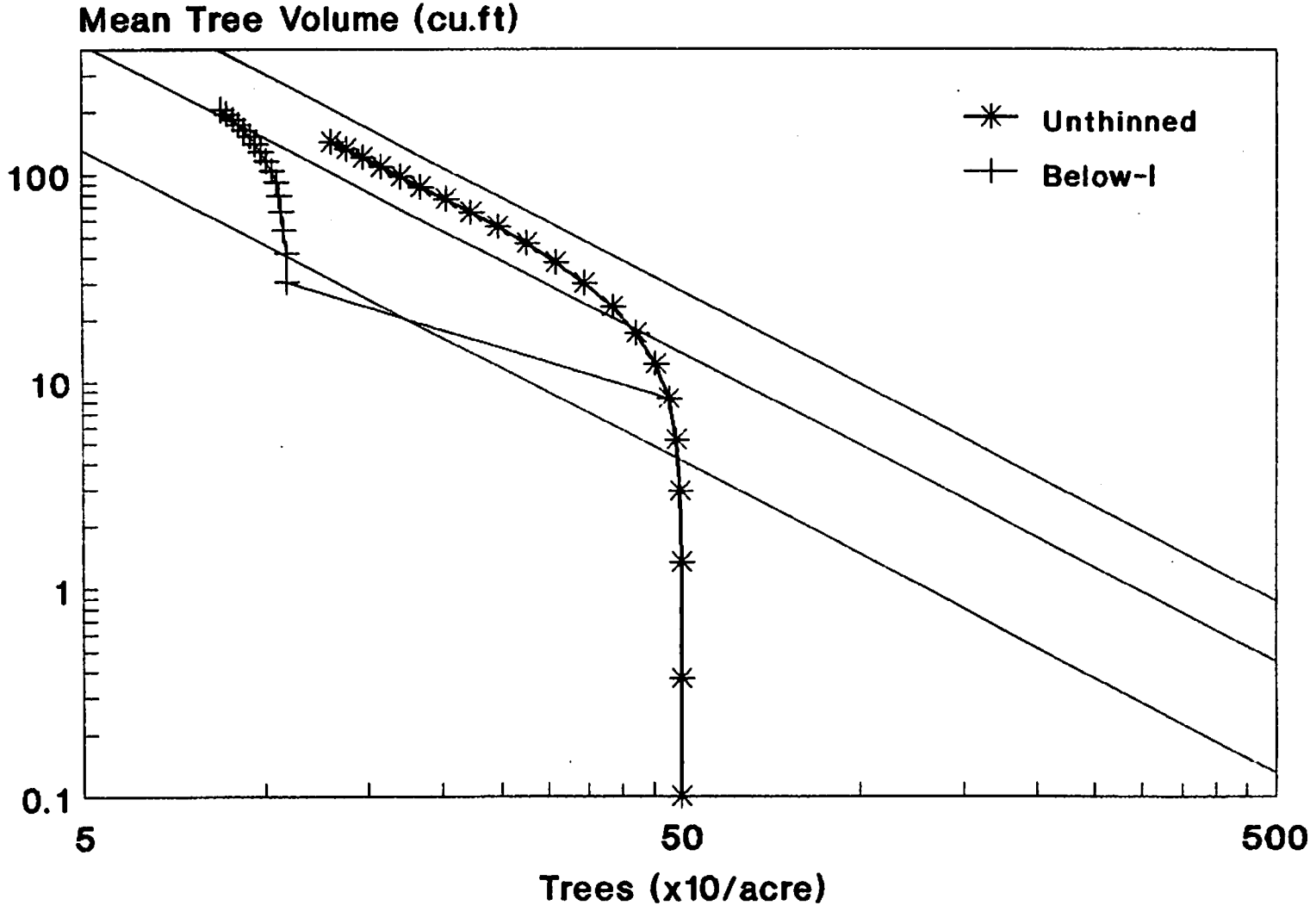
Density Management Diagram for DFSI=95
(Thinning from Below-Regime G)



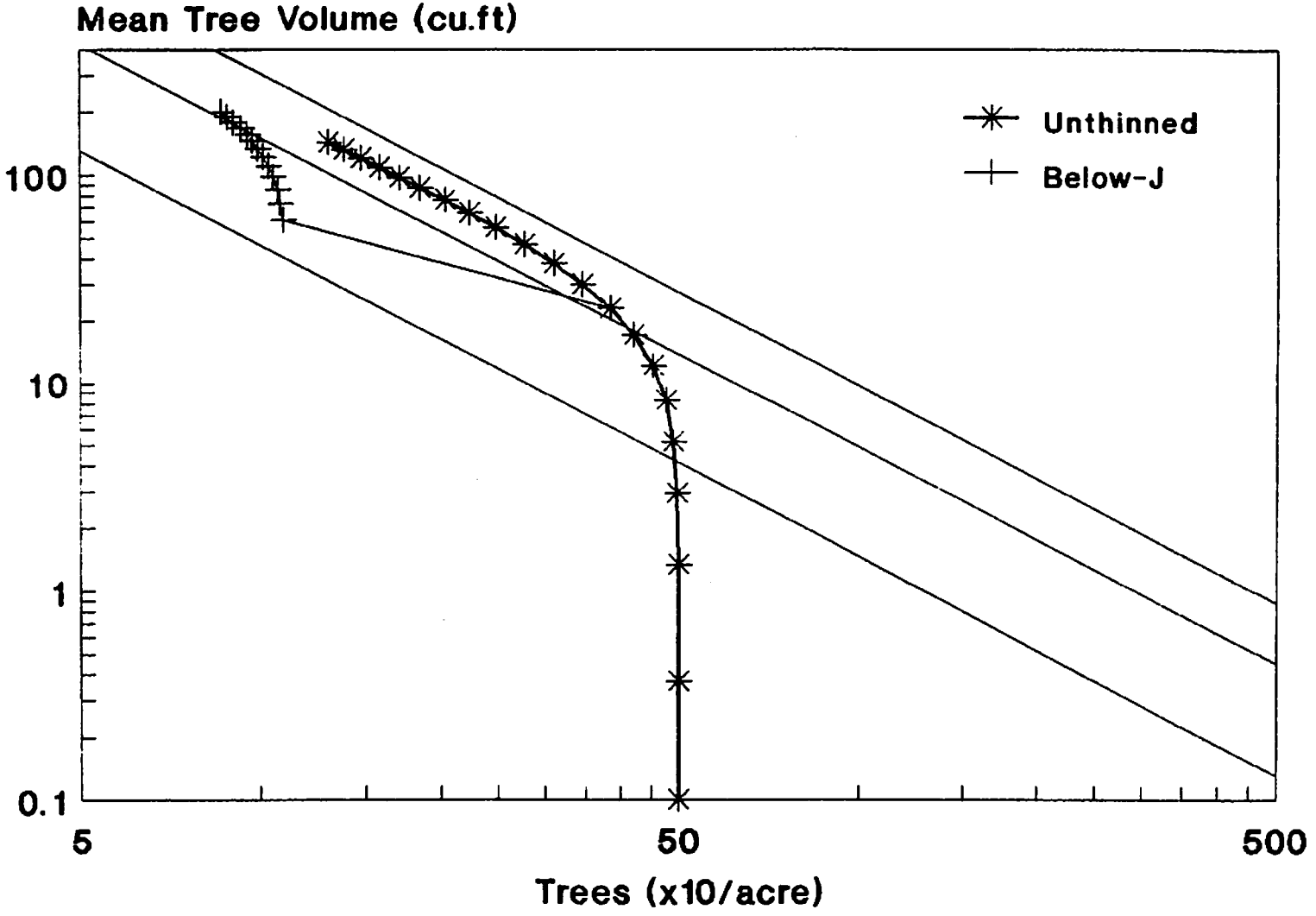
Density Management Diagram for DFSI=95
(Thinning from Below-Regime H)



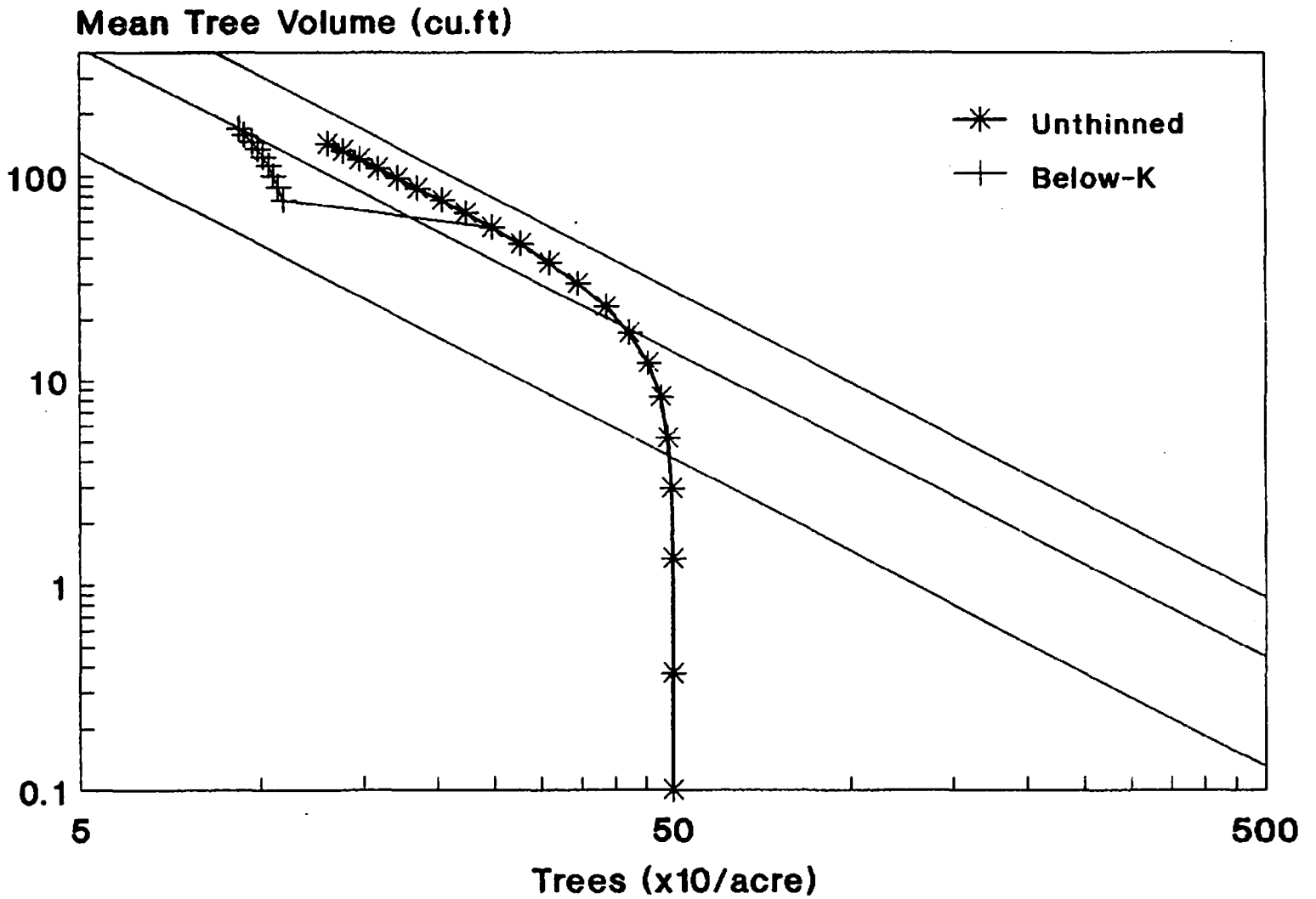
Density Management Diagram for DFSI=95
(Thinning from Below-Regime I)



Density Management Diagram for DFSI=95
(Thinning from Below-Regime J)



Density Management Diagram for DFSI=95
(Thinning from Below-Regime K)



Yield Tables of Thinning from Above

for DFSI = 95

Notation Used in the Yield Tables:

INST	=	Stand Identification
DFSI	=	Douglas-fir site index (feet)
A	=	Stand age at DBH (year)
TOPH	=	Stand top height (feet)
BA	=	Stand basal area (ft^2/acre)
QMD	=	Quadratic mean tree diameter (inch)
V	=	Stand total volume (ft^3/acre)
VG	=	Total volume increment in 6 yeras (ft^3/care)
MV	=	Stand mean tree volume (ft^3)
N	=	Number of surviving trees per acre
MORT	=	Number of dead trees in 6 years
RD	=	Drew-Flewelling's relative density index

(1) Unthinned Stand (DFSI=95, N=500)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	UNTH	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	UNTH	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	UNTH	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
4	UNTH	95	18	39.3	102.21	6.14	1462.8	793.93	2.94	497	2	0.11
5	UNTH	95	24	51.3	140.71	7.25	2563.2	1100.38	5.23	490	7	0.18
6	UNTH	95	30	62.6	181.29	8.35	3943.6	1380.47	8.28	476	14	0.28
7	UNTH	95	36	72.8	221.90	9.48	5532.8	1589.12	12.21	453	23	0.38
8	UNTH	95	42	82.2	259.60	10.63	7213.3	1680.55	17.12	421	32	0.48
9	UNTH	95	48	90.6	291.83	11.81	8857.0	1643.69	23.07	384	37	0.56
10	UNTH	95	54	98.3	317.52	12.99	10369.1	1512.05	30.03	345	39	0.62
11	UNTH	95	60	105.2	337.00	14.15	11706.5	1337.44	37.93	309	37	0.66
12	UNTH	95	66	111.5	351.38	15.28	12867.1	1160.57	46.65	276	33	0.69
13	UNTH	95	72	117.2	361.91	16.38	13869.2	1002.10	56.05	247	28	0.70
14	UNTH	95	78	122.4	369.64	17.42	14737.1	867.99	66.01	223	24	0.71
15	UNTH	95	84	127.1	375.37	18.42	15494.2	757.05	76.40	203	20	0.71
16	UNTH	95	90	131.4	379.68	19.37	16159.9	665.68	87.14	185	17	0.71
17	UNTH	95	96	135.4	382.98	20.28	16750.0	590.10	98.13	171	15	0.71
18	UNTH	95	102	139.0	385.53	21.15	17277.0	527.01	109.30	158	13	0.70
19	UNTH	95	108	142.4	387.55	21.97	17750.8	473.84	120.60	147	11	0.69
20	UNTH	95	114	145.5	389.16	22.76	18179.4	428.55	131.98	138	9	0.69
21	UNTH	95	120	148.3	390.47	23.51	18569.0	389.62	143.38	130	8	0.68

(2) Thinning from Above: Regime A (Thinned to N=436 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-A	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-A	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	A-A	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	A-A	95	12	25.1	3.32	1.18	33.4	-635.41	0.08	436	64	0.00
5	A-A	95	18	37.7	45.94	4.40	642.8	609.38	1.47	436	0	0.04
6	A-A	95	24	49.8	84.83	5.99	1516.1	873.25	3.49	434	2	0.10
7	A-A	95	30	61.0	124.57	7.31	2665.9	1149.86	6.23	428	6	0.18
8	A-A	95	36	71.3	165.20	8.53	4059.8	1393.90	9.76	416	12	0.27
9	A-A	95	42	80.6	205.19	9.73	5626.4	1566.53	14.17	397	19	0.36
10	A-A	95	48	89.1	242.27	10.93	7261.3	1634.90	19.53	372	25	0.45
11	A-A	95	54	96.7	274.46	12.12	8855.9	1594.69	25.86	342	29	0.53
12	A-A	95	60	103.7	300.85	13.30	10329.8	1473.90	33.14	312	31	0.59
13	A-A	95	66	109.9	321.59	14.46	11643.7	1313.83	41.29	282	30	0.63
14	A-A	95	72	115.6	337.50	15.58	12792.0	1148.37	50.18	255	27	0.66
15	A-A	95	78	120.8	349.58	16.66	13788.6	996.58	59.69	231	24	0.68
16	A-A	95	84	125.6	358.76	17.69	14654.1	865.45	69.70	210	21	0.69
17	A-A	95	90	129.9	365.79	18.67	15409.4	755.31	80.09	192	18	0.69
18	A-A	95	96	133.9	371.22	19.61	16073.1	663.69	90.79	177	15	0.69
19	A-A	95	102	137.5	375.47	20.50	16660.5	587.47	101.70	164	13	0.69
20	A-A	95	108	140.8	378.83	21.35	17184.3	523.72	112.77	152	11	0.68
21	A-A	95	114	143.9	381.54	22.16	17654.3	469.99	123.93	142	10	0.68
22	A-A	95	120	146.8	383.74	22.93	18078.6	424.31	135.15	134	9	0.67

(3) Thinning from Above: Regime B (Thinned to N=436 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-B	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-B	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	A-B	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	A-B	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	A-B	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	A-B	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
# 7	A-B	95	30	58.9	9.07	1.95	197.2	-3746.4	0.45	436	40	0.01
8	A-B	95	36	69.2	50.84	4.63	1242.1	1044.9	2.85	435	1	0.08
9	A-B	95	42	78.5	90.81	6.23	2466.8	1224.7	5.76	429	7	0.16
10	A-B	95	48	87.0	131.01	7.61	3884.8	1418.0	9.36	415	14	0.26
11	A-B	95	54	94.6	170.53	8.91	5439.7	1554.9	13.81	394	21	0.35
12	A-B	95	60	101.6	207.63	10.19	7043.8	1604.2	19.21	367	27	0.44
13	A-B	95	66	107.8	240.65	11.46	8605.5	1561.7	25.61	336	31	0.51
14	A-B	95	72	113.5	268.67	12.71	10055.2	1449.6	32.99	305	31	0.57
15	A-B	95	78	118.7	291.63	13.94	11356.5	1301.4	41.25	275	29	0.61
16	A-B	95	84	123.5	310.03	15.12	12502.1	1145.6	50.25	249	27	0.64
17	A-B	95	90	127.8	324.63	16.24	13501.8	999.7	59.86	226	23	0.65
18	A-B	95	96	131.8	336.20	17.32	14372.9	871.1	69.94	205	20	0.66
19	A-B	95	102	135.4	345.40	18.34	15134.3	761.3	80.39	188	17	0.67
20	A-B	95	108	138.7	352.77	19.31	15803.2	669.0	91.09	173	15	0.67
21	A-B	95	114	141.8	358.73	20.23	16394.7	591.5	101.98	161	13	0.67
22	A-B	95	120	144.7	363.60	21.10	16921.1	526.4	112.99	150	11	0.67

(4) Thinning from Above: Regime C (Thinned to N=303 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-C	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-C	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	A-C	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	A-C	95	12	25.1	3.32	1.42	33.4	-635.41	0.11	303	197	0.00
5	A-C	95	18	37.7	45.87	5.27	641.9	608.43	2.12	303	0	0.04
6	A-C	95	24	49.8	83.62	7.12	1494.8	852.97	4.95	302	1	0.08
7	A-C	95	30	61.0	121.07	8.60	2592.5	1097.61	8.65	300	2	0.14
8	A-C	95	36	71.3	158.44	9.92	3896.7	1304.19	13.20	295	5	0.22
9	A-C	95	42	80.6	194.81	11.14	5346.6	1449.95	18.59	288	8	0.29
10	A-C	95	48	89.1	228.77	12.31	6863.9	1517.30	24.79	277	11	0.37
11	A-C	95	54	96.7	259.05	13.42	8367.5	1503.59	31.74	264	13	0.44
12	A-C	95	60	103.7	284.88	14.50	9791.3	1423.77	39.42	248	15	0.50
13	A-C	95	66	109.9	306.14	15.54	11094.2	1302.97	47.74	232	16	0.55
14	A-C	95	72	115.6	323.21	16.55	12260.2	1165.93	56.65	216	16	0.58
15	A-C	95	78	120.8	336.73	17.52	13290.6	1030.41	66.07	201	15	0.61
16	A-C	95	84	125.6	347.36	18.45	14196.8	906.21	75.91	187	14	0.63
17	A-C	95	90	129.9	355.74	19.35	14993.9	797.10	86.10	174	13	0.64
18	A-C	95	96	133.9	362.38	20.22	15697.3	703.36	96.56	163	12	0.65
19	A-C	95	102	137.5	367.67	21.05	16320.9	623.60	107.23	152	10	0.65
20	A-C	95	108	140.8	371.93	21.84	16876.8	555.90	118.05	143	9	0.65
21	A-C	95	114	143.9	375.39	22.60	17375.1	498.31	128.98	135	8	0.65
22	A-C	95	120	146.8	378.24	23.34	17824.2	449.10	139.96	127	7	0.65

(5) Thinning from Above: Regime D (Thinned to N=303 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-D	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-D	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	A-D	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	A-D	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	A-D	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	A-D	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
# 7	A-D	95	30	58.9	9.07	2.34	197.2	-3746.4	0.65	303	173	0.01
8	A-D	95	36	69.2	50.51	5.53	1234.1	1036.9	4.08	303	0	0.07
9	A-D	95	42	78.5	88.72	7.36	2411.1	1176.9	8.03	300	3	0.13
10	A-D	95	48	87.0	126.03	8.85	3740.0	1328.9	12.69	295	5	0.21
11	A-D	95	54	94.6	162.10	10.19	5175.5	1435.6	18.08	286	9	0.28
12	A-D	95	60	101.6	195.94	11.44	6654.4	1478.9	24.24	275	12	0.36
13	A-D	95	66	107.8	226.58	12.63	8111.2	1456.8	31.14	260	14	0.42
14	A-D	95	72	113.5	253.35	13.78	9492.0	1380.8	38.77	245	16	0.48
15	A-D	95	78	118.7	276.10	14.88	10762.4	1270.3	47.07	229	16	0.53
16	A-D	95	84	123.5	295.01	15.94	11907.3	1144.9	55.96	213	16	0.56
17	A-D	95	90	127.8	310.55	16.97	12926.5	1019.2	65.36	198	15	0.59
18	A-D	95	96	131.8	323.23	17.95	13828.4	901.9	75.17	184	14	0.61
19	A-D	95	102	135.4	333.58	18.89	14625.6	797.2	85.31	171	13	0.62
20	A-D	95	108	138.7	342.04	19.79	15331.3	705.8	95.71	160	11	0.63
21	A-D	95	114	141.8	349.01	20.65	15958.3	627.0	106.29	150	10	0.63
22	A-D	95	120	144.7	354.78	21.47	16517.9	559.5	117.00	141	9	0.63

(6) Thinning from Above: Regime E (Thinned to N=194 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-E	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-E	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	A-E	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	A-E	95	12	25.1	3.32	1.77	33.4	-635.41	0.17	194	306	0.00
5	A-E	95	18	37.7	45.80	6.58	640.9	607.48	3.30	194	0	0.03
6	A-E	95	24	49.8	82.43	8.83	1473.9	833.01	7.61	194	0	0.07
7	A-E	95	30	61.0	117.69	10.57	2521.5	1047.52	13.06	193	1	0.11
8	A-E	95	36	71.3	151.97	12.06	3740.3	1218.83	19.52	192	1	0.17
9	A-E	95	42	80.6	184.77	13.38	5076.2	1335.91	26.82	189	2	0.23
10	A-E	95	48	89.1	215.37	14.58	6468.8	1392.62	34.80	186	3	0.28
11	A-E	95	54	96.7	243.03	15.67	7859.4	1390.54	43.33	181	4	0.34
12	A-E	95	60	103.7	267.33	16.69	9198.7	1339.36	52.28	176	5	0.39
13	A-E	95	66	109.9	288.11	17.64	10452.6	1253.85	61.56	170	6	0.44
14	A-E	95	72	115.6	305.55	18.53	11602.1	1149.48	71.13	163	7	0.48
15	A-E	95	78	120.8	319.97	19.38	12641.1	1039.07	80.95	156	7	0.51
16	A-E	95	84	125.6	331.81	20.19	13572.6	931.45	90.97	149	7	0.53
17	A-E	95	90	129.9	341.50	20.97	14404.3	831.70	101.16	142	7	0.55
18	A-E	95	96	133.9	349.43	21.72	15146.4	742.07	111.50	136	7	0.57
19	A-E	95	102	137.5	355.93	22.44	15809.4	663.01	121.96	130	6	0.58
20	A-E	95	108	140.8	361.30	23.13	16403.3	593.98	132.50	124	6	0.59
21	A-E	95	114	143.9	365.76	23.80	16937.3	533.99	143.10	118	5	0.59
22	A-E	95	120	146.8	369.49	24.45	17419.3	481.92	153.72	113	5	0.60

(7) Thinning from Above: Regime F (Thinned to N=194 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-F	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-F	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	A-F	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	A-F	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	A-F	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	A-F	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
# 7	A-F	95	30	58.9	9.07	2.93	197.2	-3746.4	1.02	194	282	0.01
8	A-F	95	36	69.2	50.18	6.89	1226.3	1029.0	6.32	194	0	0.06
9	A-F	95	42	78.5	86.68	9.07	2356.7	1130.5	12.20	193	1	0.11
10	A-F	95	48	87.0	121.26	10.78	3600.9	1244.2	18.81	191	2	0.16
11	A-F	95	54	94.6	154.00	12.23	4921.6	1320.7	26.07	189	3	0.22
12	A-F	95	60	101.6	184.49	13.52	6272.5	1350.9	33.89	185	4	0.28
13	A-F	95	66	107.8	212.28	14.69	7608.4	1336.0	42.21	180	5	0.33
14	A-F	95	72	113.5	237.04	15.78	8891.8	1283.3	50.93	175	6	0.38
15	A-F	95	78	118.7	258.69	16.79	10095.8	1204.0	60.00	168	6	0.42
16	A-F	95	84	123.5	277.31	17.74	11205.4	1109.6	69.37	162	7	0.46
17	A-F	95	90	127.8	293.15	18.64	12215.3	1009.8	79.00	155	7	0.49
18	A-F	95	96	131.8	306.54	19.50	13127.0	911.7	88.85	148	7	0.51
19	A-F	95	102	135.4	317.81	20.33	13946.6	819.6	98.88	141	7	0.53
20	A-F	95	108	138.7	327.30	21.11	14682.2	735.6	109.06	135	6	0.55
21	A-F	95	114	141.8	335.30	21.87	15342.7	660.5	119.34	129	6	0.56
22	A-F	95	120	144.7	342.07	22.59	15936.9	594.2	129.70	123	6	0.57

(8) Thinning from Above: Regime G (Thinned to N=194 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-G	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-G	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	A-G	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	A-G	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	A-G	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	A-G	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
7	A-G	95	36	72.8	221.90	9.48	5532.8	1589.1	12.21	453	23	0.38
8	A-G	95	42	82.2	259.60	10.63	7213.3	1680.5	17.12	421	32	0.48
9	A-G	95	48	90.6	291.83	11.81	8857.0	1643.7	23.07	384	37	0.56
#10	A-G	95	48	85.4	14.59	3.71	442.9	-8414.1	2.28	194	190	0.02
11	A-G	95	54	93.1	51.66	6.99	1658.6	1215.7	8.56	194	0	0.07
12	A-G	95	60	100.0	85.14	9.01	2894.0	1235.3	15.05	192	1	0.13
13	A-G	95	66	106.3	116.58	10.61	4168.0	1274.0	21.95	190	2	0.19
14	A-G	95	72	112.0	146.04	11.99	5456.5	1288.5	29.29	186	4	0.24
15	A-G	95	78	117.2	173.27	13.22	6729.2	1272.7	37.04	182	5	0.29
16	A-G	95	84	121.9	198.06	14.36	7958.4	1229.1	45.18	176	6	0.34
17	A-G	95	90	126.2	220.28	15.42	9122.6	1164.3	53.68	170	6	0.38
18	A-G	95	96	130.2	239.95	16.41	10208.2	1085.6	62.50	163	7	0.42
19	A-G	95	102	133.8	257.18	17.36	11208.6	1000.3	71.61	157	7	0.45
20	A-G	95	108	137.2	272.17	18.26	12122.7	914.1	80.98	150	7	0.48
21	A-G	95	114	140.3	285.16	19.12	12953.6	830.9	90.56	143	7	0.50
22	A-G	95	120	143.1	296.39	19.94	13706.8	753.2	100.31	137	6	0.52

(9) Thinning from Above: Regime H (Thinned to N=109 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-H	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-H	95	6	14.2	32.42	3.45	184.9	184.90	0.37	500	0	0.01
3	A-H	95	12	26.6	66.35	4.93	668.9	483.95	1.34	500	0	0.05
# 4	A-H	95	12	25.1	3.32	2.36	33.4	-635.41	0.31	109	391	0.00
5	A-H	95	18	37.7	45.73	8.77	640.0	606.53	5.87	109	0	0.02
6	A-H	95	24	49.8	81.25	11.69	1453.3	813.34	13.34	109	0	0.05
7	A-H	95	30	61.0	114.44	13.89	2452.9	999.61	22.54	109	0	0.08
8	A-H	95	36	71.3	145.81	15.70	3591.3	1138.42	33.09	109	0	0.12
9	A-H	95	42	80.6	175.23	17.24	4818.8	1227.44	44.60	108	0	0.16
10	A-H	95	48	89.1	202.43	18.59	6087.1	1268.35	56.69	107	1	0.20
11	A-H	95	54	96.7	227.11	19.78	7353.6	1266.48	69.08	106	1	0.24
12	A-H	95	60	103.7	249.13	20.83	8583.7	1230.10	81.54	105	1	0.28
13	A-H	95	66	109.9	268.47	21.77	9752.6	1168.88	93.89	104	1	0.32
14	A-H	95	72	115.6	285.25	22.61	10844.8	1092.22	106.04	102	2	0.35
15	A-H	95	78	120.8	299.66	23.38	11852.9	1008.12	117.96	100	2	0.38
16	A-H	95	84	125.6	311.97	24.09	12775.6	922.61	129.62	99	2	0.41
17	A-H	95	90	129.9	322.45	24.75	13615.3	839.78	141.04	97	2	0.43
18	A-H	95	96	133.9	331.36	25.36	14377.4	762.08	152.22	94	2	0.45
19	A-H	95	102	137.5	338.94	25.94	15068.2	690.76	163.20	92	2	0.47
20	A-H	95	108	140.8	345.40	26.50	15694.4	626.22	174.00	90	2	0.48
21	A-H	95	114	143.9	350.93	27.03	16262.8	568.36	184.62	88	2	0.49
22	A-H	95	120	146.8	355.67	27.53	16779.5	516.76	195.08	86	2	0.50

(10) Thinning from Above: Regime I (Thinned to N=109 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-I	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-I	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	A-I	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	A-I	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	A-I	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	A-I	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
# 7	A-I	95	30	58.9	9.07	3.91	197.2	-3746.4	1.81	109	367	0.01
8	A-I	95	36	69.2	49.85	9.16	1218.4	1021.2	11.18	109	0	0.04
9	A-I	95	42	78.5	84.70	11.95	2303.8	1085.4	21.17	109	0	0.08
10	A-I	95	48	87.0	116.71	14.04	3468.1	1164.3	31.97	108	0	0.12
11	A-I	95	54	94.6	146.32	15.76	4680.6	1212.5	43.35	108	1	0.16
12	A-I	95	60	101.6	173.55	17.23	5907.1	1226.5	55.10	107	1	0.20
13	A-I	95	66	107.8	198.32	18.50	7116.9	1209.8	67.02	106	1	0.24
14	A-I	95	72	113.5	220.58	19.63	8285.1	1168.2	78.93	105	1	0.27
15	A-I	95	78	118.7	240.38	20.63	9394.0	1108.9	90.75	104	1	0.31
16	A-I	95	84	123.5	257.84	21.54	10432.6	1038.6	102.41	102	2	0.34
17	A-I	95	90	127.8	273.12	22.37	11395.5	962.9	113.87	100	2	0.37
18	A-I	95	96	131.8	286.44	23.13	12281.8	886.3	125.13	98	2	0.39
19	A-I	95	102	135.4	298.02	23.84	13093.7	811.9	136.18	96	2	0.41
20	A-I	95	108	138.7	308.08	24.50	13835.3	741.6	147.05	94	2	0.43
21	A-I	95	114	141.8	316.81	25.13	14511.6	676.4	157.73	92	2	0.45
22	A-I	95	120	144.7	324.40	25.72	15128.4	616.8	168.25	90	2	0.46

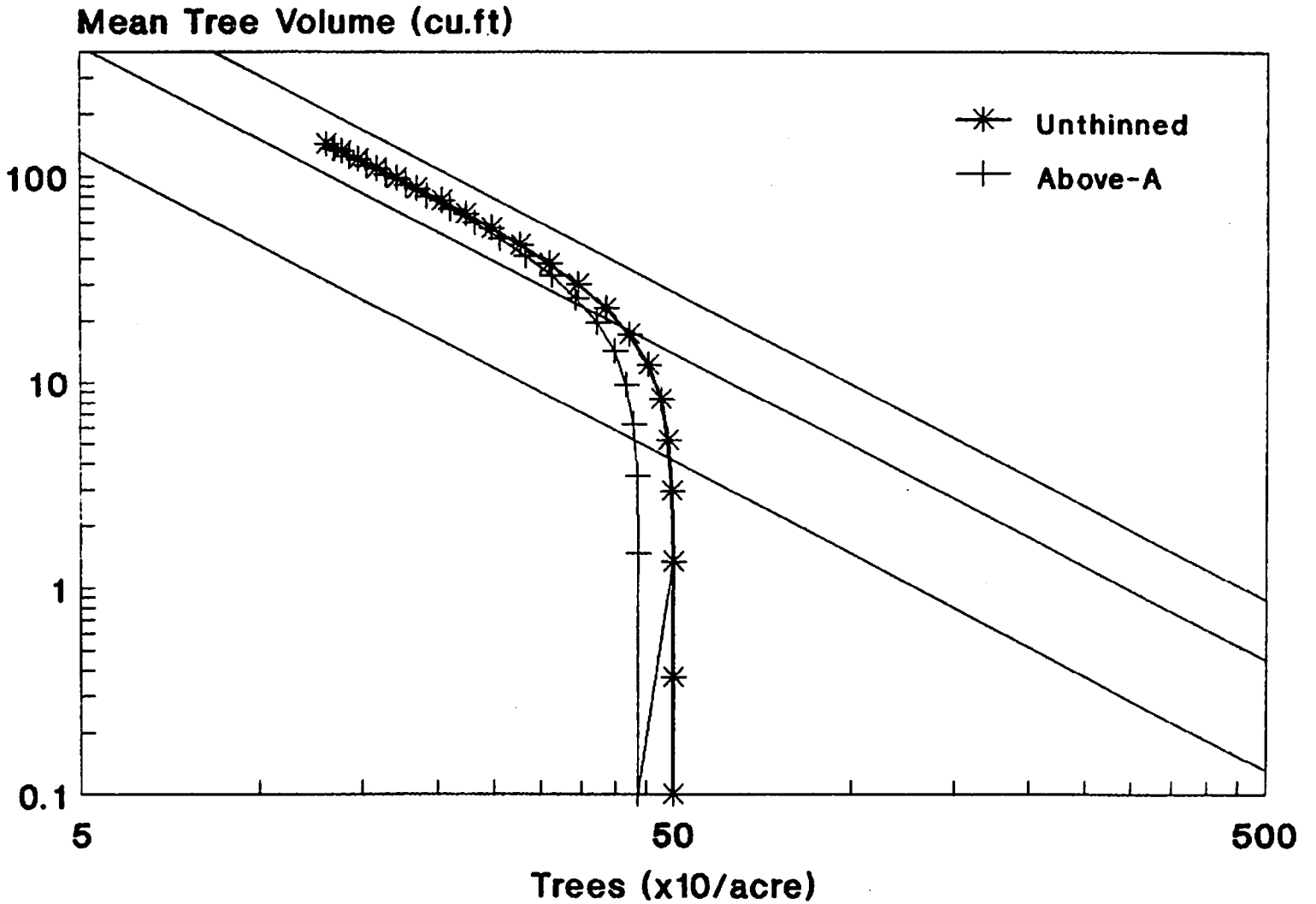
(11) Thinning from Above: Regime J (Thinned to N=109 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-J	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-J	95	6	14.2	32.42	3.45	184.9	184.9	0.37	500	0	0.01
3	A-J	95	12	26.6	66.35	4.93	668.9	483.9	1.34	500	0	0.05
4	A-J	95	18	39.3	102.21	6.14	1462.8	793.9	2.94	497	2	0.11
5	A-J	95	24	51.3	140.71	7.25	2563.2	1100.4	5.23	490	7	0.18
6	A-J	95	30	62.6	181.29	8.35	3943.6	1380.5	8.28	476	14	0.28
7	A-J	95	36	72.8	221.90	9.48	5532.8	1589.1	12.21	453	23	0.38
8	A-J	95	42	82.2	259.60	10.63	7213.3	1680.5	17.12	421	32	0.48
9	A-J	95	48	90.6	291.83	11.81	8857.0	1643.7	23.07	384	37	0.56
#10	A-J	95	48	85.4	14.59	4.95	442.9	-8414.1	4.06	109	275	0.01
11	A-J	95	54	93.1	51.11	9.27	1641.1	1198.2	15.07	109	0	0.06
12	A-J	95	60	100.0	82.89	11.83	2819.1	1178.0	25.94	109	0	0.09
13	A-J	95	66	106.3	111.95	13.78	4005.3	1186.2	37.03	108	0	0.13
14	A-J	95	72	112.0	138.66	15.38	5185.8	1180.5	48.27	107	1	0.17
15	A-J	95	78	117.2	163.12	16.76	6342.0	1156.2	59.56	106	1	0.21
16	A-J	95	84	121.9	185.37	17.97	7457.6	1115.5	70.83	105	1	0.25
17	A-J	95	90	126.2	205.47	19.04	8519.9	1062.3	82.02	104	1	0.28
18	A-J	95	96	130.2	223.49	20.02	9520.7	1000.8	93.08	102	2	0.31
19	A-J	95	102	133.8	239.59	20.90	10455.6	934.9	103.99	101	2	0.34
20	A-J	95	108	137.2	253.90	21.72	11323.4	867.8	114.75	99	2	0.36
21	A-J	95	114	140.3	266.59	22.48	12125.3	801.8	125.35	97	2	0.38
22	A-J	95	120	143.1	277.84	23.19	12863.9	738.6	135.80	95	2	0.40

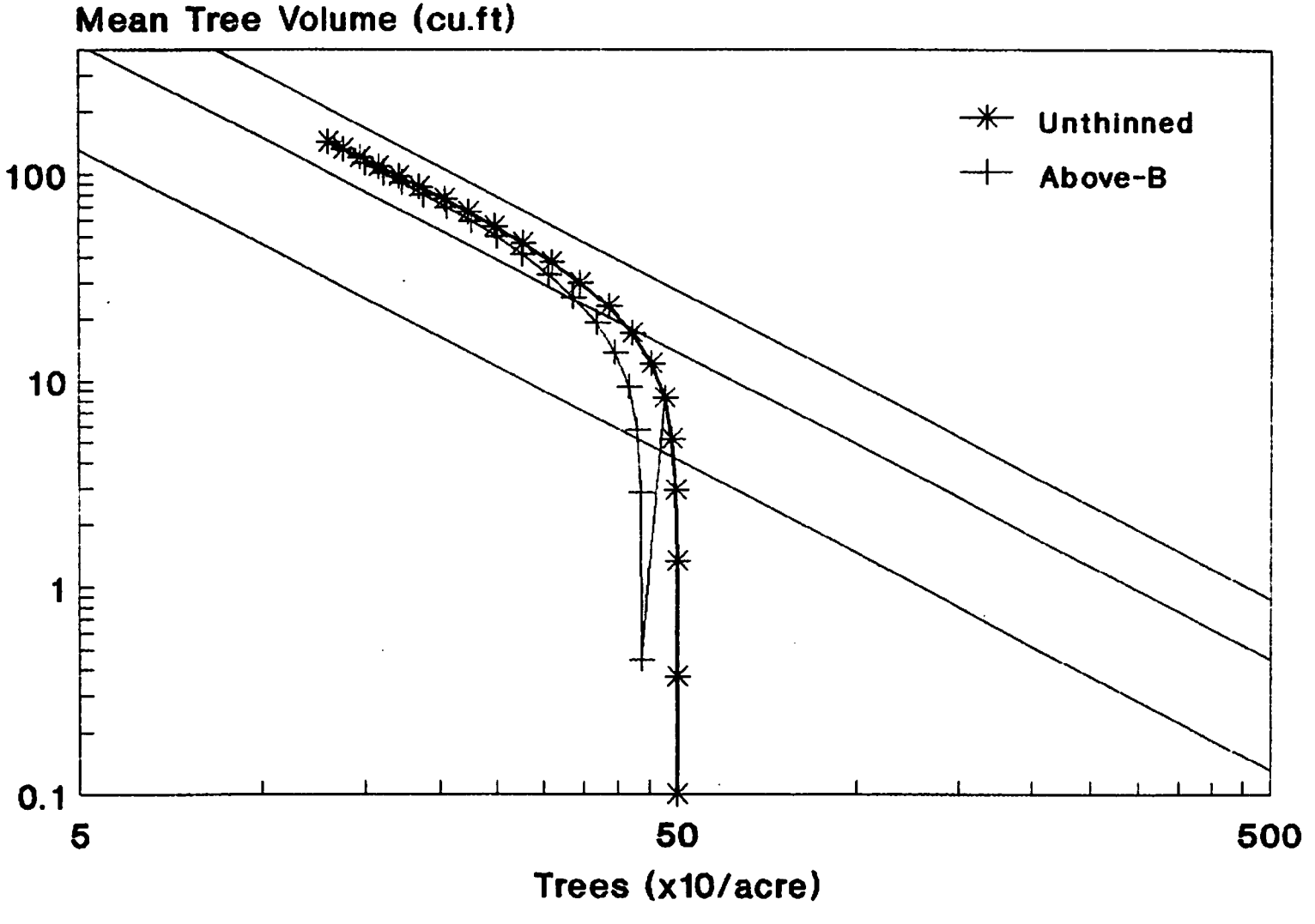
(12) Thinning from Above: Regime K (Thinned to N=109 at Year 72)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-K	95	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-K	95	6	14.2	32.42	3.45	184.9	185	0.37	500	0	0.01
3	A-K	95	12	26.6	66.35	4.93	668.9	484	1.34	500	0	0.05
4	A-K	95	18	39.3	102.21	6.14	1462.8	794	2.94	497	2	0.11
5	A-K	95	24	51.3	140.71	7.25	2563.2	1100	5.23	490	7	0.18
6	A-K	95	30	62.6	181.29	8.35	3943.6	1380	8.28	476	14	0.28
7	A-K	95	36	72.8	221.90	9.48	5532.8	1589	12.21	453	23	0.38
8	A-K	95	42	82.2	259.60	10.63	7213.3	1681	17.12	421	32	0.48
9	A-K	95	48	90.6	291.83	11.81	8857.0	1644	23.07	384	37	0.56
10	A-K	95	54	98.3	317.52	12.99	10369.1	1512	30.03	345	39	0.62
11	A-K	95	60	105.2	337.00	14.15	11706.5	1337	37.93	309	37	0.66
12	A-K	95	66	111.5	351.38	15.28	12867.1	1161	46.65	276	33	0.69
13	A-K	95	72	117.2	361.91	16.38	13869.2	1002	56.05	247	28	0.70
#14	A-K	95	72	110.4	18.10	5.52	693.5	-13176	6.36	109	138	0.02
15	A-K	95	78	115.6	49.20	9.10	1930.9	1237	17.74	109	0	0.07
16	A-K	95	84	120.3	76.48	11.37	3089.6	1159	28.48	108	0	0.10
17	A-K	95	90	124.7	101.35	13.13	4208.3	1119	39.02	108	1	0.14
18	A-K	95	96	128.6	124.20	14.59	5288.2	1080	49.43	107	1	0.18
19	A-K	95	102	132.3	145.18	15.86	6324.5	1036	59.74	106	1	0.21
20	A-K	95	108	135.6	164.40	16.98	7312.0	987	69.93	105	1	0.24
21	A-K	95	114	138.7	181.94	17.99	8246.8	935	80.00	103	1	0.27
22	A-K	95	120	141.5	197.91	18.91	9126.6	880	89.97	101	2	0.30

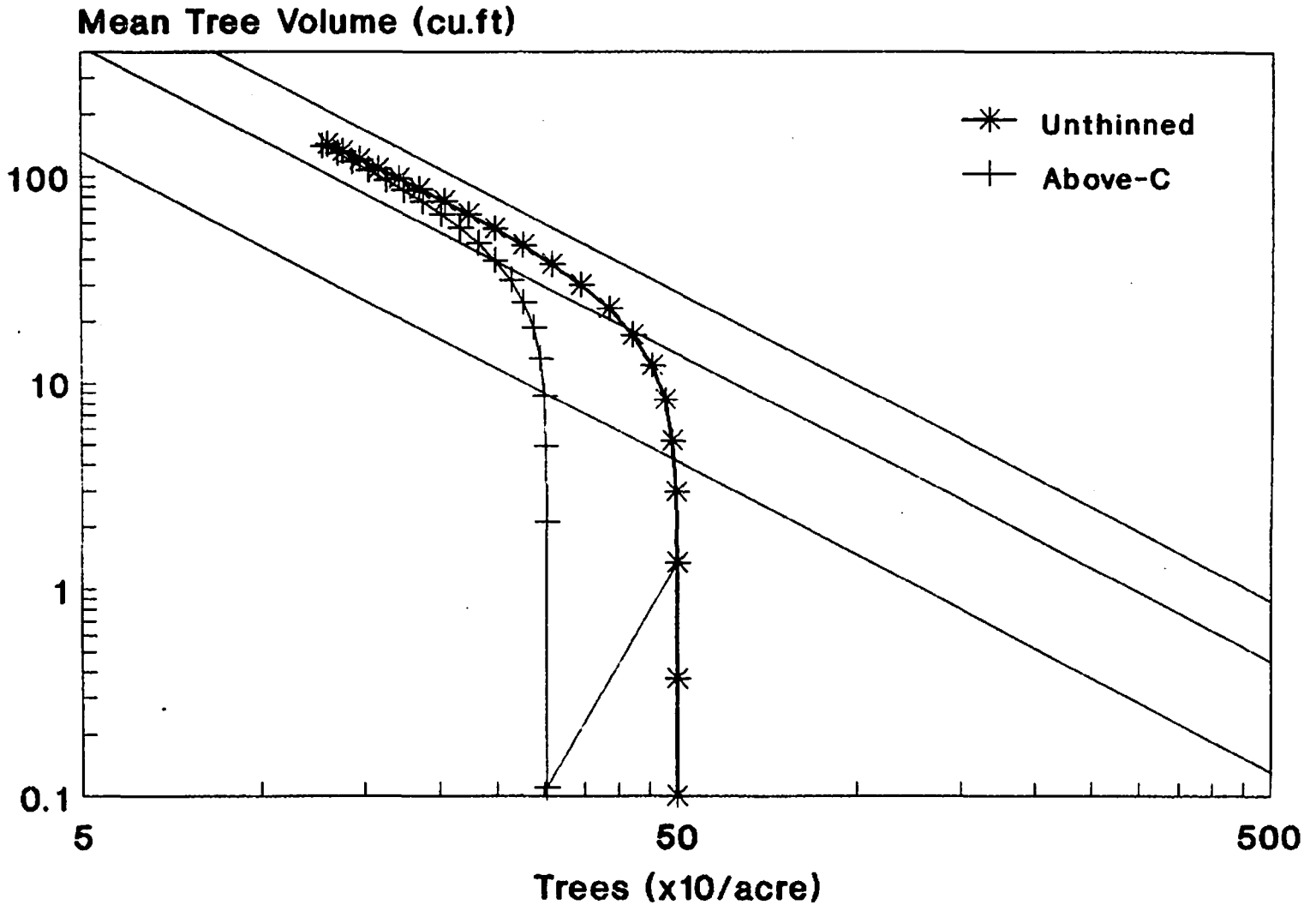
Density Management Diagram for DFSI=95
(Thinning from Above-Regime A)



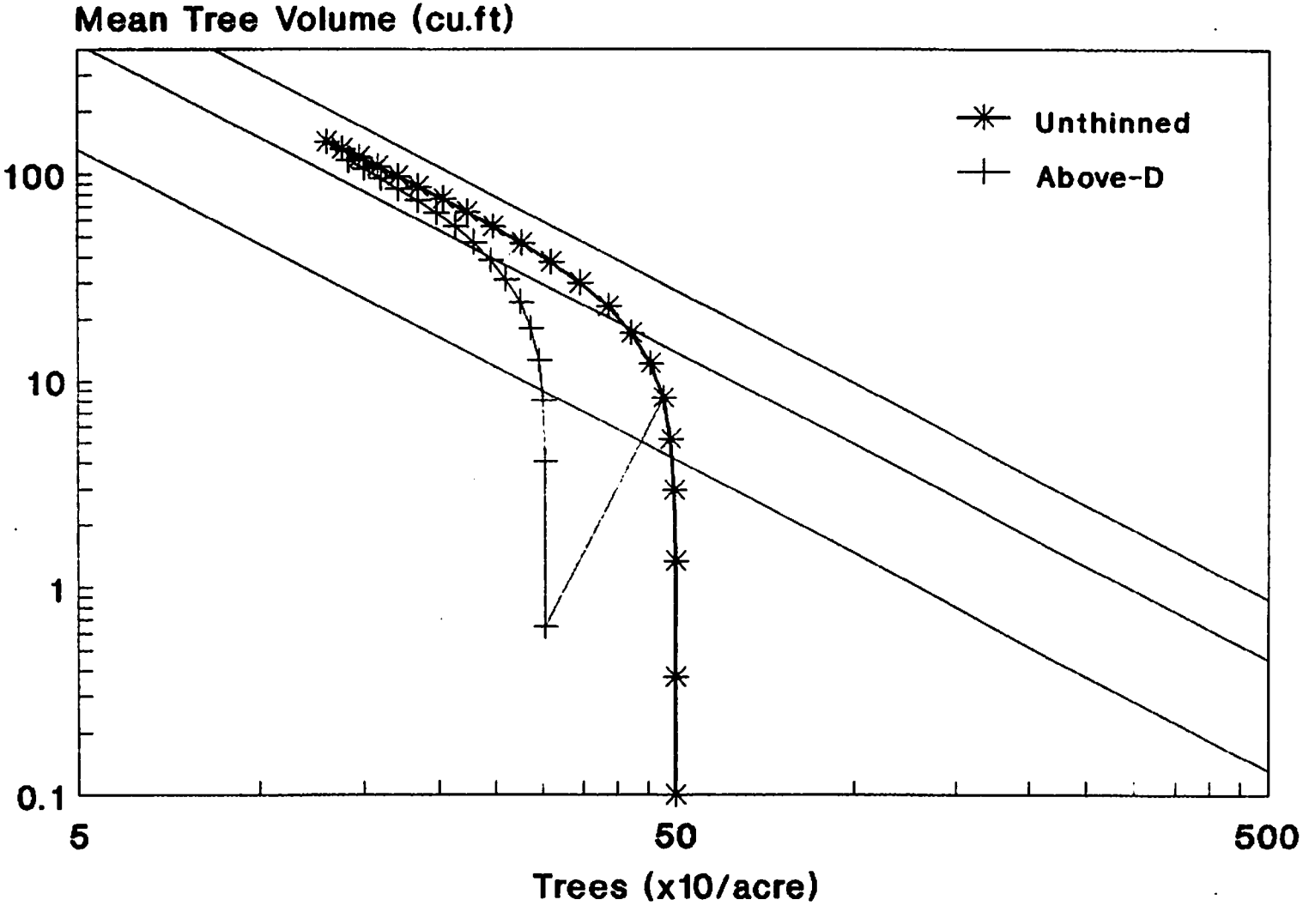
Density Management Diagram for DFSI=95
(Thinning from Above-Regime B)



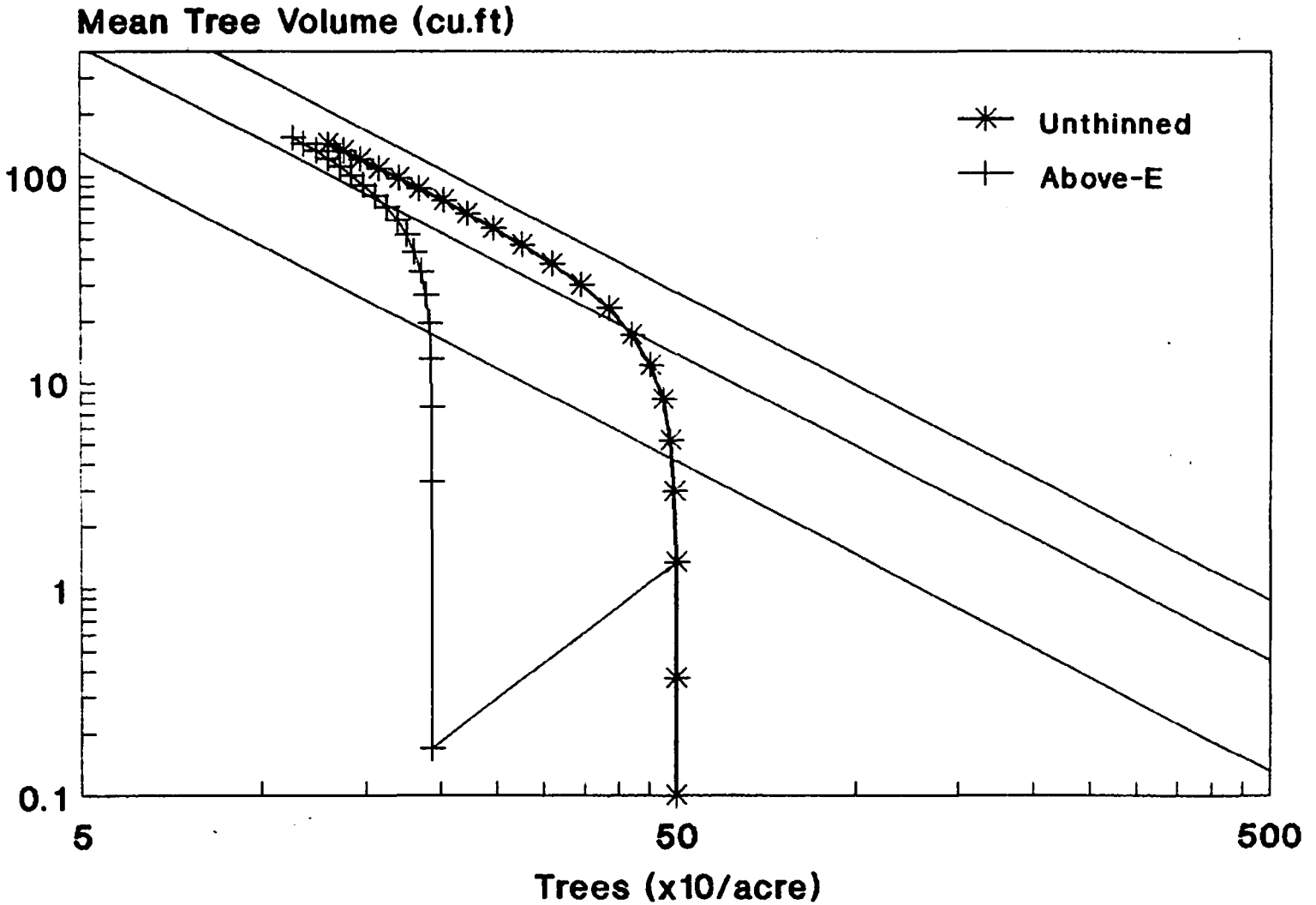
Density Management Diagram for DFSI=95
(Thinning from Above-Regime C)



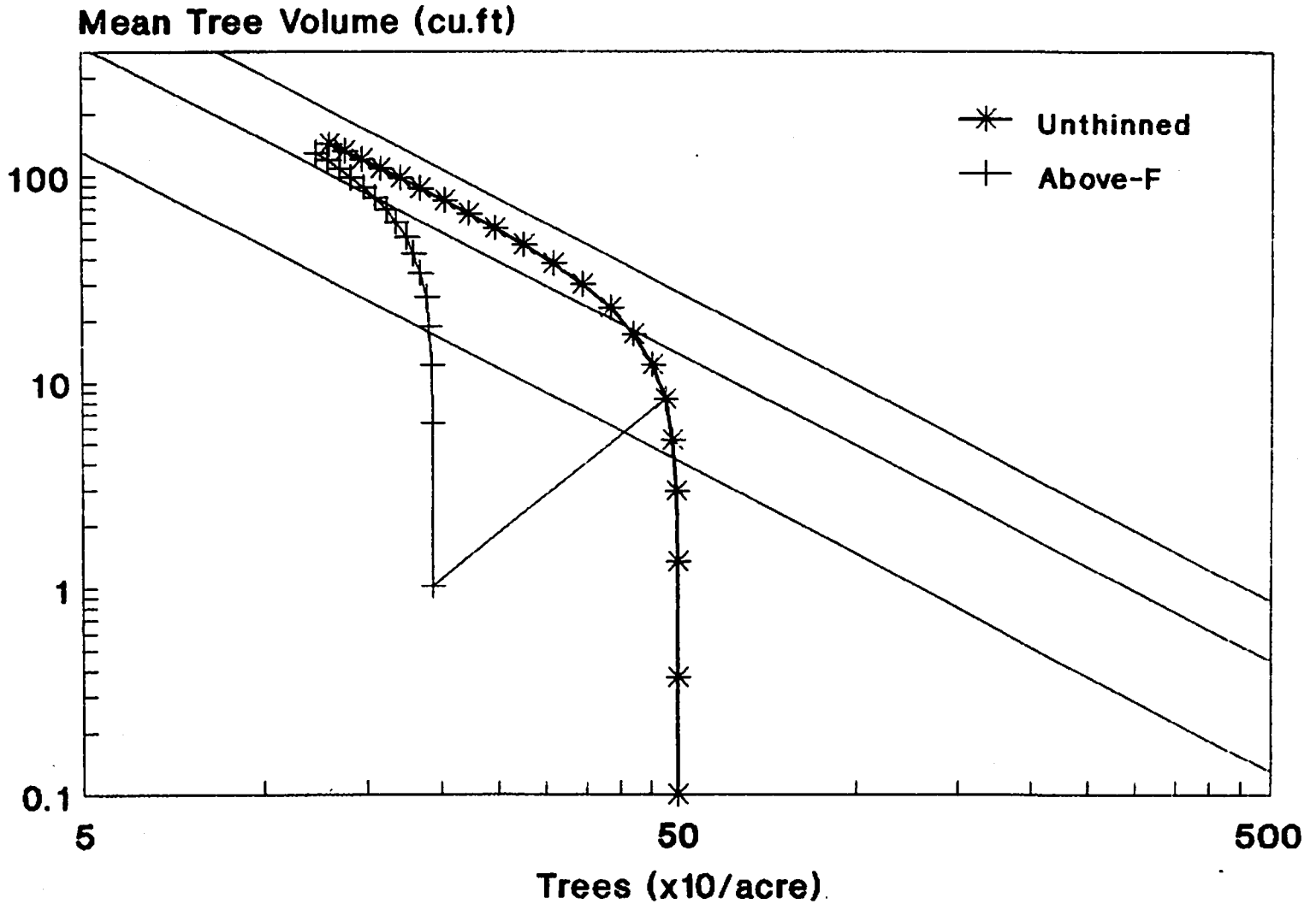
Density Management Diagram for DFSI=95
(Thinning from Above-Regime D)



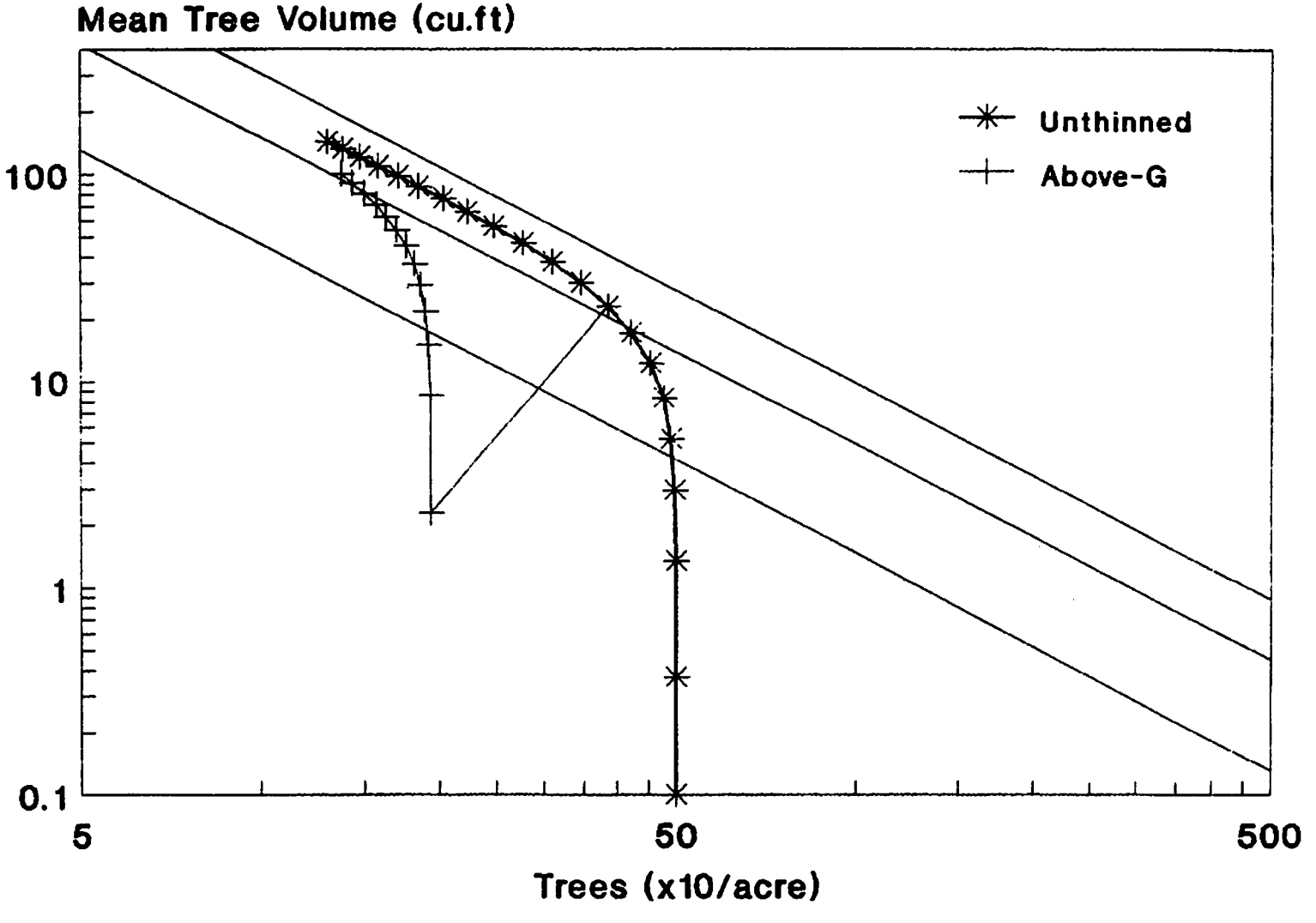
Density Management Diagram for DFSI=95
(Thinning from Above-Regime E)



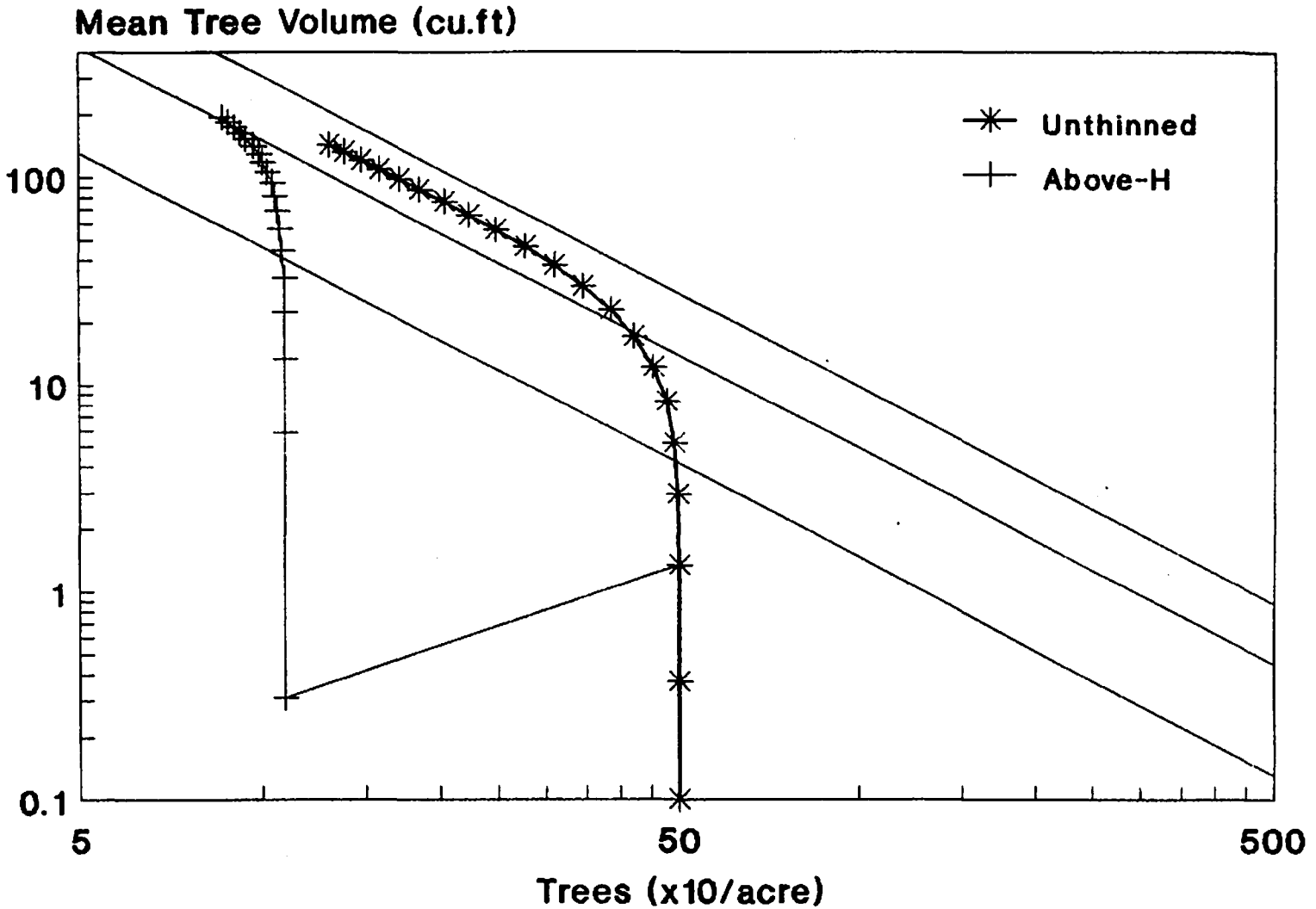
Density Management Diagram for DFSI=95
(Thinning from Above-Regime F)



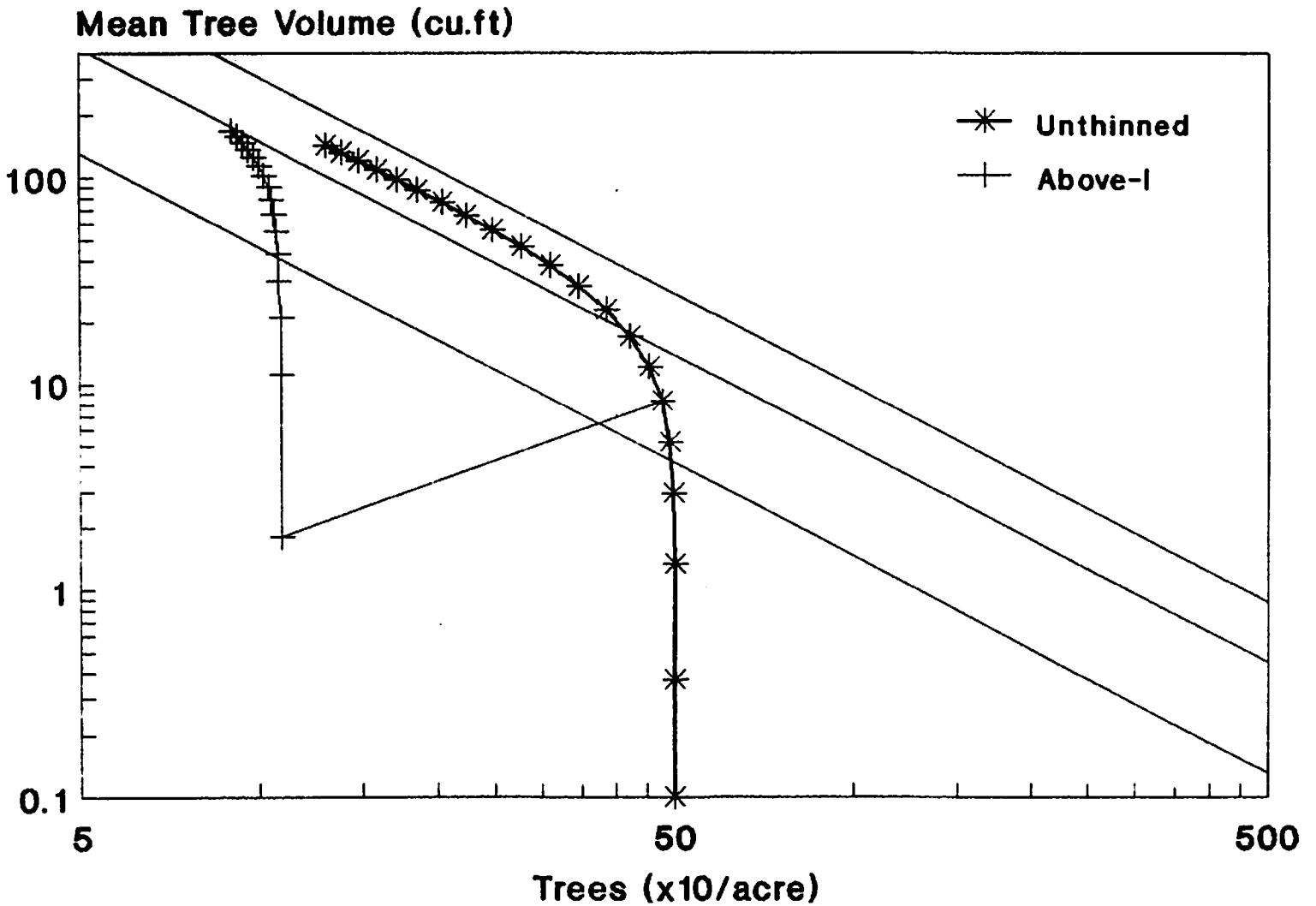
Density Management Diagram for DFSI=95
(Thinning from Above-Regime G)



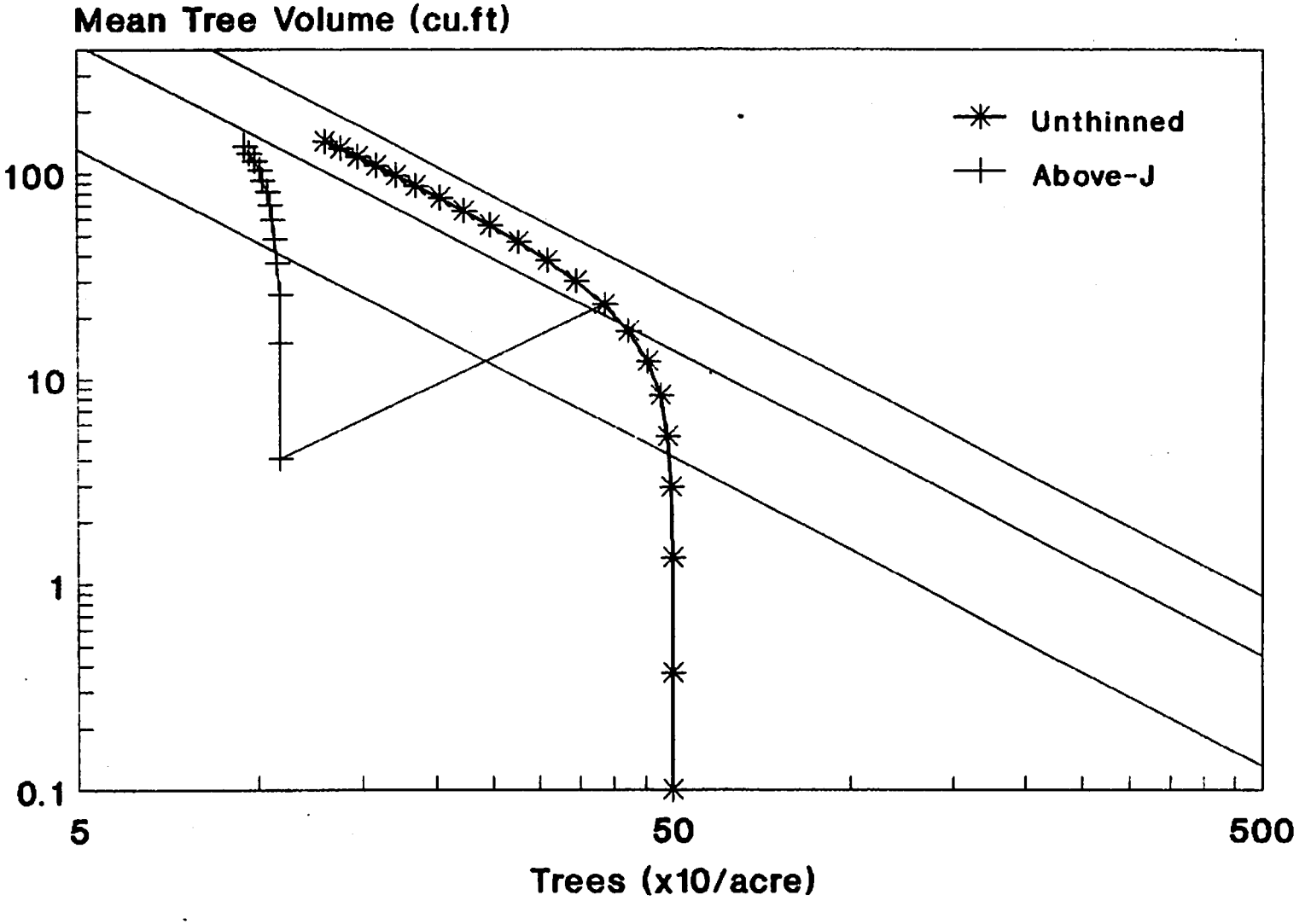
Density Management Diagram for DFSI=95
(Thinning from Above-Regime H)



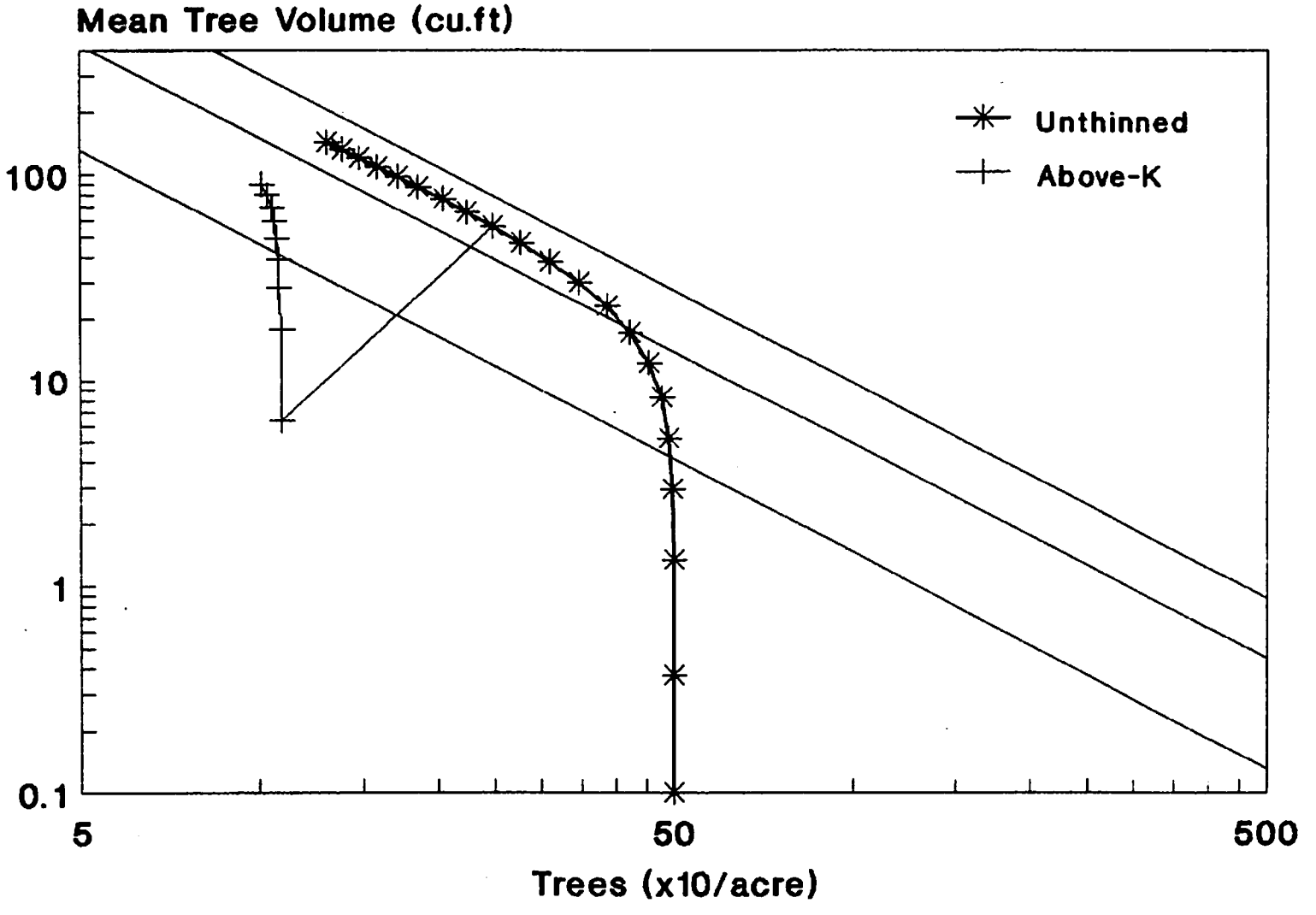
Density Management Diagram for DFSI=95
(Thinning from Above-Regime I)



Density Management Diagram for DFSI=95
(Thinning from Above-Regime J)



Density Management Diagram for DFSI=95
(Thinning from Above-Regime K)



Appendix E

Yield tables and Douglas-fir density management diagrams for thinning regimes for site index 110

Yield Tables of Thinning Across Distribution

for DFSI = 110

Notation Used in the Yield Tables:

INST	=	Stand Identification
DFSI	=	Douglas-fir site index (feet)
A	=	Stand age at DBH (year)
TOPH	=	Stand top height (feet)
BA	=	Stand basal area (ft^2/acre)
QMD	=	Quadratic mean tree diameter (inch)
V	=	Stand total volume (ft^3/acre)
VG	=	Total volume increment in 6 yeras (ft^3/care)
MV	=	Stand mean tree volume (ft^3)
N	=	Number of surviving trees per acre
MORT	=	Number of dead trees in 6 years
RD	=	Drew-Flewelling's relative density index

(1) Unthinned Stand (DFSI=110, N=500)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	UNTH	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	UNTH	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	UNTH	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
4	UNTH	110	18	46.0	124.53	6.80	2053.4	1128.50	4.15	494	5	0.15
5	UNTH	110	24	59.9	174.37	8.16	3644.8	1591.37	7.59	480	14	0.26
6	UNTH	110	30	72.5	227.03	9.58	5636.7	1991.88	12.44	453	27	0.39
7	UNTH	110	36	83.9	277.07	11.10	7842.9	2206.21	19.02	412	41	0.51
8	UNTH	110	42	94.2	318.87	12.68	10009.7	2166.81	27.52	364	49	0.62
9	UNTH	110	48	103.3	350.07	14.27	11948.8	1939.18	37.92	315	49	0.68
10	UNTH	110	54	111.5	371.73	15.83	13596.8	1647.91	50.01	272	43	0.72
11	UNTH	110	60	118.8	386.33	17.33	14973.9	1377.16	63.48	236	36	0.74
12	UNTH	110	66	125.4	396.14	18.75	16128.9	1154.95	78.04	207	29	0.75
13	UNTH	110	72	131.3	402.84	20.08	17108.9	980.04	93.43	183	24	0.75
14	UNTH	110	78	136.6	407.51	21.34	17951.8	842.91	109.45	164	19	0.74
15	UNTH	110	84	141.5	410.85	22.53	18685.9	734.12	125.93	148	16	0.73
16	UNTH	110	90	145.9	413.30	23.65	19332.3	646.33	142.74	135	13	0.73
17	UNTH	110	96	149.9	415.13	24.72	19906.5	574.25	159.75	125	11	0.72
18	UNTH	110	102	153.5	416.54	25.72	20420.7	514.13	176.88	115	9	0.71
19	UNTH	110	108	156.9	417.63	26.67	20883.9	463.29	194.06	108	8	0.70
20	UNTH	110	114	159.9	418.50	27.58	21303.8	419.80	211.21	101	7	0.69
21	UNTH	110	120	162.7	419.19	28.44	21686.0	382.23	228.28	95	6	0.68

(2) Thinning Across Distribution: Regime A (Thinned to N=436 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-A	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-A	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	M-A	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	M-A	110	12	31.1	69.29	5.40	806.6	-118.31	1.85	436	63	0.05
5	M-A	110	18	46.0	113.74	6.94	1878.6	1072.04	4.34	433	3	0.13
6	M-A	110	24	59.9	162.16	8.38	3394.1	1515.43	8.01	424	9	0.23
7	M-A	110	30	72.5	213.22	9.82	5299.9	1905.86	13.08	405	19	0.34
8	M-A	110	36	83.9	262.64	11.32	7441.6	2141.62	19.80	376	29	0.47
9	M-A	110	42	94.2	305.36	12.86	9593.2	2151.63	28.33	339	37	0.57
10	M-A	110	48	103.3	338.58	14.41	11563.7	1970.46	38.66	299	40	0.65
11	M-A	110	54	111.5	362.52	15.93	13265.8	1702.16	50.63	262	37	0.69
12	M-A	110	60	118.8	379.12	17.39	14699.8	1433.94	63.98	230	32	0.72
13	M-A	110	66	125.4	390.52	18.79	15904.3	1204.60	78.42	203	27	0.73
14	M-A	110	72	131.3	398.42	20.11	16924.6	1020.26	93.72	181	22	0.73
15	M-A	110	78	136.6	403.98	21.36	17799.1	874.53	109.66	162	18	0.73
16	M-A	110	84	141.5	407.99	22.54	18557.9	758.79	126.08	147	15	0.73
17	M-A	110	90	145.9	410.93	23.66	19223.6	665.64	142.83	135	13	0.72
18	M-A	110	96	149.9	413.15	24.72	19813.1	589.50	159.79	124	11	0.71
19	M-A	110	102	153.5	414.85	25.72	20339.4	526.31	176.89	115	9	0.70
20	M-A	110	108	156.9	416.17	26.67	20812.5	473.14	194.02	107	8	0.70
21	M-A	110	114	159.9	417.23	27.58	21240.4	427.85	211.14	101	7	0.69
22	M-A	110	120	162.7	418.08	28.44	21629.3	388.89	228.19	95	6	0.68

(3) Thinning Across Distribution: Regime B (Thinned to N=436 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-B	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-B	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	M-B	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
4	M-B	110	18	46.0	124.53	6.80	2053.4	1128.50	4.15	494	5	0.15
5	M-B	110	24	59.9	174.37	8.16	3644.8	1591.37	7.59	480	14	0.26
6	M-B	110	30	72.5	227.03	9.58	5636.7	1991.88	12.44	453	27	0.39
# 7	M-B	110	30	72.5	218.30	9.58	5423.8	-212.82	12.44	436	17	0.37
8	M-B	110	36	83.9	268.55	11.09	7606.0	2182.16	19.01	400	36	0.49
9	M-B	110	42	94.2	311.35	12.66	9777.6	2171.64	27.46	356	44	0.60
10	M-B	110	48	103.3	343.95	14.25	11743.6	1966.00	37.79	311	45	0.67
11	M-B	110	54	111.5	366.98	15.80	13426.1	1682.48	49.81	270	41	0.71
12	M-B	110	60	118.8	382.70	17.29	14835.8	1409.66	63.22	235	35	0.73
13	M-B	110	66	125.4	393.36	18.71	16017.5	1181.77	77.73	206	29	0.74
14	M-B	110	72	131.3	400.67	20.05	17018.5	1001.01	93.09	183	23	0.74
15	M-B	110	78	136.6	405.80	21.31	17877.6	859.01	109.09	164	19	0.74
16	M-B	110	84	141.5	409.47	22.50	18624.0	746.47	125.56	148	16	0.73
17	M-B	110	90	145.9	412.16	23.62	19279.9	655.89	142.35	135	13	0.72
18	M-B	110	96	149.9	414.18	24.68	19861.7	581.73	159.36	125	11	0.72
19	M-B	110	102	153.5	415.73	25.69	20381.7	520.07	176.48	115	9	0.71
20	M-B	110	108	156.9	416.93	26.65	20849.8	468.07	193.65	108	8	0.70
21	M-B	110	114	159.9	417.89	27.55	21273.5	423.69	210.80	101	7	0.69
22	M-B	110	120	162.7	418.66	28.42	21658.9	385.44	227.88	95	6	0.68

(4) Thinning Across Distribution: Regime C (Thinned to N=303 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-C	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-C	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	M-C	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	M-C	110	12	31.1	47.83	5.38	560.5	-364.36	1.85	303	196	0.03
5	M-C	110	18	46.0	92.01	7.47	1525.7	965.15	5.05	302	1	0.09
6	M-C	110	24	59.9	137.58	9.18	2888.3	1362.61	9.65	299	3	0.16
7	M-C	110	30	72.5	184.60	10.76	4600.8	1712.50	15.72	293	7	0.25
8	M-C	110	36	83.9	230.89	12.27	6557.4	1956.63	23.32	281	11	0.35
9	M-C	110	42	94.2	273.18	13.75	8599.5	2042.08	32.45	265	16	0.45
10	M-C	110	48	103.3	308.81	15.19	10564.7	1965.17	43.07	245	20	0.53
11	M-C	110	54	111.5	336.82	16.60	12341.9	1777.25	55.06	224	21	0.60
12	M-C	110	60	118.8	357.82	17.96	13888.4	1546.44	68.26	203	21	0.64
13	M-C	110	66	125.4	373.17	19.26	15210.3	1321.95	82.46	184	19	0.67
14	M-C	110	72	131.3	384.32	20.51	16336.6	1126.29	97.49	168	17	0.68
15	M-C	110	78	136.6	392.46	21.69	17300.8	964.17	113.15	153	15	0.69
16	M-C	110	84	141.5	398.48	22.83	18133.1	832.33	129.30	140	13	0.69
17	M-C	110	90	145.9	402.98	23.90	18858.4	725.33	145.80	129	11	0.69
18	M-C	110	96	149.9	406.42	24.93	19496.3	637.90	162.54	120	9	0.69
19	M-C	110	102	153.5	409.09	25.90	20062.1	565.73	179.42	112	8	0.68
20	M-C	110	108	156.9	411.18	26.83	20567.5	505.48	196.36	105	7	0.68
21	M-C	110	114	159.9	412.86	27.71	21022.1	454.62	213.30	99	6	0.67
22	M-C	110	120	162.7	414.22	28.56	21433.4	411.24	230.19	93	5	0.67

(5) Thinning Across Distribution: Regime D (Thinned to N=303 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-D	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-D	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	M-D	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	M-D	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	M-D	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	M-D	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
# 7	M-D	110	30	72.5	150.68	9.55	3769.3	-1867.3	12.44	303	150	0.21
8	M-D	110	36	83.9	198.98	11.16	5666.5	1897.2	19.36	293	10	0.31
9	M-D	110	42	94.2	244.74	12.73	7720.0	2053.5	27.86	277	16	0.41
10	M-D	110	48	103.3	284.86	14.25	9759.7	2039.7	37.95	257	20	0.51
11	M-D	110	54	111.5	317.48	15.74	11646.1	1886.4	49.55	235	22	0.58
12	M-D	110	60	118.8	342.57	17.17	13307.3	1661.2	62.47	213	22	0.63
13	M-D	110	66	125.4	361.23	18.55	14732.2	1424.9	76.53	193	21	0.66
14	M-D	110	72	131.3	374.91	19.86	15943.6	1211.4	91.49	174	18	0.68
15	M-D	110	78	136.6	384.95	21.11	16975.6	1032.0	107.16	158	16	0.69
16	M-D	110	84	141.5	392.39	22.29	17861.1	885.5	123.36	145	14	0.69
17	M-D	110	90	145.9	397.97	23.41	18628.2	767.0	139.93	133	12	0.69
18	M-D	110	96	149.9	402.23	24.48	19299.0	670.8	156.76	123	10	0.69
19	M-D	110	102	153.5	405.53	25.48	19890.9	591.9	173.74	114	9	0.69
20	M-D	110	108	156.9	408.13	26.44	20417.5	526.6	190.80	107	7	0.68
21	M-D	110	114	159.9	410.21	27.36	20889.4	471.8	207.85	101	7	0.68
22	M-D	110	120	162.7	411.89	28.23	21314.8	425.4	224.85	95	6	0.67

(6) Thinning Across Distribution: Regime E (Thinned to N=194 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-E	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-E	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	M-E	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	M-E	110	12	31.1	30.37	5.36	358.9	-566.01	1.85	194	305	0.02
5	M-E	110	18	46.0	75.33	8.44	1253.7	894.83	6.47	194	0	0.06
6	M-E	110	24	59.9	118.85	10.62	2501.7	1248.01	12.96	193	1	0.11
7	M-E	110	30	72.5	162.14	12.47	4050.5	1548.75	21.18	191	2	0.18
8	M-E	110	36	83.9	204.29	14.12	5815.1	1764.61	30.96	188	3	0.26
9	M-E	110	42	94.2	243.58	15.64	7684.0	1868.91	42.06	183	5	0.34
10	M-E	110	48	103.3	278.33	17.04	9540.2	1856.19	54.27	176	7	0.41
11	M-E	110	54	111.5	307.56	18.35	11288.6	1748.35	67.38	168	8	0.47
12	M-E	110	60	118.8	331.16	19.58	12872.1	1583.51	81.26	158	9	0.52
13	M-E	110	66	125.4	349.70	20.74	14270.7	1398.61	95.77	149	9	0.56
14	M-E	110	72	131.3	364.04	21.85	15489.8	1219.13	110.83	140	9	0.59
15	M-E	110	78	136.6	375.07	22.91	16547.8	1058.01	126.33	131	9	0.61
16	M-E	110	84	141.5	383.57	23.93	17467.1	919.33	142.19	123	8	0.62
17	M-E	110	90	145.9	390.17	24.90	18269.6	802.43	158.32	115	7	0.63
18	M-E	110	96	149.9	395.34	25.83	18974.2	704.65	174.65	109	7	0.64
19	M-E	110	102	153.5	399.43	26.72	19597.1	622.88	191.09	103	6	0.64
20	M-E	110	108	156.9	402.71	27.58	20151.3	554.21	207.59	97	5	0.64
21	M-E	110	114	159.9	405.37	28.40	20647.5	496.18	224.09	92	5	0.64
22	M-E	110	120	162.7	407.55	29.19	21094.3	446.79	240.55	88	4	0.64

(7) Thinning Across Distribution: Regime F (Thinned to N=194 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-F	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-F	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	M-F	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	M-F	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	M-F	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	M-F	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
# 7	M-F	110	30	72.5	95.68	9.51	2413.4	-3223.3	12.44	194	259	0.11
8	M-F	110	36	83.9	140.43	11.58	4024.9	1611.5	20.97	192	2	0.18
9	M-F	110	42	94.2	183.64	13.38	5823.2	1798.3	30.96	188	4	0.26
10	M-F	110	48	103.3	223.89	15.00	7704.6	1881.5	42.24	182	6	0.34
11	M-F	110	54	111.5	259.69	16.50	9561.2	1856.5	54.64	175	7	0.41
12	M-F	110	60	118.8	290.15	17.89	11305.4	1744.3	68.00	166	9	0.47
13	M-F	110	66	125.4	315.15	19.20	12885.3	1579.8	82.17	157	9	0.52
14	M-F	110	72	131.3	335.15	20.43	14282.2	1397.0	97.01	147	10	0.56
15	M-F	110	78	136.6	350.93	21.60	15501.5	1219.3	112.40	138	9	0.59
16	M-F	110	84	141.5	363.31	22.71	16560.7	1059.2	128.24	129	9	0.61
17	M-F	110	90	145.9	373.03	23.77	17481.5	920.7	144.41	121	8	0.62
18	M-F	110	96	149.9	380.71	24.78	18285.0	803.6	160.83	114	7	0.63
19	M-F	110	102	153.5	386.83	25.74	18990.3	705.3	177.40	107	7	0.63
20	M-F	110	108	156.9	391.76	26.66	19613.2	622.9	194.05	101	6	0.64
21	M-F	110	114	159.9	395.76	27.54	20166.9	553.7	210.73	96	5	0.64
22	M-F	110	120	162.7	399.04	28.38	20662.1	495.2	227.38	91	5	0.64

(8) Thinning Across Distribution: Regime G (Thinned to N=194 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-G	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-G	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	M-G	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	M-G	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	M-G	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	M-G	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
7	M-G	110	36	83.9	277.07	11.10	7842.9	2206.2	19.02	412	41	0.51
8	M-G	110	42	94.2	318.87	12.68	10009.7	2166.8	27.52	364	49	0.62
9	M-G	110	48	103.3	350.07	14.27	11948.8	1939.2	37.92	315	49	0.68
#10	M-G	110	48	103.3	213.58	14.21	7356.5	-4592.4	37.92	194	121	0.33
11	M-G	110	54	111.5	251.02	15.74	9247.7	1891.2	49.81	186	8	0.41
12	M-G	110	60	118.8	283.11	17.18	11035.9	1788.2	62.77	176	10	0.47
13	M-G	110	66	125.4	309.55	18.54	12660.5	1624.6	76.65	165	11	0.53
14	M-G	110	72	131.3	330.74	19.82	14097.8	1437.3	91.31	154	11	0.57
15	M-G	110	78	136.6	347.45	21.03	15350.9	1253.1	106.62	144	10	0.59
16	M-G	110	84	141.5	360.55	22.19	16437.1	1086.3	122.43	134	10	0.61
17	M-G	110	90	145.9	370.81	23.29	17379.2	942.0	138.62	125	9	0.63
18	M-G	110	96	149.9	378.90	24.33	18199.4	820.2	155.10	117	8	0.64
19	M-G	110	102	153.5	385.33	25.33	18917.6	718.3	171.75	110	7	0.64
20	M-G	110	108	156.9	390.49	26.27	19550.8	633.2	188.51	104	6	0.64
21	M-G	110	114	159.9	394.67	27.18	20112.7	561.9	205.30	98	6	0.64
22	M-G	110	120	162.7	398.11	28.04	20614.5	501.8	222.07	93	5	0.64

(9) Thinning Across Distribution: Regime H (Thinned to N=109 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-H	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-H	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	M-H	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	M-H	110	12	31.1	16.88	5.33	201.6	-723.26	1.85	109	390	0.01
5	M-H	110	18	46.0	63.53	10.34	1060.6	859.00	9.73	109	0	0.04
6	M-H	110	24	59.9	105.58	13.34	2227.2	1166.59	20.46	109	0	0.07
7	M-H	110	30	72.5	145.63	15.69	3645.3	1418.04	33.60	108	0	0.12
8	M-H	110	36	83.9	183.61	17.67	5236.7	1591.41	48.56	108	1	0.18
9	M-H	110	42	94.2	218.82	19.38	6916.4	1679.76	64.77	107	1	0.23
10	M-H	110	48	103.3	250.51	20.88	8603.1	1686.65	81.69	105	1	0.28
11	M-H	110	54	111.5	278.19	22.21	10229.4	1626.36	98.92	103	2	0.34
12	M-H	110	60	118.8	301.76	23.39	11749.1	1519.64	116.18	101	2	0.38
13	M-H	110	66	125.4	321.42	24.46	13136.8	1387.73	133.32	99	3	0.42
14	M-H	110	72	131.3	337.60	25.43	14384.8	1247.93	150.28	96	3	0.45
15	M-H	110	78	136.6	350.82	26.33	15496.7	1111.98	167.04	93	3	0.48
16	M-H	110	84	141.5	361.58	27.18	16483.2	986.48	183.62	90	3	0.50
17	M-H	110	90	145.9	370.34	27.97	17357.5	874.27	200.03	87	3	0.52
18	M-H	110	96	149.9	377.50	28.73	18133.3	775.85	216.30	84	3	0.54
19	M-H	110	102	153.5	383.38	29.46	18823.8	690.43	232.41	81	3	0.55
20	M-H	110	108	156.9	388.24	30.16	19440.4	616.65	248.39	78	3	0.55
21	M-H	110	114	159.9	392.29	30.83	19993.4	553.00	264.23	76	3	0.56
22	M-H	110	120	162.7	395.69	31.48	20491.4	498.02	279.91	73	2	0.57

(10) Thinning Across Distribution: Regime I (Thinned to N=109 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-I	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-I	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	M-I	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	M-I	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	M-I	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	M-I	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
# 7	M-I	110	30	72.5	53.18	9.46	1356.0	-4280.7	12.44	109	344	0.05
8	M-I	110	36	83.9	96.60	12.76	2787.8	1431.8	25.63	109	0	0.09
9	M-I	110	42	94.2	136.97	15.24	4366.8	1579.0	40.37	108	1	0.15
10	M-I	110	48	103.3	174.47	17.27	6031.7	1665.0	56.26	107	1	0.20
11	M-I	110	54	111.5	208.68	19.02	7713.9	1682.1	72.91	106	1	0.26
12	M-I	110	60	118.8	239.16	20.54	9351.8	1637.9	89.96	104	2	0.31
13	M-I	110	66	125.4	265.75	21.89	10899.3	1547.5	107.16	102	2	0.35
14	M-I	110	72	131.3	288.50	23.10	12327.8	1428.6	124.34	99	3	0.40
15	M-I	110	78	136.6	307.70	24.20	13624.9	1297.1	141.42	96	3	0.43
16	M-I	110	84	141.5	323.77	25.21	14789.8	1164.9	158.36	93	3	0.46
17	M-I	110	90	145.9	337.15	26.15	15829.4	1039.6	175.15	90	3	0.49
18	M-I	110	96	149.9	348.28	27.04	16754.7	925.3	191.79	87	3	0.51
19	M-I	110	102	153.5	357.55	27.87	17578.0	823.3	208.28	84	3	0.52
20	M-I	110	108	156.9	365.29	28.66	18311.8	733.8	224.63	82	3	0.53
21	M-I	110	114	159.9	371.80	29.42	18967.5	655.7	240.82	79	3	0.54
22	M-I	110	120	162.7	377.28	30.14	19555.4	587.9	256.86	76	3	0.55

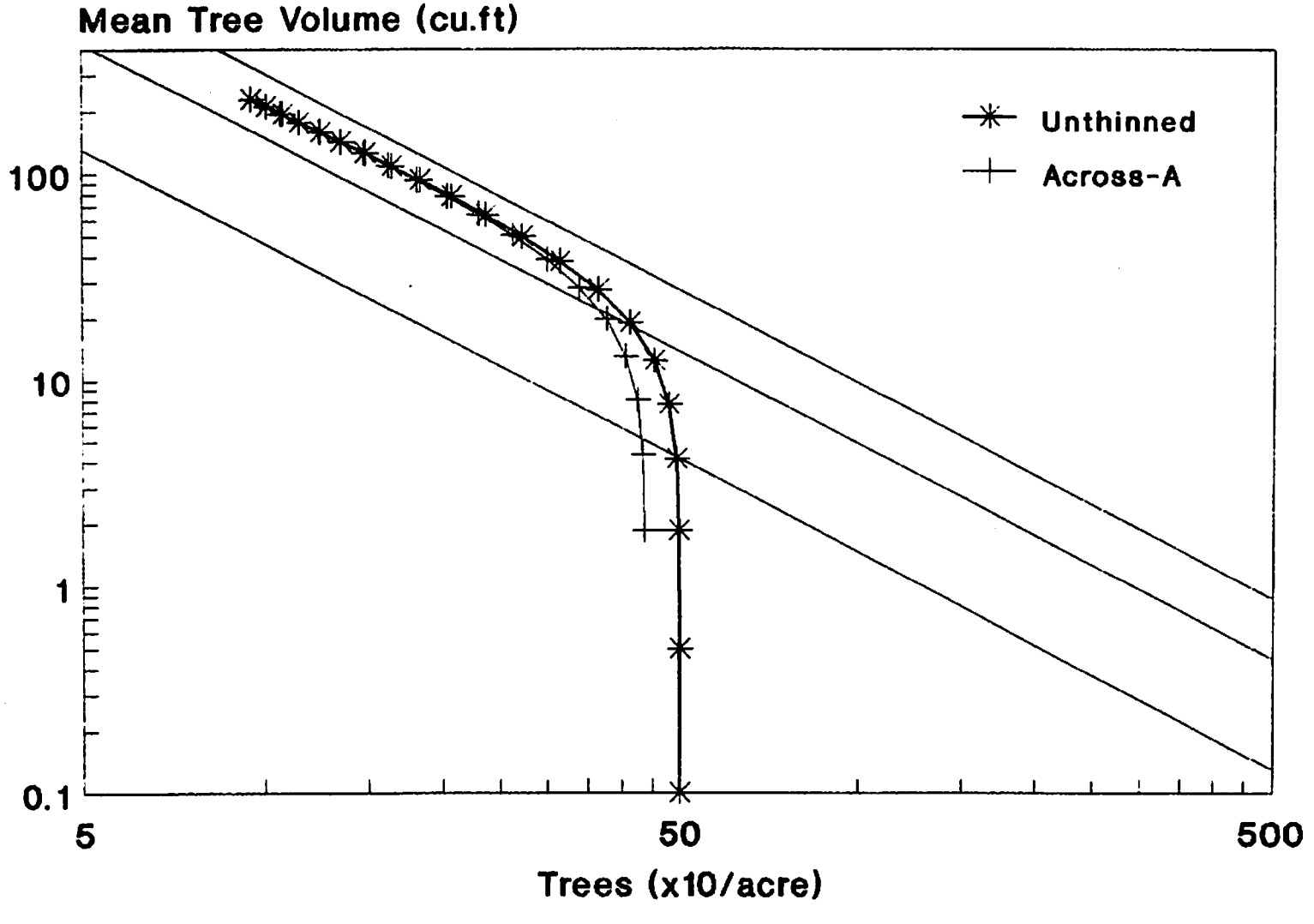
(11) Thinning Across Distribution: Regime J (Thinned to N=109 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-J	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-J	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	M-J	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	M-J	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	M-J	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	M-J	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
7	M-J	110	36	83.9	277.07	11.10	7842.9	2206.2	19.02	412	41	0.51
8	M-J	110	42	94.2	318.87	12.68	10009.7	2166.8	27.52	364	49	0.62
9	M-J	110	48	103.3	350.07	14.27	11948.8	1939.2	37.92	315	49	0.68
#10	M-J	110	48	103.3	118.72	14.13	4133.3	-7815.6	37.92	109	206	0.14
11	M-J	110	54	111.5	156.06	16.28	5799.5	1666.2	53.71	108	1	0.19
12	M-J	110	60	118.8	190.19	18.09	7468.2	1668.8	70.12	107	1	0.25
13	M-J	110	66	125.4	220.83	19.68	9087.7	1619.4	86.89	105	2	0.30
14	M-J	110	72	131.3	247.79	21.08	10618.0	1530.4	103.83	102	2	0.35
15	M-J	110	78	136.6	271.15	22.34	12034.3	1416.2	120.80	100	3	0.39
16	M-J	110	84	141.5	291.14	23.49	13324.9	1290.6	137.73	97	3	0.42
17	M-J	110	90	145.9	308.09	24.55	14488.8	1163.9	154.57	94	3	0.45
18	M-J	110	96	149.9	322.41	25.53	15531.9	1043.1	171.31	91	3	0.48
19	M-J	110	102	153.5	334.48	26.46	16463.9	932.0	187.94	88	3	0.50
20	M-J	110	108	156.9	344.66	27.33	17296.0	832.1	204.44	85	3	0.51
21	M-J	110	114	159.9	353.28	28.16	18039.8	743.8	220.81	82	3	0.53
22	M-J	110	120	162.7	360.60	28.95	18706.1	666.3	237.04	79	3	0.54

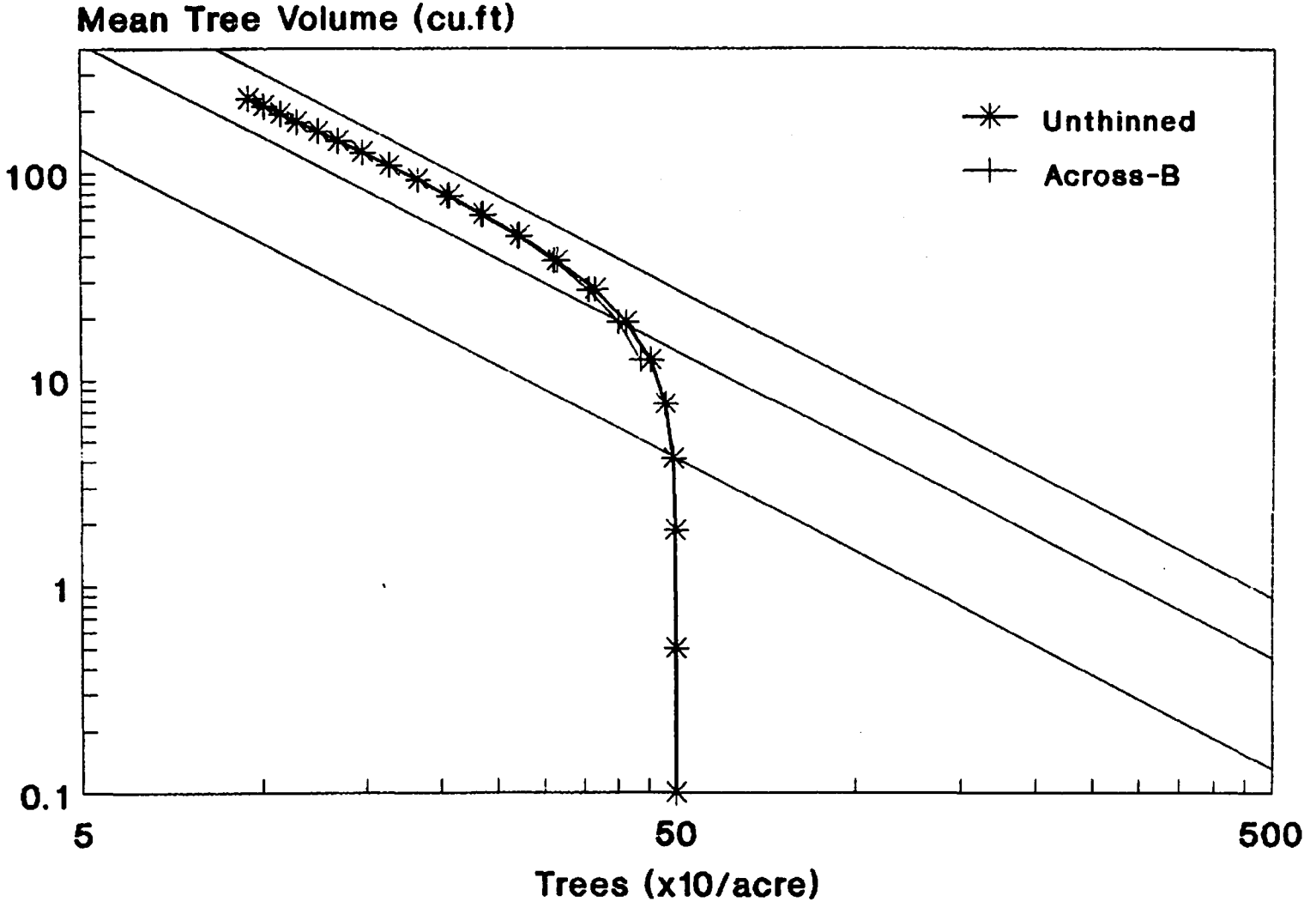
(12) Thinning Across Distribution: Regime K (Thinned to N=109 at Year 72)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	M-K	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	M-K	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	M-K	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	M-K	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	M-K	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	M-K	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
7	M-K	110	36	83.9	277.07	11.10	7842.9	2206.2	19.02	412	41	0.51
8	M-K	110	42	94.2	318.87	12.68	10009.7	2166.8	27.52	364	49	0.62
9	M-K	110	48	103.3	350.07	14.27	11948.8	1939.2	37.92	315	49	0.68
10	M-K	110	54	111.5	371.73	15.83	13596.8	1647.9	50.01	272	43	0.72
11	M-K	110	60	118.8	386.33	17.33	14973.9	1377.2	63.48	236	36	0.74
12	M-K	110	66	125.4	396.14	18.75	16128.9	1154.9	78.04	207	29	0.75
13	M-K	110	72	131.3	402.84	20.08	17108.9	980.0	93.43	183	24	0.75
#14	M-K	110	72	131.3	237.48	19.99	10183.9	-6925.0	93.43	109	74	0.34
15	M-K	110	78	136.6	262.17	21.30	11642.6	1458.8	109.86	106	3	0.39
16	M-K	110	84	141.5	283.37	22.50	12975.8	1333.1	126.38	103	3	0.42
17	M-K	110	90	145.9	301.40	23.60	14179.7	1203.9	142.92	99	3	0.46
18	M-K	110	96	149.9	316.64	24.63	15258.9	1079.3	159.46	96	4	0.48
19	M-K	110	102	153.5	329.49	25.60	16222.7	963.8	175.97	92	3	0.50
20	M-K	110	108	156.9	340.33	26.51	17082.4	859.7	192.42	89	3	0.52
21	M-K	110	114	159.9	349.49	27.38	17849.9	767.4	208.81	85	3	0.53
22	M-K	110	120	162.7	357.26	28.20	18536.3	686.5	225.10	82	3	0.54

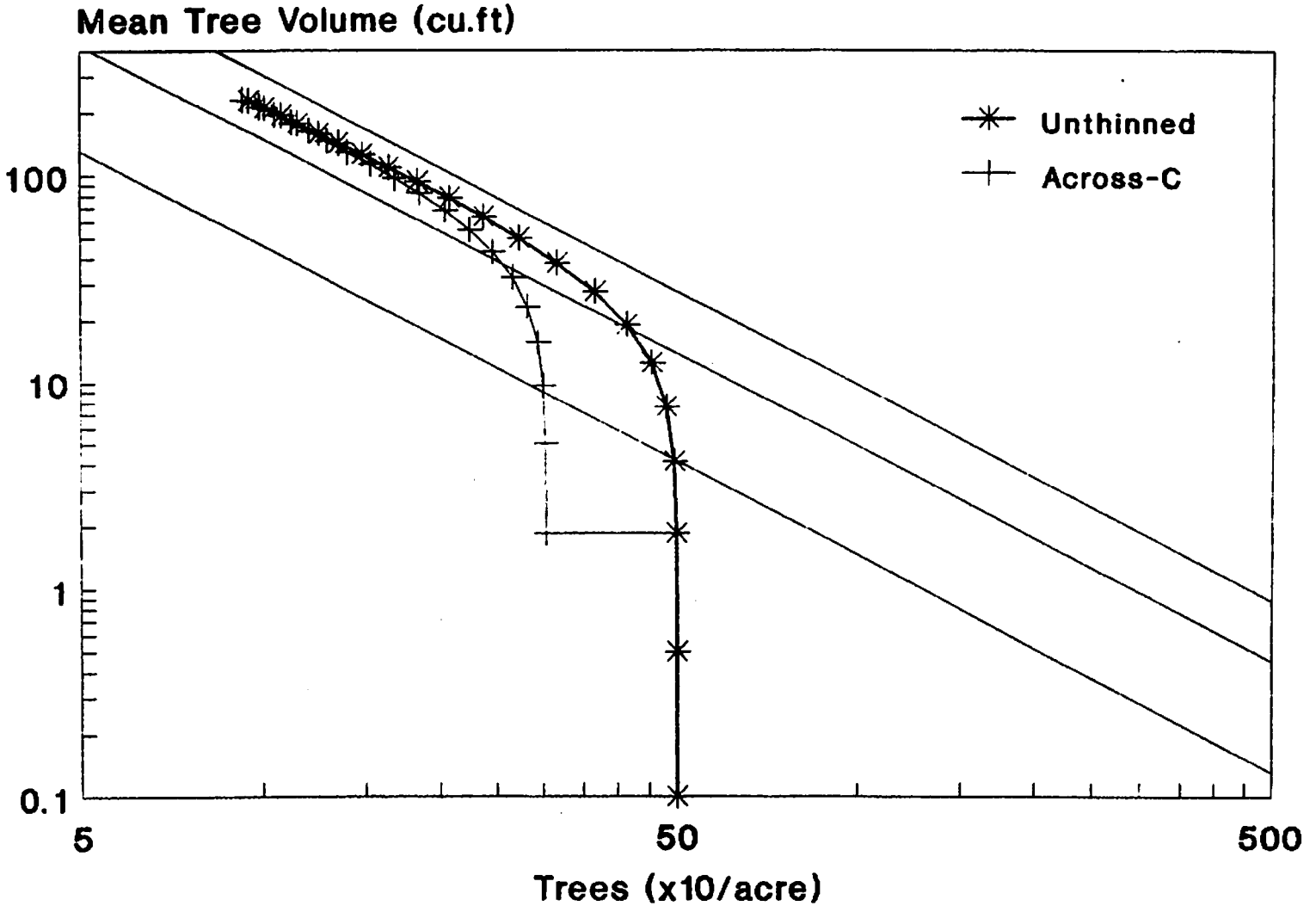
Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime A)



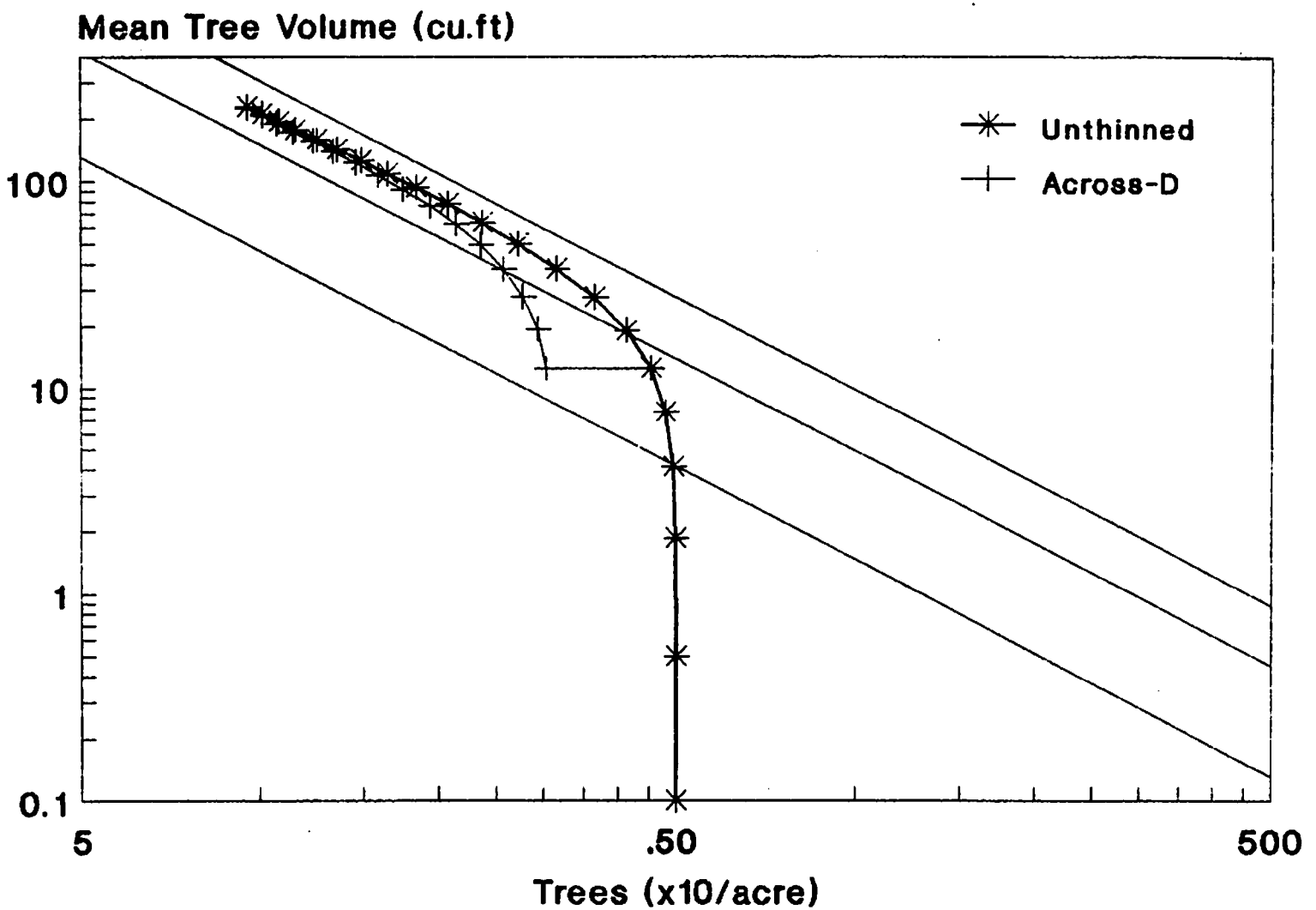
Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime B)



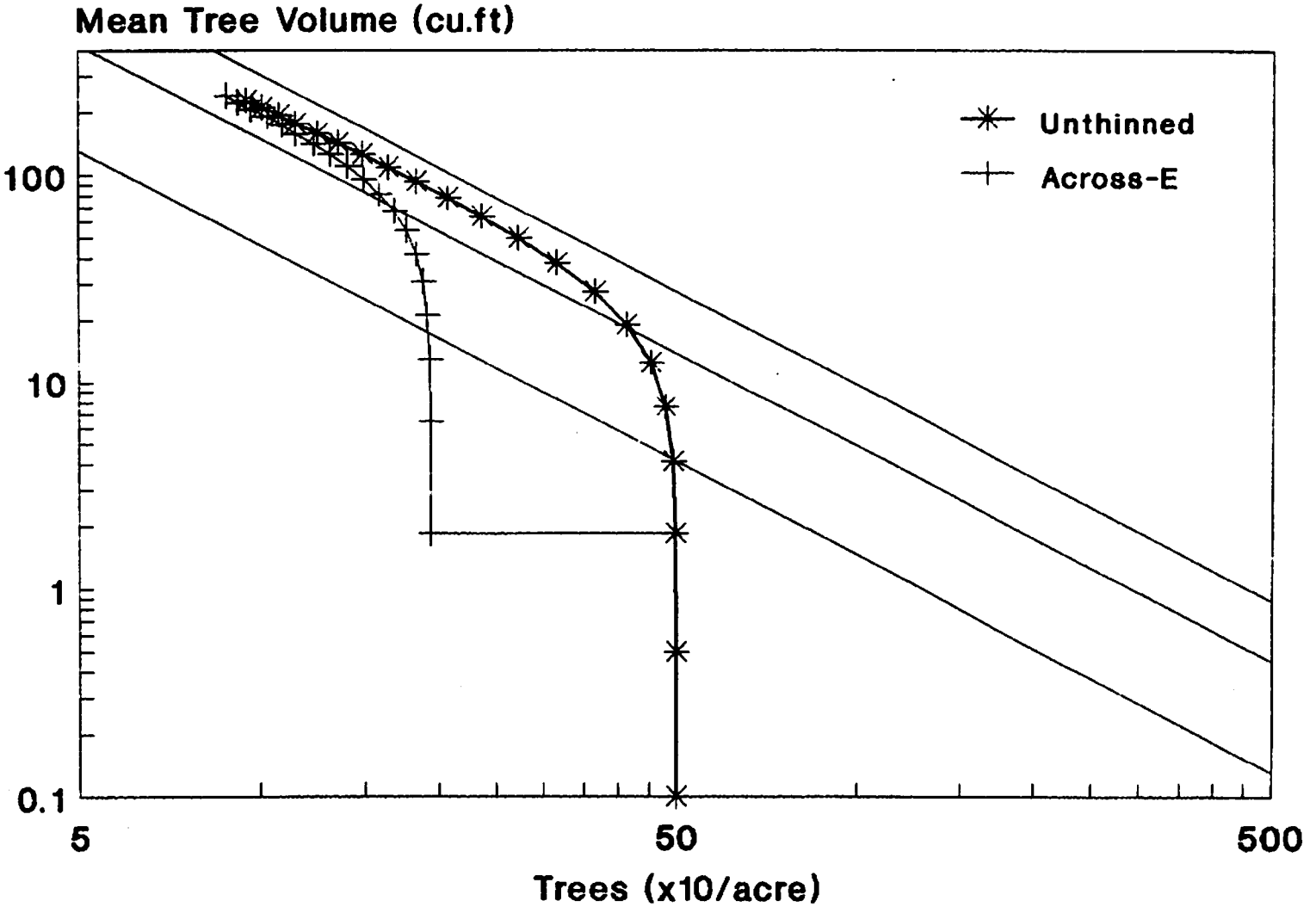
Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime C)



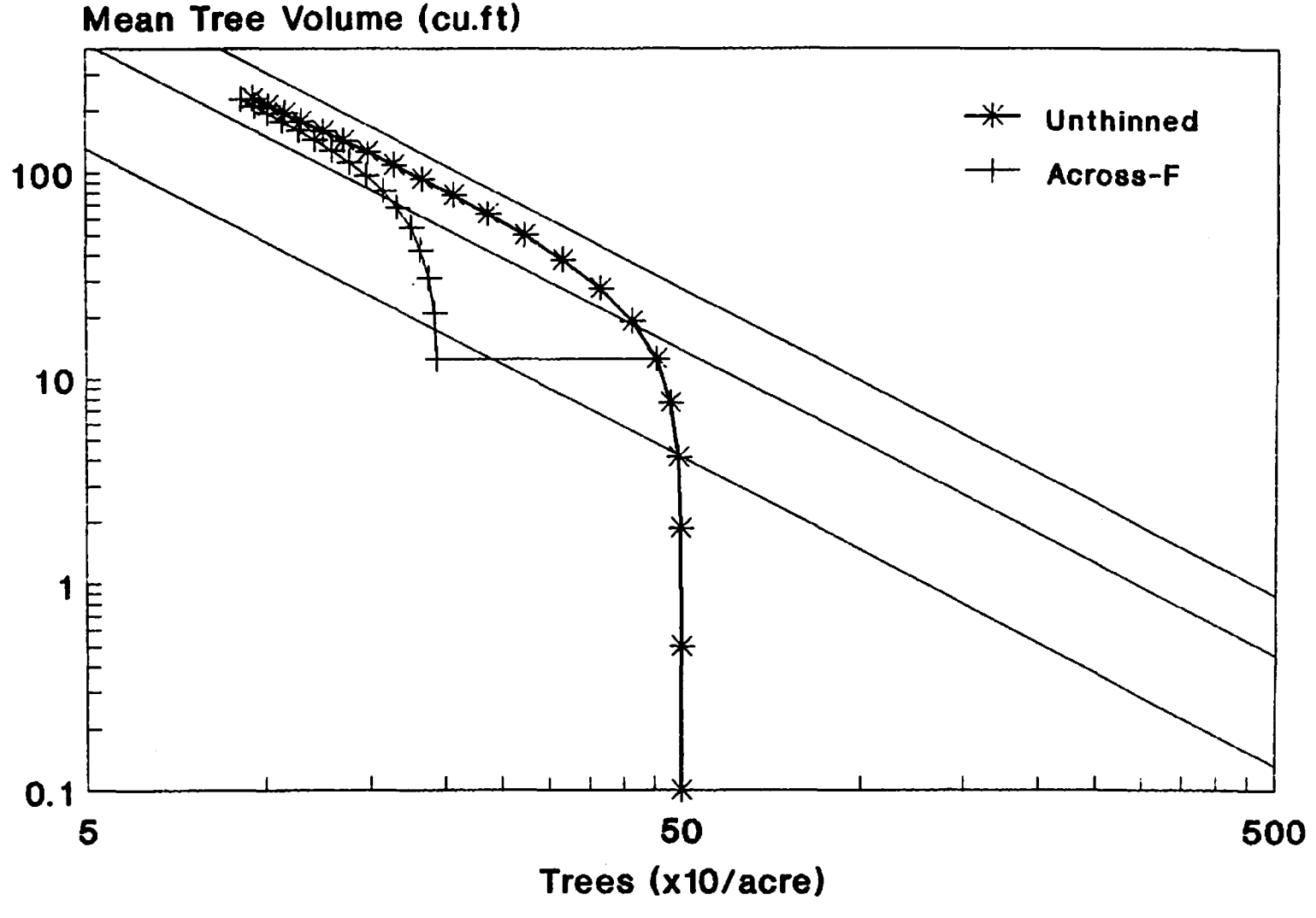
Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime D)



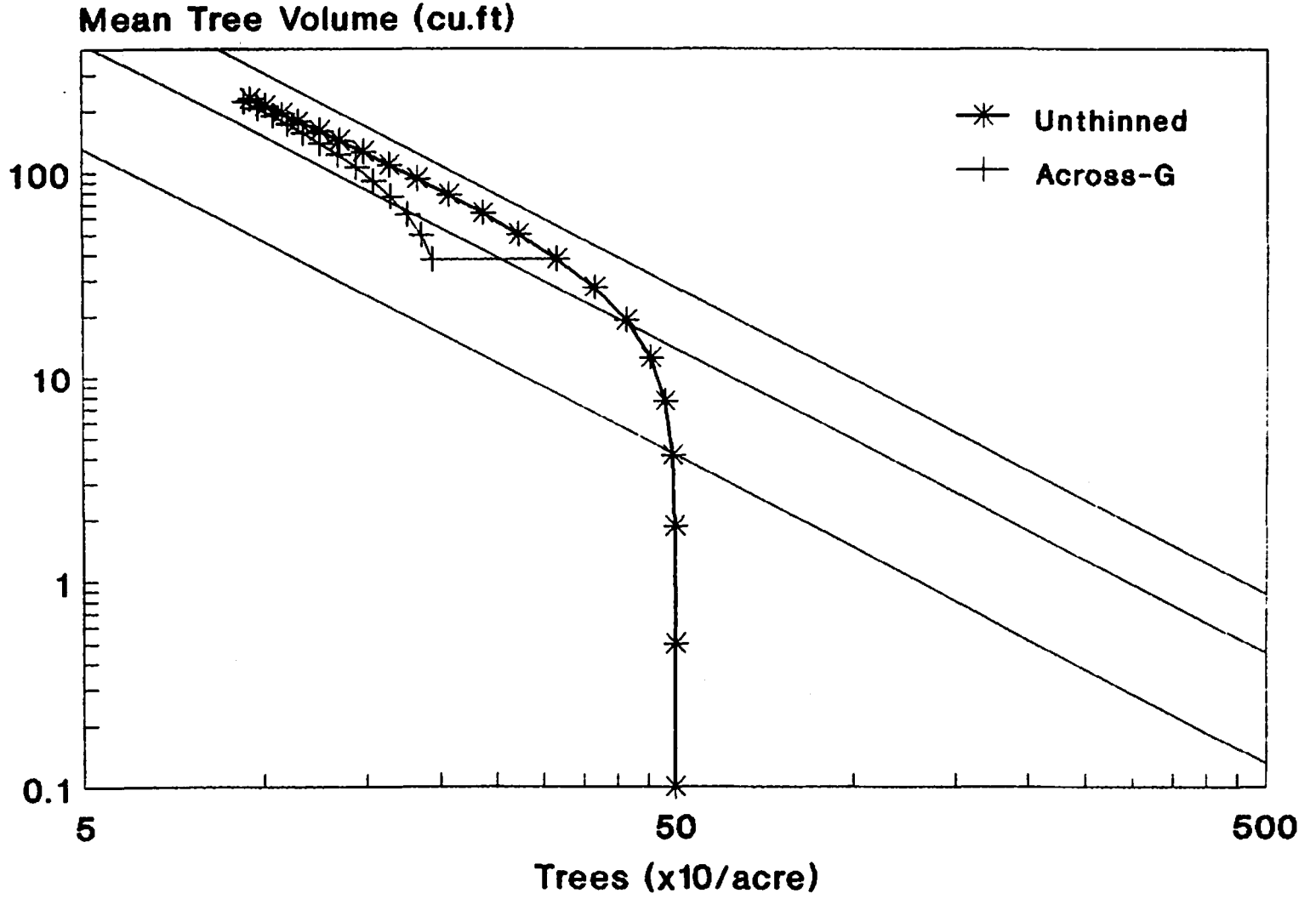
Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime E)



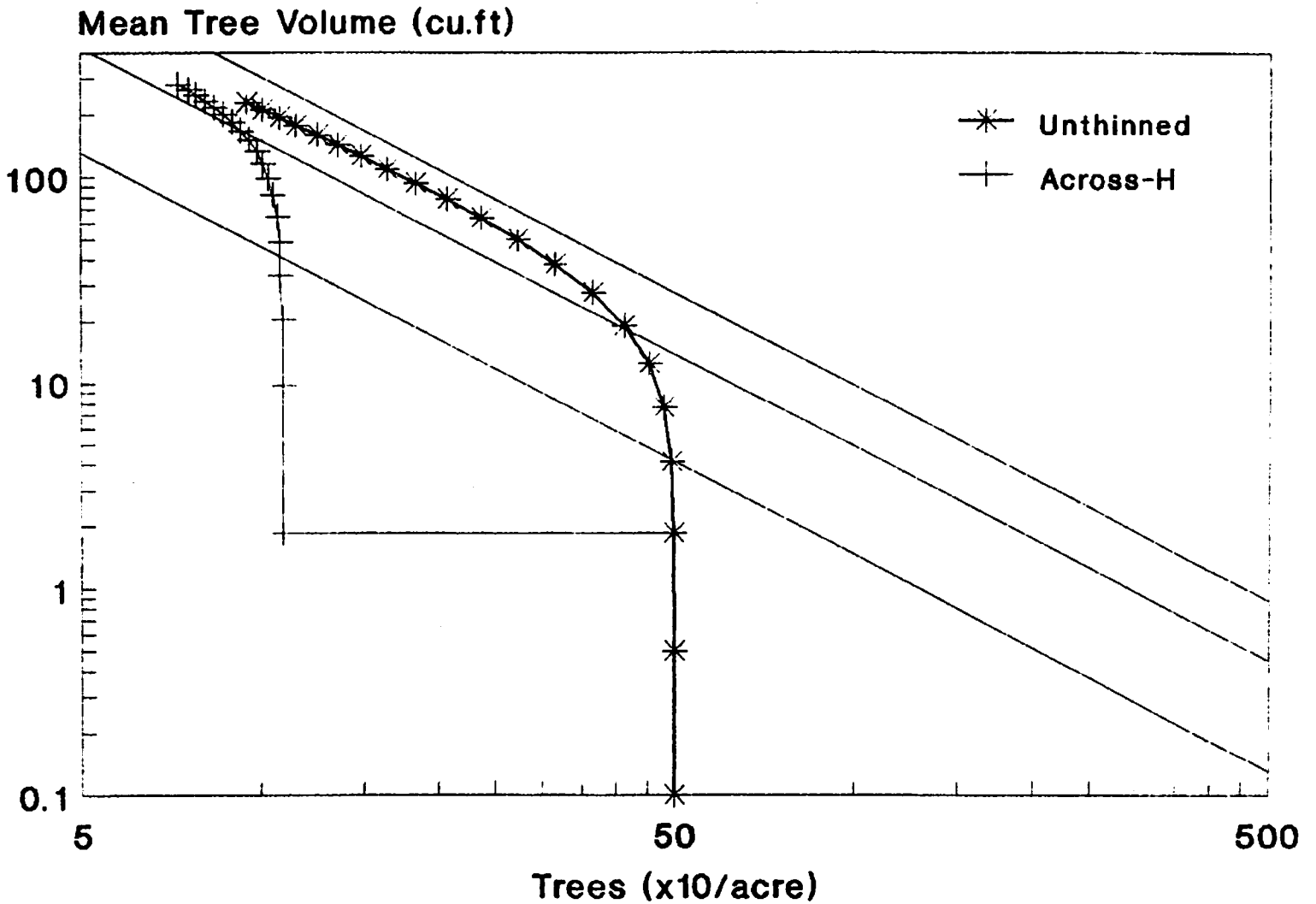
Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime F)



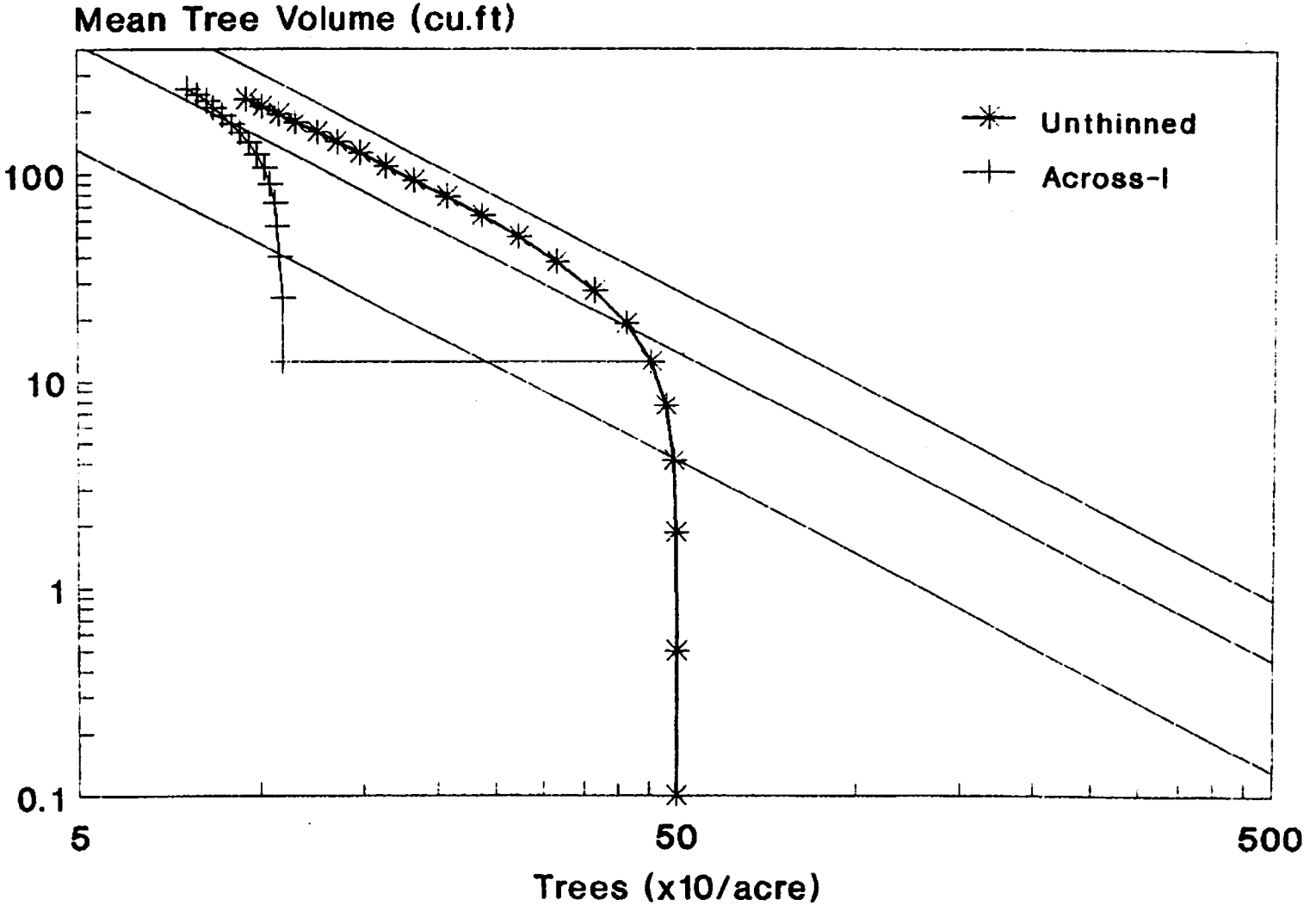
Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime G)



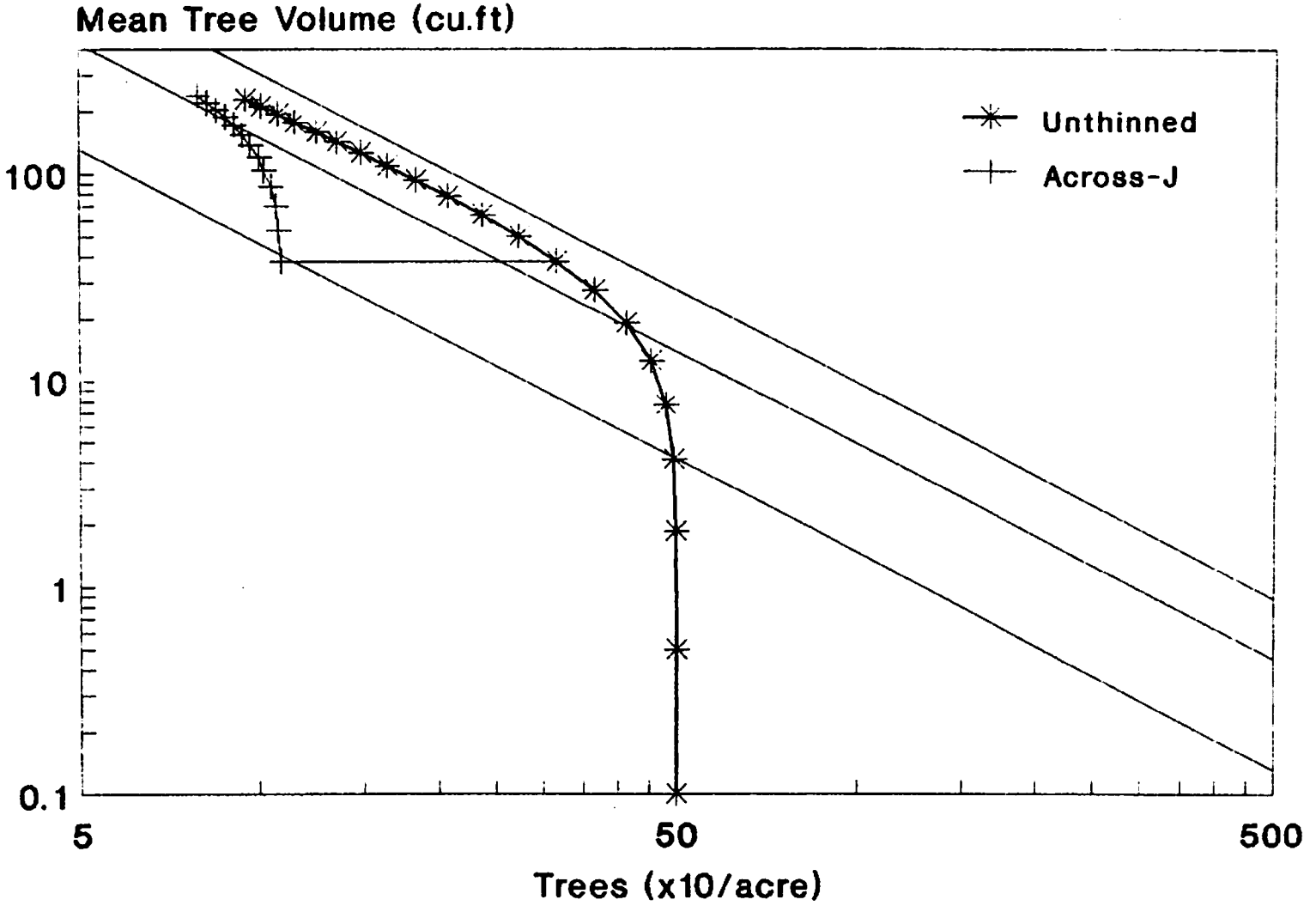
Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime H)



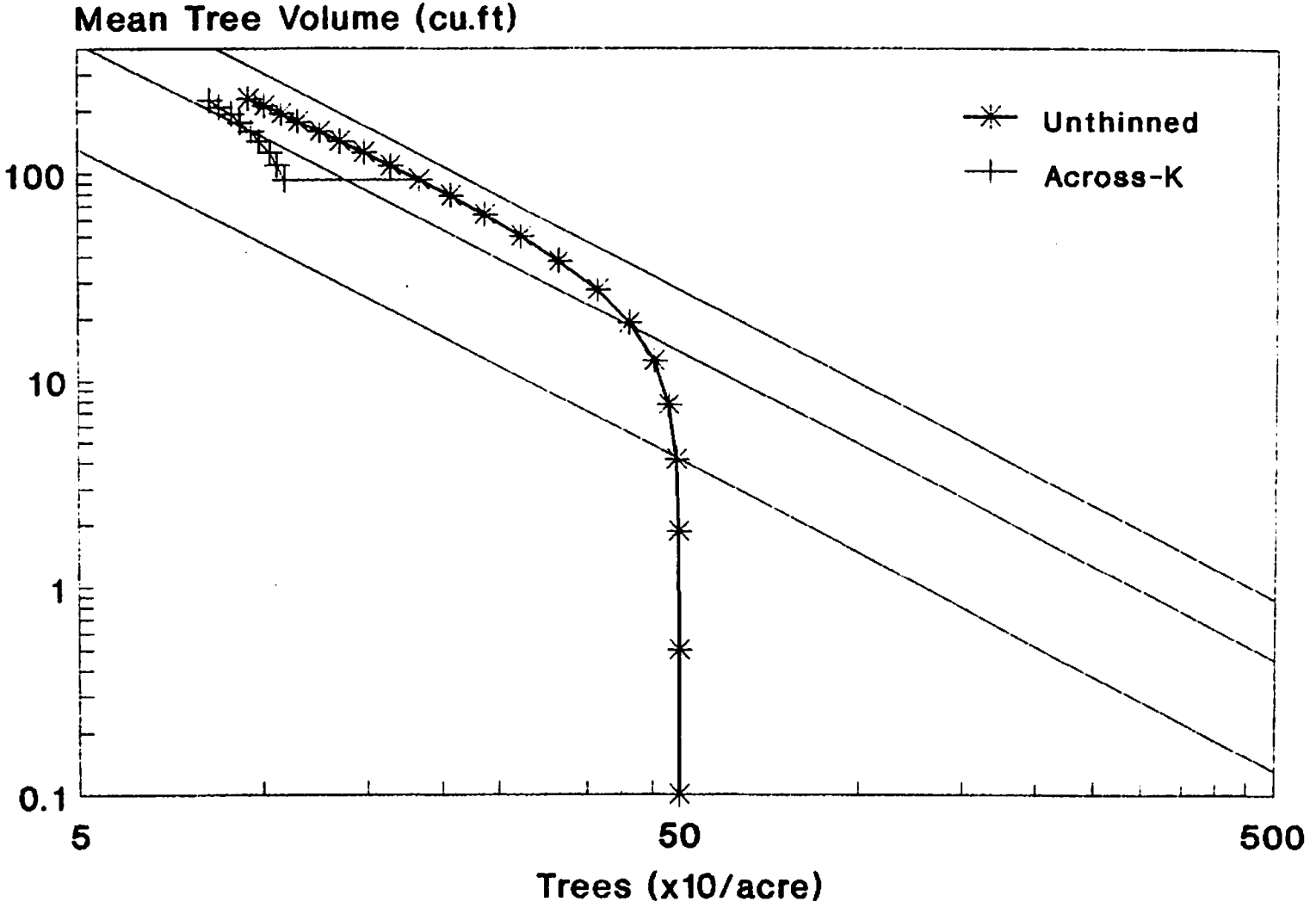
Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime I)



Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime J)



Density Management Diagram for DFSI=110
(Thinning Across Distribution-Regime K)



Yield Tables of Thinning from Below

for DFSI = 110

Notation Used in the Yield Tables:

INST	=	Stand Identification
DFSI	=	Douglas-fir site index (feet)
A	=	Stand age at DBH (year)
TOPH	=	Stand top height (feet)
BA	=	Stand basal area (ft^2/acre)
QMD	=	Quadratic mean tree diameter (inch)
V	=	Stand total volume (ft^3/acre)
VG	=	Total volume increment in 6 yeras (ft^3/care)
MV	=	Stand mean tree volume (ft^3)
N	=	Number of surviving trees per acre
MORT	=	Number of dead trees in 6 years
RD	=	Drew-Flewelling's relative density index

(1) Unthinned Stand (DFSI=110, N=500)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	UNTH	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	UNTH	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	UNTH	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
4	UNTH	110	18	46.0	124.53	6.80	2053.4	1128.50	4.15	494	5	0.15
5	UNTH	110	24	59.9	174.37	8.16	3644.8	1591.37	7.59	480	14	0.26
6	UNTH	110	30	72.5	227.03	9.58	5636.7	1991.88	12.44	453	27	0.39
7	UNTH	110	36	83.9	277.07	11.10	7842.9	2206.21	19.02	412	41	0.51
8	UNTH	110	42	94.2	318.87	12.68	10009.7	2166.81	27.52	364	49	0.62
9	UNTH	110	48	103.3	350.07	14.27	11948.8	1939.18	37.92	315	49	0.68
10	UNTH	110	54	111.5	371.73	15.83	13596.8	1647.91	50.01	272	43	0.72
11	UNTH	110	60	118.8	386.33	17.33	14973.9	1377.16	63.48	236	36	0.74
12	UNTH	110	66	125.4	396.14	18.75	16128.9	1154.95	78.04	207	29	0.75
13	UNTH	110	72	131.3	402.84	20.08	17108.9	980.04	93.43	183	24	0.75
14	UNTH	110	78	136.6	407.51	21.34	17951.8	842.91	109.45	164	19	0.74
15	UNTH	110	84	141.5	410.85	22.53	18685.9	734.12	125.93	148	16	0.73
16	UNTH	110	90	145.9	413.30	23.65	19332.3	646.33	142.74	135	13	0.73
17	UNTH	110	96	149.9	415.13	24.72	19906.5	574.25	159.75	125	11	0.72
18	UNTH	110	102	153.5	416.54	25.72	20420.7	514.13	176.88	115	9	0.71
19	UNTH	110	108	156.9	417.63	26.67	20883.9	463.29	194.06	108	8	0.70
20	UNTH	110	114	159.9	418.50	27.58	21303.8	419.80	211.21	101	7	0.69
21	UNTH	110	120	162.7	419.19	28.44	21686.0	382.23	228.28	95	6	0.68

(2) Thinning from Below: Regime A (Thinned to N=436 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-A	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-A	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	B-A	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	B-A	110	12	31.1	76.64	5.68	890.5	-34.42	2.04	436	63	0.06
5	B-A	110	18	46.0	120.79	7.15	1992.9	1102.42	4.61	433	3	0.13
6	B-A	110	24	59.9	169.11	8.56	3536.7	1543.81	8.36	423	10	0.23
7	B-A	110	30	72.5	219.87	9.99	5462.2	1925.49	13.53	404	19	0.35
8	B-A	110	36	83.9	268.59	11.48	7607.0	2144.83	20.35	374	30	0.47
9	B-A	110	42	94.2	310.28	13.00	9744.6	2137.61	28.97	336	37	0.58
10	B-A	110	48	103.3	342.38	14.54	11691.3	1946.62	39.38	297	39	0.65
11	B-A	110	54	111.5	365.37	16.05	13368.4	1677.12	51.40	260	37	0.70
12	B-A	110	60	118.8	381.25	17.50	14780.8	1412.42	64.77	228	32	0.72
13	B-A	110	66	125.4	392.13	18.89	15968.5	1187.72	79.22	202	27	0.73
14	B-A	110	72	131.3	399.65	20.20	16976.0	1007.50	94.52	180	22	0.73
15	B-A	110	78	136.6	404.95	21.44	17841.0	864.96	110.46	162	18	0.73
16	B-A	110	84	141.5	408.76	22.61	18592.5	751.57	126.86	147	15	0.73
17	B-A	110	90	145.9	411.57	23.72	19252.7	660.13	143.60	134	12	0.72
18	B-A	110	96	149.9	413.68	24.78	19837.9	585.23	160.55	124	11	0.71
19	B-A	110	102	153.5	415.29	25.77	20360.8	522.94	177.62	115	9	0.70
20	B-A	110	108	156.9	416.56	26.72	20831.3	470.45	194.74	107	8	0.70
21	B-A	110	114	159.9	417.56	27.62	21257.0	425.68	211.84	100	7	0.69
22	B-A	110	120	162.7	418.37	28.48	21644.1	387.10	228.88	95	6	0.68

(3) Thinning from Below: Regime B (Thinned to N=436 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-B	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-B	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	B-B	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
4	B-B	110	18	46.0	124.53	6.80	2053.4	1128.50	4.15	494	5	0.15
5	B-B	110	24	59.9	174.37	8.16	3644.8	1591.37	7.59	480	14	0.26
6	B-B	110	30	72.5	227.03	9.58	5636.7	1991.88	12.44	453	27	0.39
# 7	B-B	110	30	72.5	221.06	9.64	5491.3	-145.32	12.59	436	17	0.37
8	B-B	110	36	83.9	271.04	11.15	7675.2	2183.85	19.20	400	36	0.50
9	B-B	110	42	94.2	313.40	12.72	9840.9	2165.68	27.69	355	44	0.60
10	B-B	110	48	103.3	345.53	14.30	11796.6	1955.78	38.05	310	45	0.67
11	B-B	110	54	111.5	368.16	15.84	13468.5	1671.86	50.09	269	41	0.71
12	B-B	110	60	118.8	383.57	17.33	14869.1	1400.63	63.51	234	35	0.73
13	B-B	110	66	125.4	394.01	18.74	16043.9	1174.75	78.02	206	29	0.74
14	B-B	110	72	131.3	401.18	20.08	17039.6	995.73	93.39	182	23	0.74
15	B-B	110	78	136.6	406.19	21.34	17894.7	855.07	109.38	164	19	0.74
16	B-B	110	84	141.5	409.79	22.52	18638.2	743.51	125.84	148	15	0.73
17	B-B	110	90	145.9	412.42	23.64	19291.8	653.63	142.63	135	13	0.72
18	B-B	110	96	149.9	414.40	24.71	19871.8	579.98	159.64	124	11	0.72
19	B-B	110	102	153.5	415.91	25.71	20390.5	518.69	176.76	115	9	0.71
20	B-B	110	108	156.9	417.09	26.66	20857.5	466.97	193.92	108	8	0.70
21	B-B	110	114	159.9	418.03	27.57	21280.3	422.80	211.06	101	7	0.69
22	B-B	110	120	162.7	418.78	28.43	21665.0	384.71	228.13	95	6	0.68

(4) Thinning from Below: Regime C (Thinned to N=303 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-C	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-C	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	B-C	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	B-C	110	12	31.1	76.61	6.81	890.2	-34.75	2.94	303	196	0.05
5	B-C	110	18	46.0	118.86	8.50	1961.7	1071.51	6.50	302	1	0.11
6	B-C	110	24	59.9	163.58	10.03	3423.1	1461.47	11.49	298	4	0.19
7	B-C	110	30	72.5	209.54	11.51	5210.2	1787.03	17.95	290	8	0.29
8	B-C	110	36	83.9	253.86	12.95	7197.4	1987.20	25.93	278	13	0.39
9	B-C	110	42	94.2	293.20	14.37	9217.9	2020.52	35.39	260	17	0.48
10	B-C	110	48	103.3	325.37	15.76	11120.8	1902.92	46.27	240	20	0.56
11	B-C	110	54	111.5	350.04	17.11	12817.3	1696.48	58.45	219	21	0.61
12	B-C	110	60	118.8	368.18	18.42	14283.3	1466.02	71.76	199	20	0.65
13	B-C	110	66	125.4	381.29	19.68	15535.0	1251.69	86.03	181	18	0.67
14	B-C	110	72	131.3	390.73	20.88	16603.9	1068.85	101.08	164	16	0.69
15	B-C	110	78	136.6	397.59	22.04	17522.5	918.62	116.74	150	14	0.69
16	B-C	110	84	141.5	402.64	23.14	18319.1	796.59	132.86	138	12	0.69
17	B-C	110	90	145.9	406.42	24.19	19016.3	697.24	149.32	127	11	0.69
18	B-C	110	96	149.9	409.30	25.19	19632.0	615.67	166.01	118	9	0.69
19	B-C	110	102	153.5	411.53	26.15	20179.9	547.96	182.83	110	8	0.68
20	B-C	110	108	156.9	413.29	27.06	20671.1	491.12	199.70	104	7	0.68
21	B-C	110	114	159.9	414.70	27.93	21113.9	442.87	216.58	97	6	0.67
22	B-C	110	120	162.7	415.84	28.76	21515.5	401.53	233.40	92	5	0.67

(5) Thinning from Below: Regime D (Thinned to N=303 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-D	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-D	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	B-D	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
4	B-D	110	18	46.0	124.53	6.80	2053.4	1128.50	4.15	494	5	0.15
5	B-D	110	24	59.9	174.37	8.16	3644.8	1591.37	7.59	480	14	0.26
6	B-D	110	30	72.5	227.03	9.58	5636.7	1991.88	12.44	453	27	0.39
# 7	B-D	110	30	72.5	193.03	10.81	4806.9	-829.79	15.86	303	150	0.27
8	B-D	110	36	83.9	239.28	12.30	6791.4	1984.56	23.42	290	13	0.37
9	B-D	110	42	94.2	281.09	13.77	8844.1	2052.68	32.53	272	18	0.47
10	B-D	110	48	103.3	315.83	15.21	10800.6	1956.52	43.14	250	22	0.55
11	B-D	110	54	111.5	342.76	16.61	12555.5	1754.94	55.15	228	23	0.61
12	B-D	110	60	118.8	362.69	17.97	14074.0	1518.47	68.37	206	22	0.65
13	B-D	110	66	125.4	377.12	19.28	15368.3	1294.23	82.60	186	20	0.68
14	B-D	110	72	131.3	387.52	20.53	16470.0	1101.73	97.66	169	17	0.69
15	B-D	110	78	136.6	395.07	21.72	17413.6	943.59	113.36	154	15	0.70
16	B-D	110	84	141.5	400.62	22.85	18229.1	815.53	129.54	141	13	0.70
17	B-D	110	90	145.9	404.78	23.92	18940.8	711.73	146.06	130	11	0.70
18	B-D	110	96	149.9	407.94	24.95	19567.8	626.90	162.82	120	9	0.69
19	B-D	110	102	153.5	410.38	25.92	20124.5	556.78	179.71	112	8	0.69
20	B-D	110	108	156.9	412.31	26.85	20622.7	498.15	196.67	105	7	0.68
21	B-D	110	114	159.9	413.84	27.74	21071.3	448.56	213.62	99	6	0.68
22	B-D	110	120	162.7	415.09	28.58	21477.4	406.19	230.51	93	5	0.67

(6) Thinning from Below: Regime E (Thinned to N=194 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-E	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-E	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	B-E	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	B-E	110	12	31.1	66.85	7.95	778.7	-146.18	4.01	194	305	0.04
5	B-E	110	18	46.0	108.03	10.11	1786.1	1007.36	9.22	194	0	0.08
6	B-E	110	24	59.9	149.80	11.94	3139.8	1353.71	16.31	193	1	0.14
7	B-E	110	30	72.5	191.58	13.59	4771.4	1631.64	25.08	190	2	0.21
8	B-E	110	36	83.9	231.78	15.10	6582.3	1810.82	35.32	186	4	0.29
9	B-E	110	42	94.2	268.44	16.51	8453.0	1870.74	46.79	181	6	0.37
10	B-E	110	48	103.3	300.04	17.82	10270.3	1817.26	59.25	173	7	0.44
11	B-E	110	54	111.5	325.98	19.05	11952.0	1681.72	72.54	165	9	0.50
12	B-E	110	60	118.8	346.49	20.21	13456.7	1504.72	86.51	156	9	0.54
13	B-E	110	66	125.4	362.33	21.32	14776.6	1319.86	101.07	146	9	0.58
14	B-E	110	72	131.3	374.44	22.38	15924.0	1147.41	116.14	137	9	0.60
15	B-E	110	78	136.6	383.67	23.39	16920.0	996.05	131.63	129	9	0.62
16	B-E	110	84	141.5	390.74	24.37	17787.4	867.34	147.45	121	8	0.63
17	B-E	110	90	145.9	396.20	25.31	18546.8	759.39	163.53	113	7	0.64
18	B-E	110	96	149.9	400.47	26.21	19215.9	669.19	179.79	107	7	0.64
19	B-E	110	102	153.5	403.84	27.08	19809.6	593.63	196.17	101	6	0.64
20	B-E	110	108	156.9	406.54	27.91	20339.5	529.97	212.60	96	5	0.64
21	B-E	110	114	159.9	408.73	28.71	20815.5	475.98	229.02	91	5	0.64
22	B-E	110	120	162.7	410.52	29.49	21245.3	429.82	245.39	87	4	0.64

(7) Thinning from Below: Regime F (Thinned to N=194 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-F	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-F	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	B-F	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	B-F	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	B-F	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	B-F	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
# 7	B-F	110	30	72.5	173.89	12.82	4338.6	-1298.0	22.36	194	259	0.20
8	B-F	110	36	83.9	215.52	14.41	6128.8	1790.2	32.21	190	4	0.27
9	B-F	110	42	94.2	254.01	15.88	8006.7	1877.9	43.36	185	6	0.35
10	B-F	110	48	103.3	287.68	17.25	9854.7	1847.9	55.59	177	7	0.42
11	B-F	110	54	111.5	315.68	18.53	11581.3	1726.6	68.71	169	9	0.49
12	B-F	110	60	118.8	338.07	19.74	13135.4	1554.2	82.58	159	9	0.53
13	B-F	110	66	125.4	355.49	20.89	14502.5	1367.1	97.08	149	10	0.57
14	B-F	110	72	131.3	368.87	21.98	15691.6	1189.1	112.13	140	9	0.60
15	B-F	110	78	136.6	379.11	23.03	16722.8	1031.2	127.63	131	9	0.62
16	B-F	110	84	141.5	386.97	24.04	17619.0	896.2	143.48	123	8	0.63
17	B-F	110	90	145.9	393.05	25.00	18402.0	782.9	159.61	115	8	0.64
18	B-F	110	96	149.9	397.80	25.93	19090.3	688.4	175.92	109	7	0.64
19	B-F	110	102	153.5	401.56	26.81	19699.6	609.3	192.36	102	6	0.64
20	B-F	110	108	156.9	404.56	27.66	20242.5	542.8	208.85	97	5	0.64
21	B-F	110	114	159.9	407.00	28.48	20729.1	486.6	225.35	92	5	0.64
22	B-F	110	120	162.7	408.99	29.27	21167.8	438.7	241.79	88	4	0.64

(8) Thinning from Below: Regime G (Thinned to N=194 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-G	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-G	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	B-G	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	B-G	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	B-G	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	B-G	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
7	B-G	110	36	83.9	277.07	11.10	7842.9	2206.2	19.02	412	41	0.51
8	B-G	110	42	94.2	318.87	12.68	10009.7	2166.8	27.52	364	49	0.62
9	B-G	110	48	103.3	350.07	14.27	11948.8	1939.2	37.92	315	49	0.68
#10	B-G	110	48	103.3	259.31	15.65	8899.8	-3049.1	45.88	194	121	0.40
11	B-G	110	54	111.5	292.08	17.06	10730.7	1830.9	58.31	184	10	0.47
12	B-G	110	60	118.8	318.87	18.39	12402.7	1672.0	71.71	173	11	0.53
13	B-G	110	66	125.4	340.03	19.64	13883.2	1480.5	85.93	162	11	0.57
14	B-G	110	72	131.3	356.43	20.84	15171.9	1288.7	100.83	150	11	0.60
15	B-G	110	78	136.6	369.03	21.98	16286.2	1114.3	116.29	140	10	0.62
16	B-G	110	84	141.5	378.72	23.07	17250.1	963.9	132.20	130	10	0.64
17	B-G	110	90	145.9	386.21	24.11	18087.6	837.4	148.43	122	9	0.64
18	B-G	110	96	149.9	392.06	25.10	18819.7	732.1	164.90	114	8	0.65
19	B-G	110	102	153.5	396.67	26.04	19464.3	644.6	181.52	107	7	0.65
20	B-G	110	108	156.9	400.36	26.95	20035.9	571.6	198.21	101	6	0.65
21	B-G	110	114	159.9	403.34	27.81	20546.1	510.2	214.91	96	5	0.65
22	B-G	110	120	162.7	405.78	28.64	21004.3	458.2	231.57	91	5	0.65

(9) Thinning from Below: Regime H (Thinned to N=109 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-H	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-H	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	B-H	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	B-H	110	12	31.1	76.64	11.35	890.5	-34.42	8.17	109	390	0.03
5	B-H	110	18	46.0	115.20	13.93	1902.3	1011.80	17.47	109	0	0.06
6	B-H	110	24	59.9	153.20	16.08	3209.8	1307.46	29.54	109	0	0.11
7	B-H	110	30	72.5	190.06	17.95	4734.2	1524.47	43.77	108	1	0.16
8	B-H	110	36	83.9	224.82	19.60	6388.1	1653.92	59.52	107	1	0.21
9	B-H	110	42	94.2	256.48	21.06	8083.1	1694.96	76.21	106	1	0.27
10	B-H	110	48	103.3	284.32	22.35	9741.7	1658.59	93.33	104	2	0.32
11	B-H	110	54	111.5	308.06	23.50	11306.8	1565.11	110.54	102	2	0.37
12	B-H	110	60	118.8	327.82	24.54	12744.5	1437.75	127.65	100	2	0.41
13	B-H	110	66	125.4	343.98	25.48	14041.3	1296.77	144.55	97	3	0.45
14	B-H	110	72	131.3	357.05	26.36	15197.9	1156.58	161.25	94	3	0.48
15	B-H	110	78	136.6	367.59	27.17	16223.6	1025.70	177.75	91	3	0.50
16	B-H	110	84	141.5	376.07	27.95	17131.7	908.06	194.07	88	3	0.52
17	B-H	110	90	145.9	382.92	28.69	17936.3	804.69	210.25	85	3	0.53
18	B-H	110	96	149.9	388.49	29.40	18651.3	714.99	226.29	82	3	0.55
19	B-H	110	102	153.5	393.03	30.08	19288.9	637.61	242.20	80	3	0.56
20	B-H	110	108	156.9	396.78	30.74	19859.9	570.96	257.99	77	3	0.56
21	B-H	110	114	159.9	399.89	31.38	20373.4	513.49	273.64	74	3	0.57
22	B-H	110	120	162.7	402.49	32.00	20837.2	463.80	289.15	72	2	0.57

(10) Thinning from Below: Regime I (Thinned to N=109 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-I	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-I	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	B-I	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
4	B-I	110	18	46.0	124.53	6.80	2053.4	1128.50	4.15	494	5	0.15
5	B-I	110	24	59.9	174.37	8.16	3644.8	1591.37	7.59	480	14	0.26
6	B-I	110	30	72.5	227.03	9.58	5636.7	1991.88	12.44	453	27	0.39
# 7	B-I	110	30	72.5	190.67	17.91	4749.3	-887.39	43.57	109	344	0.16
8	B-I	110	36	83.9	225.44	19.55	6405.7	1656.41	59.24	108	1	0.21
9	B-I	110	42	94.2	257.11	21.01	8102.7	1697.04	75.84	107	1	0.27
10	B-I	110	48	103.3	284.95	22.29	9762.7	1660.01	92.87	105	2	0.32
11	B-I	110	54	111.5	308.67	23.44	11328.5	1565.76	110.01	103	2	0.37
12	B-I	110	60	118.8	328.39	24.48	12766.1	1437.67	127.04	100	2	0.41
13	B-I	110	66	125.4	344.50	25.42	14062.3	1296.12	143.90	98	3	0.45
14	B-I	110	72	131.3	357.53	26.30	15217.8	1155.55	160.55	95	3	0.48
15	B-I	110	78	136.6	368.02	27.12	16242.3	1024.45	177.01	92	3	0.50
16	B-I	110	84	141.5	376.46	27.89	17149.0	906.73	193.31	89	3	0.52
17	B-I	110	90	145.9	383.27	28.64	17952.4	803.37	209.47	86	3	0.54
18	B-I	110	96	149.9	388.80	29.35	18666.1	713.72	225.51	83	3	0.55
19	B-I	110	102	153.5	393.31	30.03	19302.5	636.43	241.42	80	3	0.56
20	B-I	110	108	156.9	397.03	30.70	19872.4	569.88	257.21	77	3	0.56
21	B-I	110	114	159.9	400.12	31.34	20384.9	512.52	272.86	75	3	0.57
22	B-I	110	120	162.7	402.70	31.96	20847.8	462.92	288.38	72	2	0.57

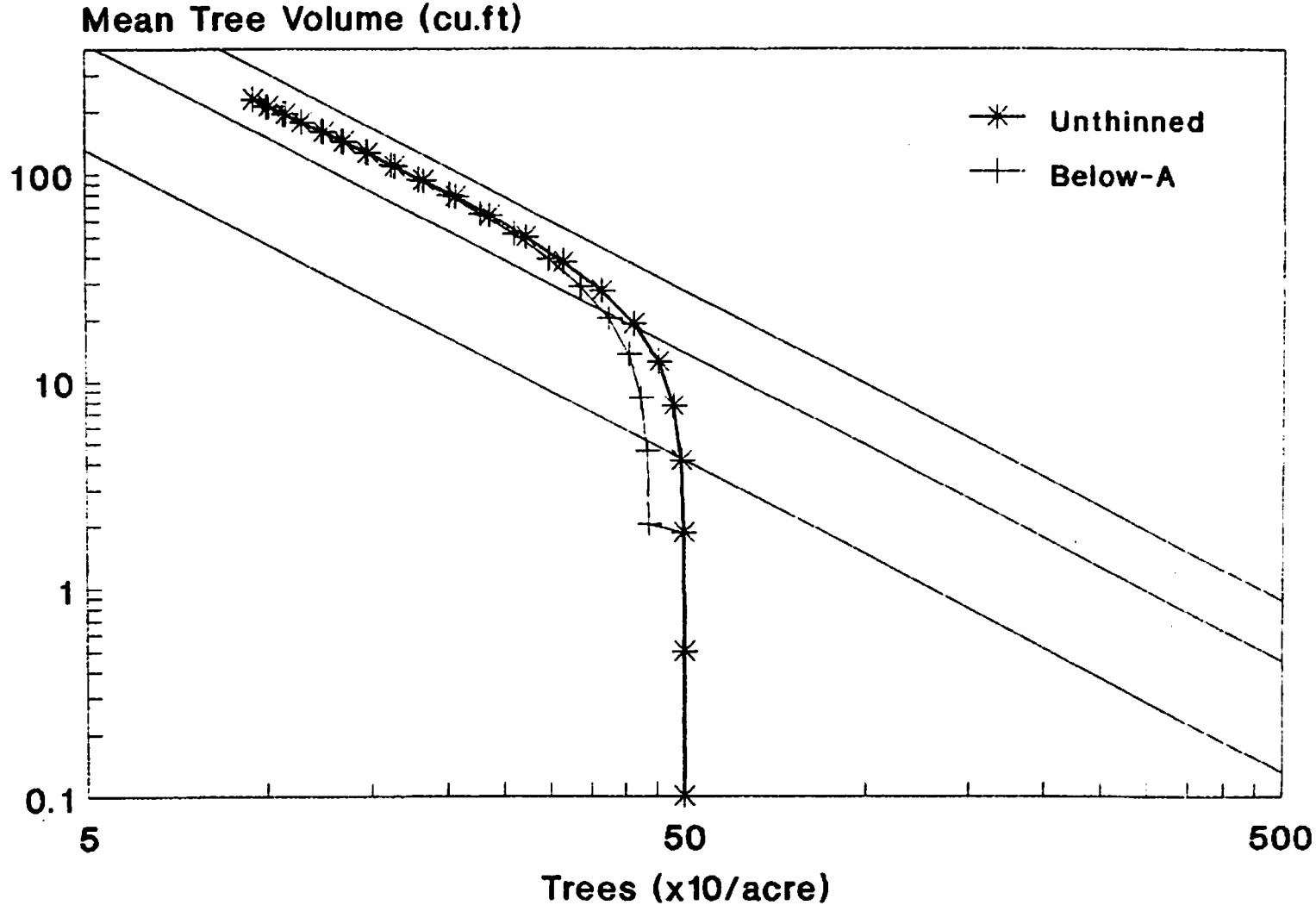
(11) Thinning from Below: Regime J (Thinned to N=109 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-J	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-J	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	B-J	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	B-J	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	B-J	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	B-J	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
7	B-J	110	36	83.9	277.07	11.10	7842.9	2206.2	19.02	412	41	0.51
8	B-J	110	42	94.2	318.87	12.68	10009.7	2166.8	27.52	364	49	0.62
9	B-J	110	48	103.3	350.07	14.27	11948.8	1939.2	37.92	315	49	0.68
#10	B-J	110	48	103.3	233.06	19.80	8014.4	-3934.5	73.53	109	206	0.27
11	B-J	110	54	111.5	262.77	21.21	9672.6	1658.2	90.36	107	2	0.32
12	B-J	110	60	118.8	288.33	22.47	11235.9	1563.3	107.35	105	2	0.37
13	B-J	110	66	125.4	309.86	23.61	12672.6	1436.8	124.32	102	3	0.41
14	B-J	110	72	131.3	327.69	24.64	13970.0	1297.4	141.18	99	3	0.45
15	B-J	110	78	136.6	342.33	25.60	15128.7	1158.6	157.91	96	3	0.48
16	B-J	110	84	141.5	354.29	26.49	16157.3	1028.7	174.50	93	3	0.50
17	B-J	110	90	145.9	364.06	27.33	17068.8	911.4	190.95	89	3	0.52
18	B-J	110	96	149.9	372.06	28.12	17876.9	808.1	207.28	86	3	0.54
19	B-J	110	102	153.5	378.63	28.89	18595.0	718.1	223.49	83	3	0.55
20	B-J	110	108	156.9	384.07	29.62	19235.4	640.4	239.57	80	3	0.56
21	B-J	110	114	159.9	388.60	30.32	19808.8	573.4	255.52	78	3	0.56
22	B-J	110	120	162.7	392.40	30.99	20324.3	515.5	271.33	75	3	0.57

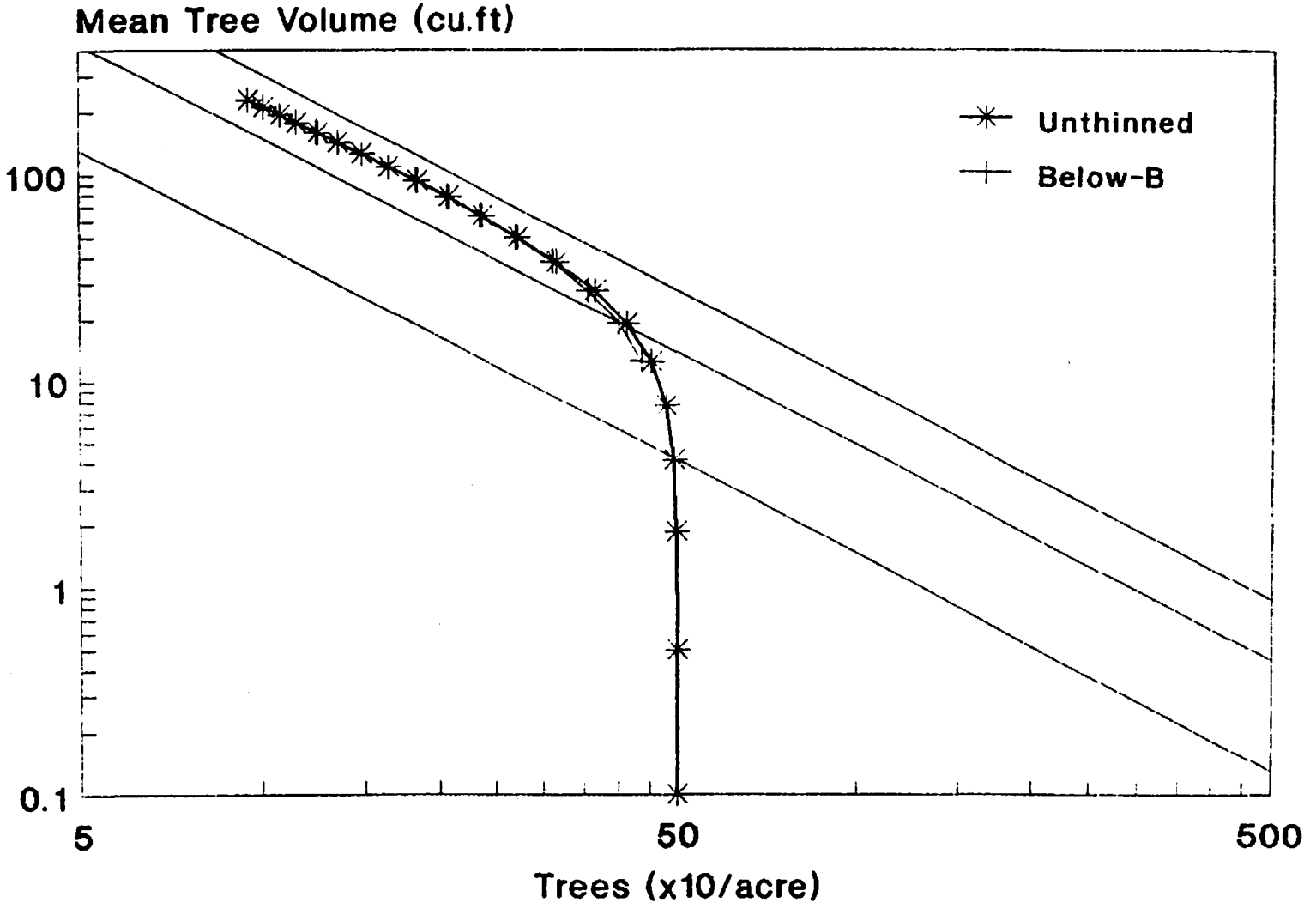
(12) Thinning from Below: Regime K (Thinned to N=109 at Year 72)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	B-K	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	B-K	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	B-K	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	B-K	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	B-K	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	B-K	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
7	B-K	110	36	83.9	277.07	11.10	7842.9	2206.2	19.02	412	41	0.51
8	B-K	110	42	94.2	318.87	12.68	10009.7	2166.8	27.52	364	49	0.62
9	B-K	110	48	103.3	350.07	14.27	11948.8	1939.2	37.92	315	49	0.68
10	B-K	110	54	111.5	371.73	15.83	13596.8	1647.9	50.01	272	43	0.72
11	B-K	110	60	118.8	386.33	17.33	14973.9	1377.2	63.48	236	36	0.74
12	B-K	110	66	125.4	396.14	18.75	16128.9	1154.9	78.04	207	29	0.75
13	B-K	110	72	131.3	402.84	20.08	17108.9	980.0	93.43	183	24	0.75
#14	B-K	110	72	131.3	277.66	21.61	11873.2	-5235.8	108.93	109	74	0.40
15	B-K	110	78	136.6	298.61	22.78	13229.5	1356.4	125.41	105	4	0.44
16	B-K	110	84	141.5	316.16	23.86	14448.5	1219.0	141.92	102	4	0.47
17	B-K	110	90	145.9	330.78	24.87	15535.5	1087.0	158.44	98	4	0.50
18	B-K	110	96	149.9	342.92	25.82	16501.3	965.8	174.92	94	4	0.52
19	B-K	110	102	153.5	353.01	26.71	17358.7	857.4	191.36	91	4	0.53
20	B-K	110	108	156.9	361.41	27.56	18120.8	762.2	207.74	87	3	0.55
21	B-K	110	114	159.9	368.45	28.37	18800.2	679.3	224.03	84	3	0.56
22	B-K	110	120	162.7	374.38	29.15	19407.8	607.6	240.23	81	3	0.56

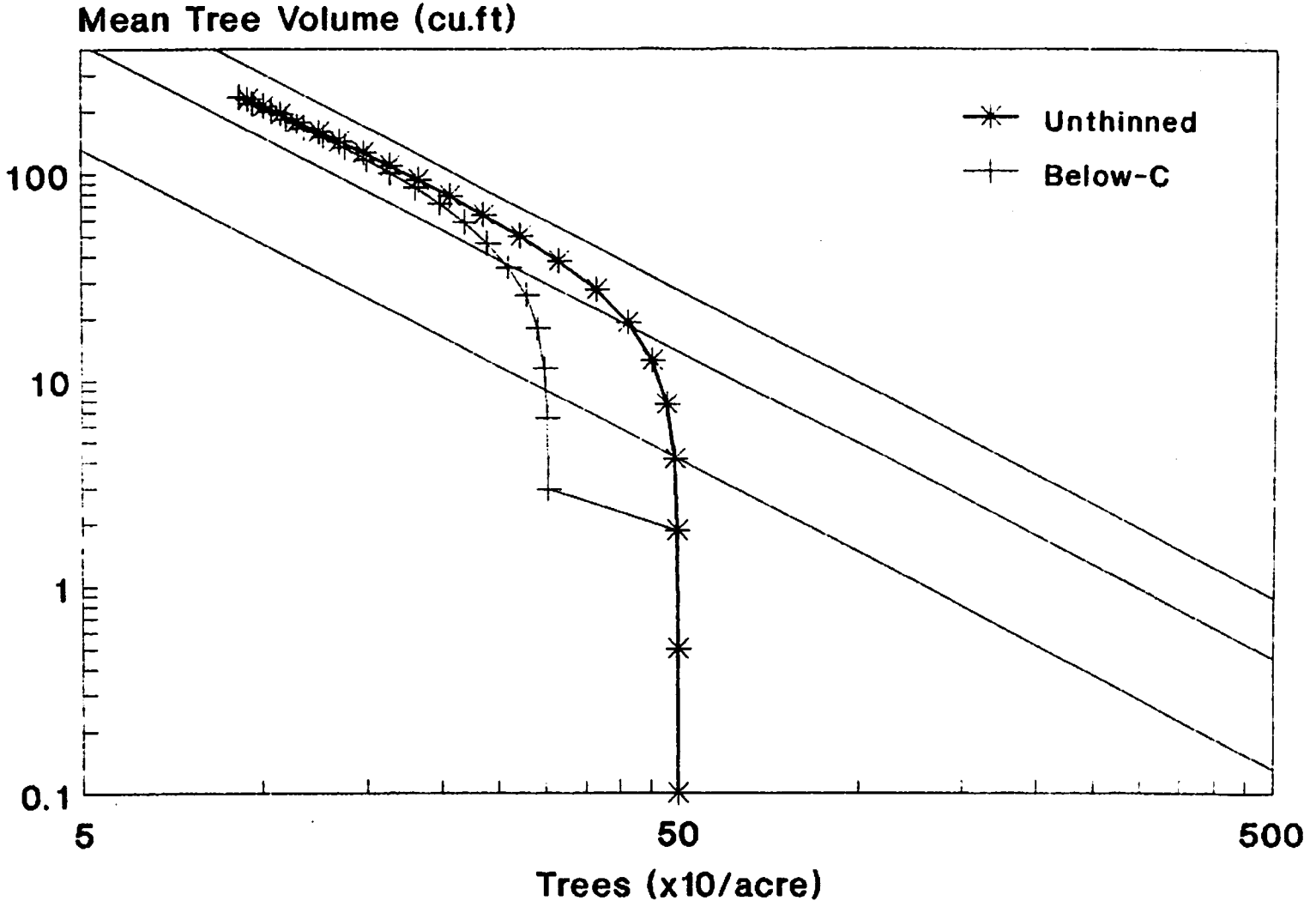
Density Management Diagram for DFSI=110
(Thinning from Below-Regime A)



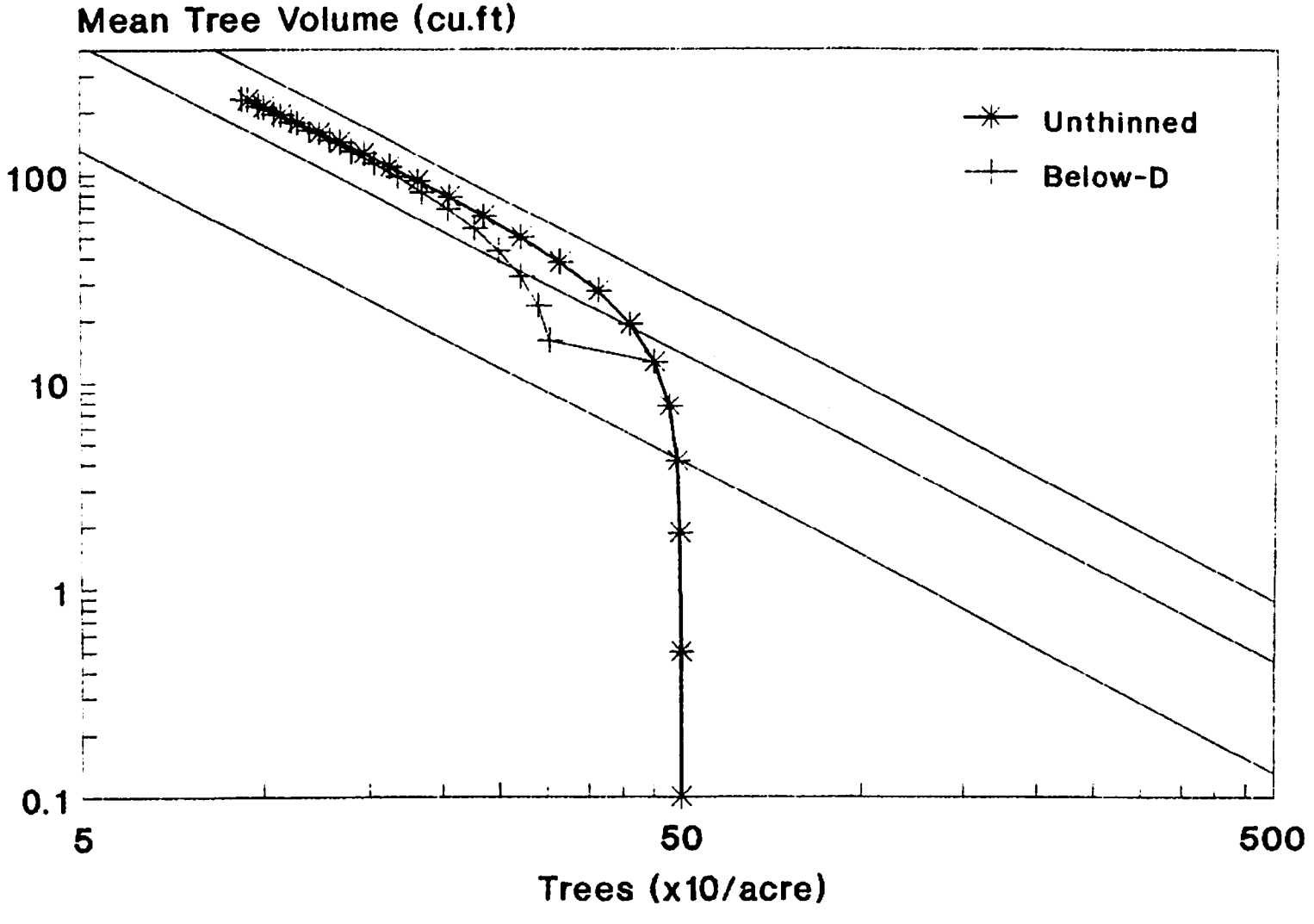
Density Management Diagram for DFSI=110
(Thinning from Below-Regime B)



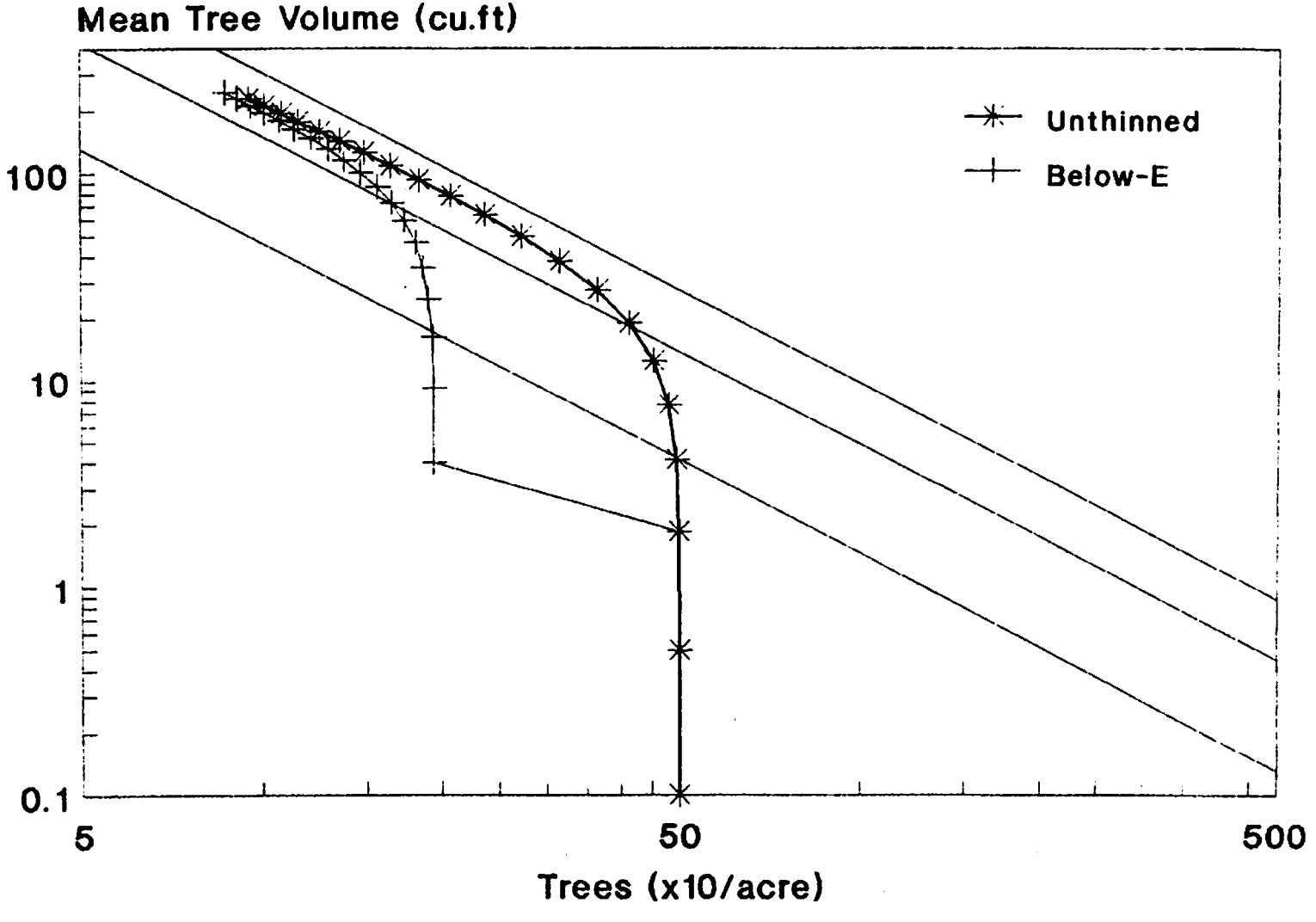
Density Management Diagram for DFSI=110
(Thinning from Below-Regime C)



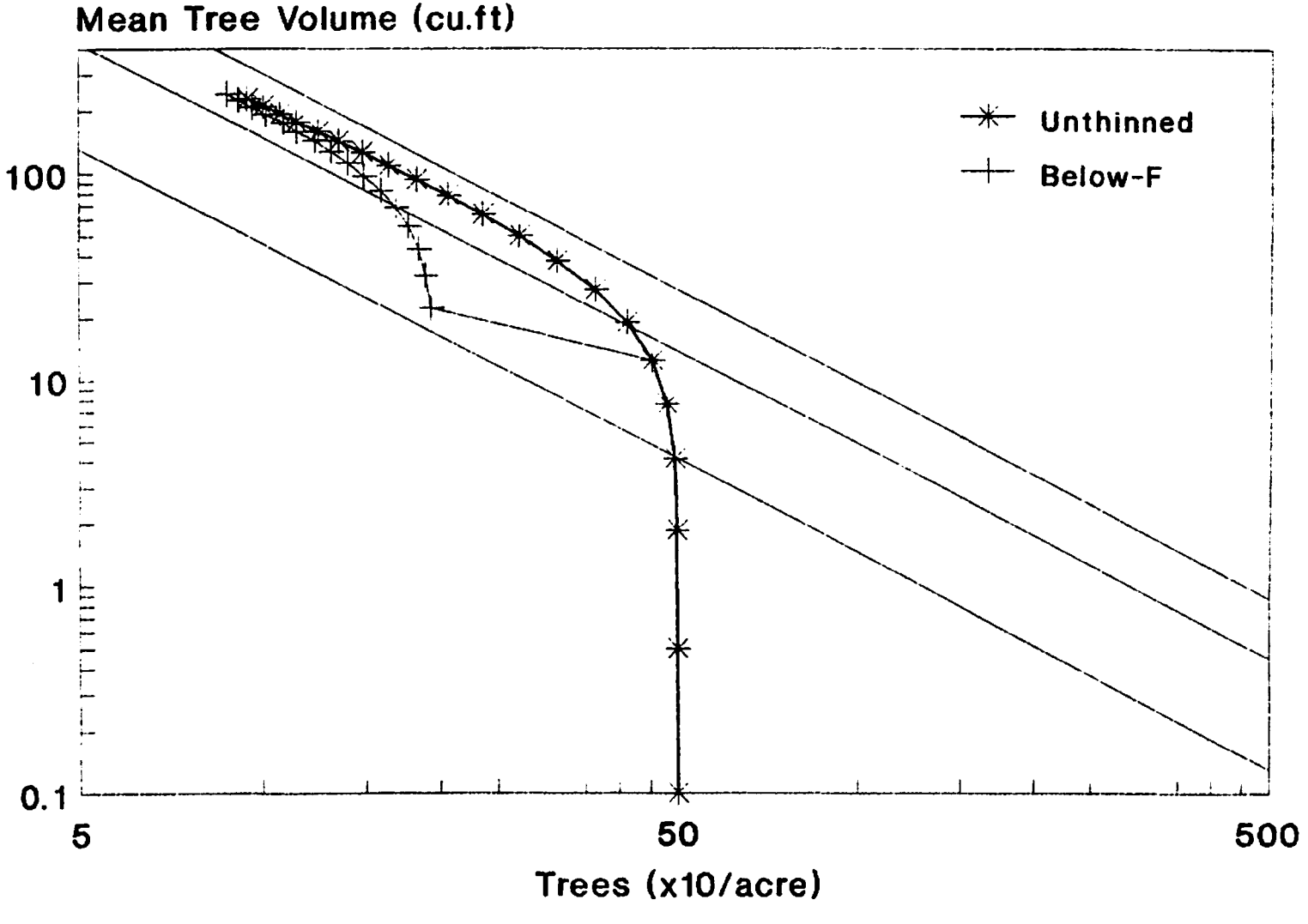
Density Management Diagram for DFSI=110
(Thinning from Below-Regime D)



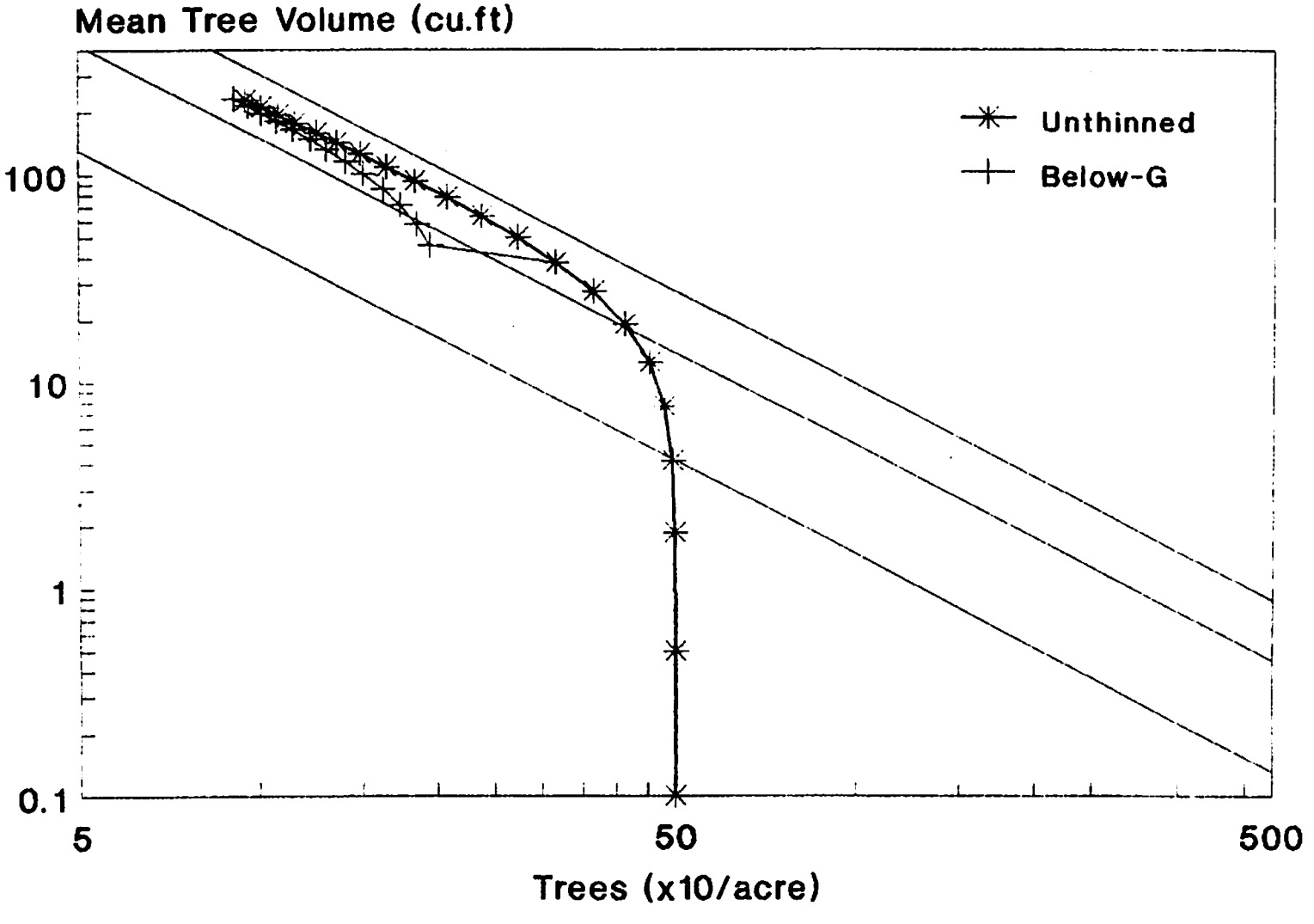
Density Management Diagram for DFSI=110
(Thinning from Below-Regime E)



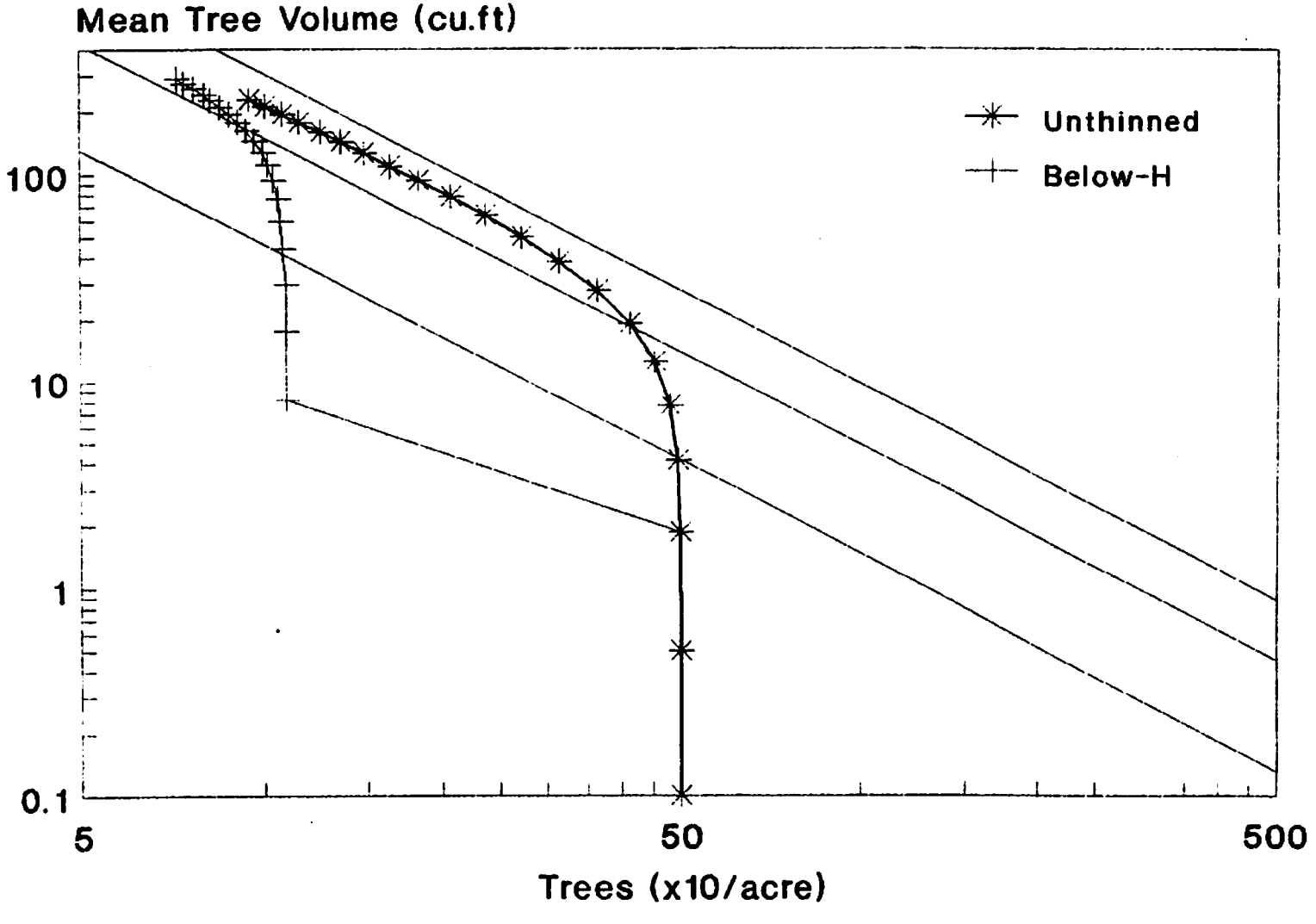
Density Management Diagram for DFSI=110
(Thinning from Below-Regime F)



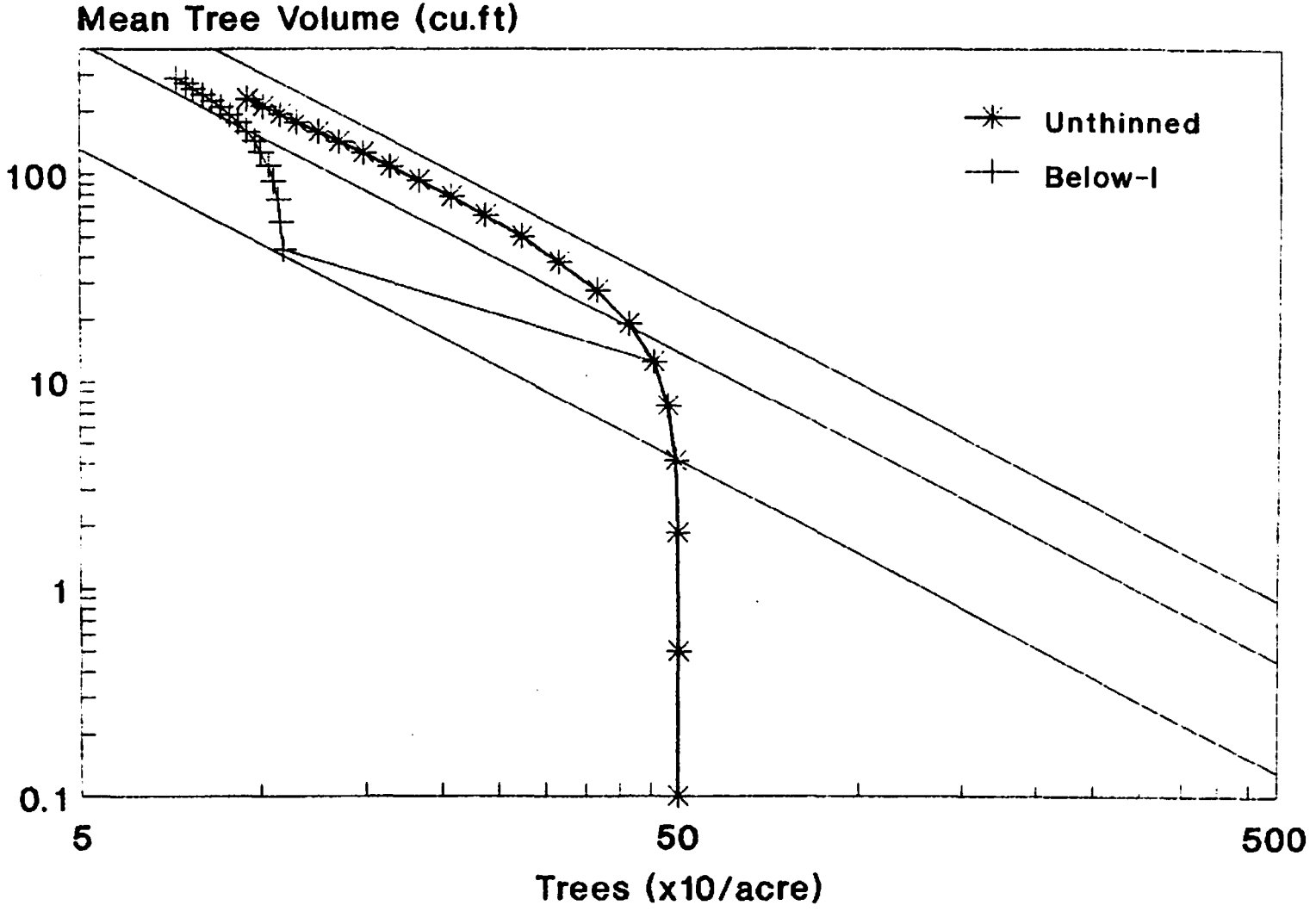
Density Management Diagram for DFSI=110
(Thinning from Below-Regime G)



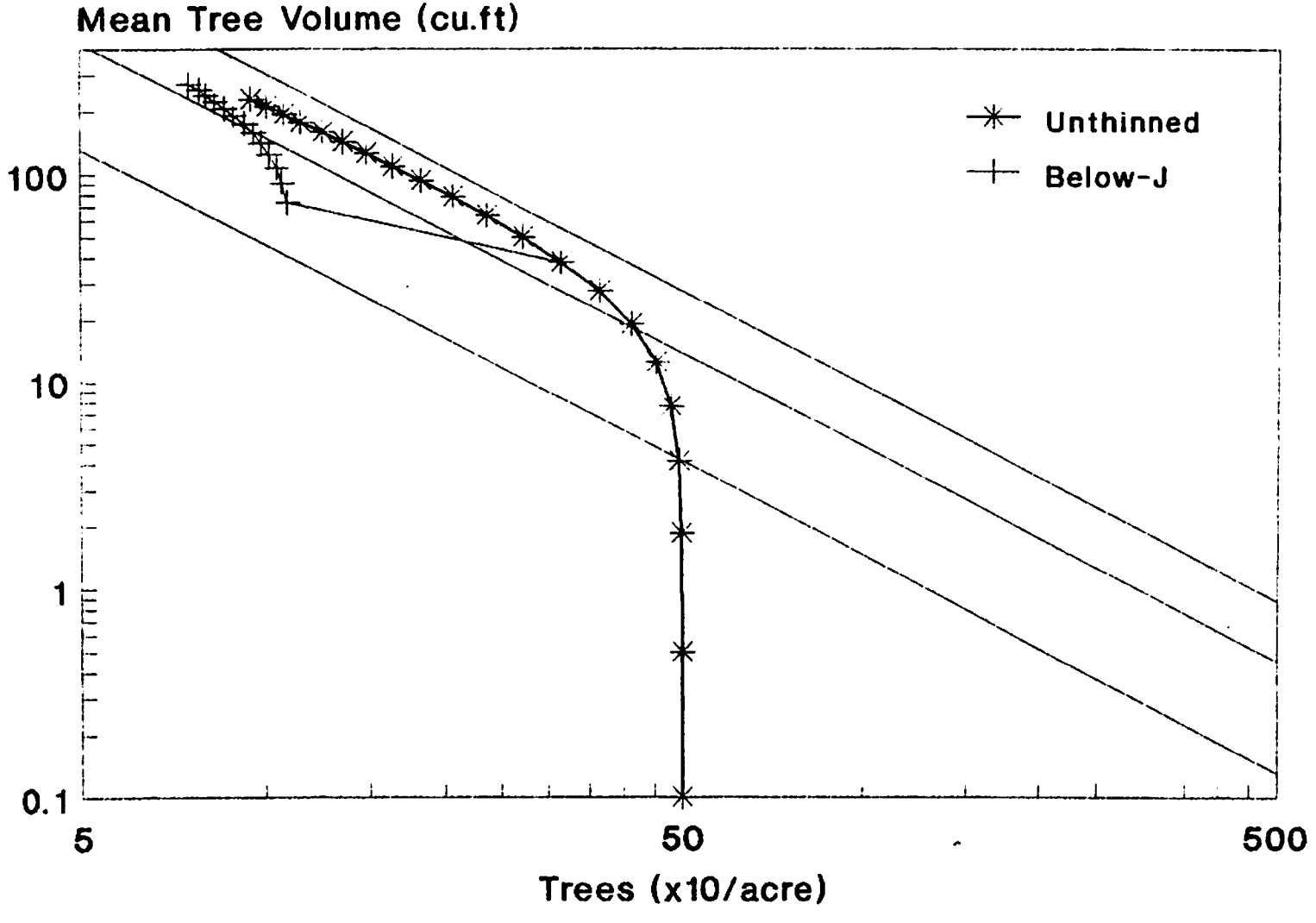
Density Management Diagram for DFSI=110
(Thinning from Below-Regime H)



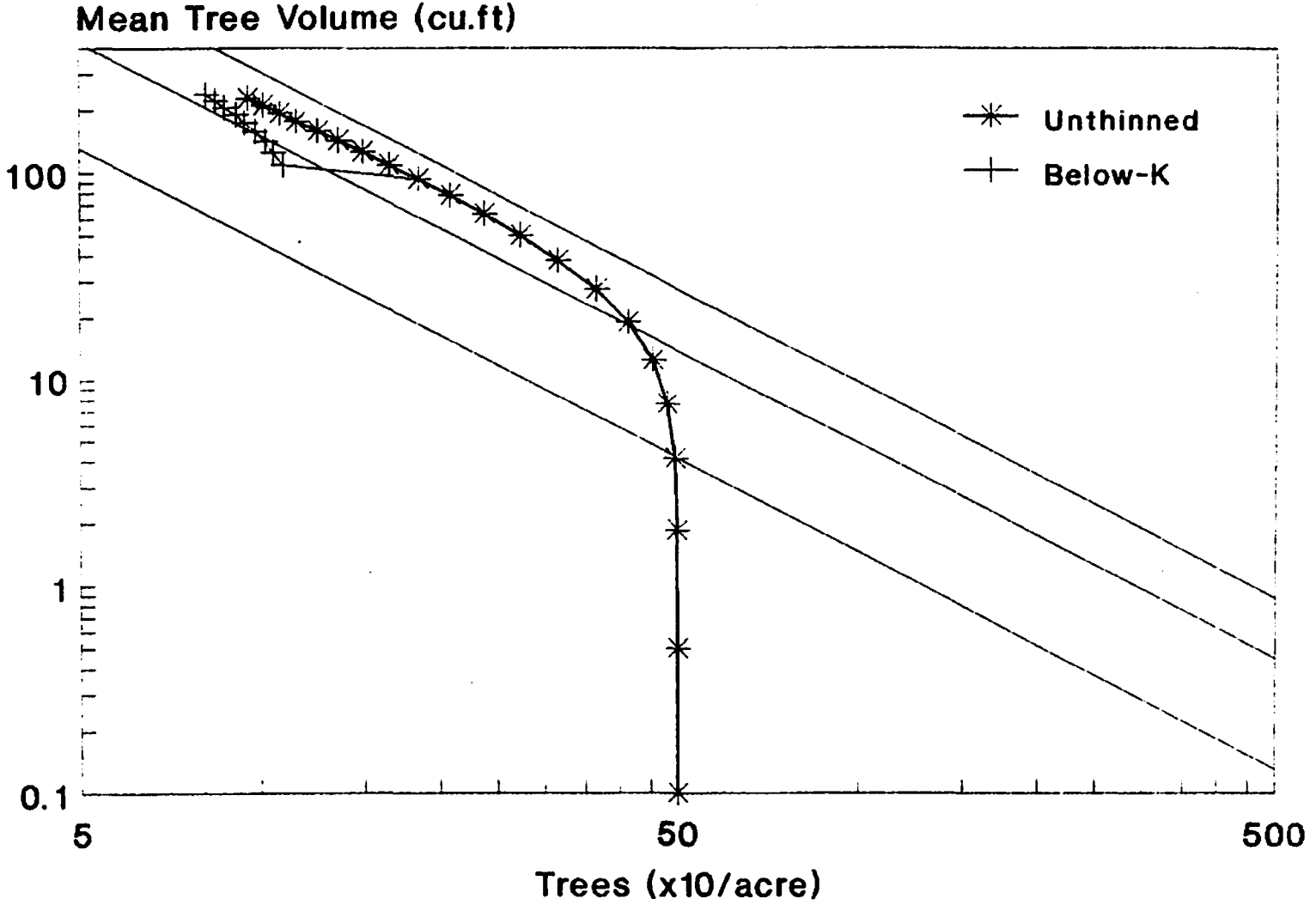
Density Management Diagram for DFSI=110
(Thinning from Below-Regime I)



Density Management Diagram for DFSI=110
(Thinning from Below-Regime J)



Density Management Diagram for DFSI=110
(Thinning from Below-Regime K)



Yield Tables of Thinning from Above

for DFSI = 110

Notation Used in the Yield Tables:

INST = Stand Identification
DFSI = Douglas-fir site index (feet)
A = Stand age at DBH (year)
TOPH = Stand top height (feet)
BA = Stand basal area (ft^2/acre)
QMD = Quadratic mean tree diameter (inch)
V = Stand total volume (ft^3/acre)
VG = Total volume increment in 6 yeras (ft^3/care)
MV = Stand mean tree volume (ft^3)
N = Number of surviving trees per acre
MORT = Number of dead trees in 6 years
RD = Drew-Flewelling's relative density index

(1) Unthinned Stand (DFSI=110, N=500)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	UNTH	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	UNTH	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	UNTH	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
4	UNTH	110	18	46.0	124.53	6.80	2053.4	1128.50	4.15	494	5	0.15
5	UNTH	110	24	59.9	174.37	8.16	3644.8	1591.37	7.59	480	14	0.26
6	UNTH	110	30	72.5	227.03	9.58	5636.7	1991.88	12.44	453	27	0.39
7	UNTH	110	36	83.9	277.07	11.10	7842.9	2206.21	19.02	412	41	0.51
8	UNTH	110	42	94.2	318.87	12.68	10009.7	2166.81	27.52	364	49	0.62
9	UNTH	110	48	103.3	350.07	14.27	11948.8	1939.18	37.92	315	49	0.68
10	UNTH	110	54	111.5	371.73	15.83	13596.8	1647.91	50.01	272	43	0.72
11	UNTH	110	60	118.8	386.33	17.33	14973.9	1377.16	63.48	236	36	0.74
12	UNTH	110	66	125.4	396.14	18.75	16128.9	1154.95	78.04	207	29	0.75
13	UNTH	110	72	131.3	402.84	20.08	17108.9	980.04	93.43	183	24	0.75
14	UNTH	110	78	136.6	407.51	21.34	17951.8	842.91	109.45	164	19	0.74
15	UNTH	110	84	141.5	410.85	22.53	18685.9	734.12	125.93	148	16	0.73
16	UNTH	110	90	145.9	413.30	23.65	19332.3	646.33	142.74	135	13	0.73
17	UNTH	110	96	149.9	415.13	24.72	19906.5	574.25	159.75	125	11	0.72
18	UNTH	110	102	153.5	416.54	25.72	20420.7	514.13	176.88	115	9	0.71
19	UNTH	110	108	156.9	417.63	26.67	20883.9	463.29	194.06	108	8	0.70
20	UNTH	110	114	159.9	418.50	27.58	21303.8	419.80	211.21	101	7	0.69
21	UNTH	110	120	162.7	419.19	28.44	21686.0	382.23	228.28	95	6	0.68

(2) Thinning from Above: Regime A (Thinned to N=436 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-A	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-A	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	A-A	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	A-A	110	12	29.4	3.98	1.29	46.3	-878.66	0.11	436	63	0.00
5	A-A	110	18	44.2	54.19	4.77	875.0	828.76	2.01	436	0	0.06
6	A-A	110	24	58.1	102.09	6.59	2095.9	1220.88	4.86	432	4	0.14
7	A-A	110	30	70.7	152.80	8.17	3735.1	1639.18	8.90	420	12	0.25
8	A-A	110	36	82.2	205.06	9.73	5722.7	1987.67	14.41	397	23	0.37
9	A-A	110	42	92.4	254.68	11.32	7887.8	2165.03	21.66	364	33	0.49
10	A-A	110	48	101.5	297.12	12.94	10010.8	2123.02	30.78	325	39	0.58
11	A-A	110	54	109.7	330.20	14.55	11926.0	1915.25	41.73	286	39	0.65
12	A-A	110	60	117.0	354.41	16.12	13569.0	1642.96	54.26	250	36	0.69
13	A-A	110	66	123.6	371.61	17.61	14949.8	1380.83	68.07	220	30	0.71
14	A-A	110	72	129.5	383.75	19.03	16109.0	1159.23	82.88	194	25	0.72
15	A-A	110	78	134.9	392.39	20.36	17090.4	981.40	98.43	174	21	0.73
16	A-A	110	84	139.7	398.66	21.61	17931.1	840.67	114.53	157	17	0.72
17	A-A	110	90	144.1	403.28	22.78	18659.9	728.80	131.00	142	14	0.72
18	A-A	110	96	148.1	406.75	23.89	19298.7	638.79	147.74	131	12	0.71
19	A-A	110	102	151.7	409.42	24.94	19864.0	565.30	164.62	121	10	0.70
20	A-A	110	108	155.1	411.51	25.93	20368.4	504.41	181.56	112	8	0.70
21	A-A	110	114	158.1	413.16	26.87	20821.7	453.28	198.51	105	7	0.69
22	A-A	110	120	161.0	414.50	27.77	21231.5	409.83	215.40	99	6	0.68

(3) Thinning from Above: Regime B (Thinned to N=436 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-B	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-B	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	A-B	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	A-B	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	A-B	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	A-B	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
# 7	A-B	110	30	68.3	11.35	2.18	281.8	-5354.8	0.65	436	17	0.02
8	A-B	110	36	79.8	59.93	5.03	1664.3	1382.4	3.83	434	2	0.11
9	A-B	110	42	90.0	108.88	6.88	3342.9	1678.6	7.93	422	12	0.22
10	A-B	110	48	99.1	159.31	8.58	5310.5	1967.6	13.38	397	25	0.34
11	A-B	110	54	107.3	208.34	10.28	7435.1	2124.6	20.57	361	35	0.46
12	A-B	110	60	114.6	252.23	12.01	9533.1	2098.1	29.72	321	41	0.55
13	A-B	110	66	121.2	288.58	13.73	11454.0	1920.8	40.79	281	40	0.62
14	A-B	110	72	127.1	317.04	15.40	13126.5	1672.5	53.53	245	36	0.66
15	A-B	110	78	132.5	338.66	16.99	14546.7	1420.3	67.61	215	30	0.69
16	A-B	110	84	137.3	354.93	18.49	15744.5	1197.8	82.68	190	25	0.70
17	A-B	110	90	141.7	367.21	19.89	16758.4	1013.9	98.45	170	20	0.71
18	A-B	110	96	145.7	376.57	21.20	17623.9	865.5	114.71	154	17	0.70
19	A-B	110	102	149.3	383.80	22.43	18370.4	746.5	131.29	140	14	0.70
20	A-B	110	108	152.7	389.47	23.58	19020.9	650.5	148.04	128	11	0.70
21	A-B	110	114	155.7	393.97	24.66	19593.2	572.3	164.88	119	10	0.69
22	A-B	110	120	158.6	397.60	25.67	20101.0	507.8	181.72	111	8	0.68

(4) Thinning from Above: Regime C (Thinned to N=303 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-C	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-C	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	A-C	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	A-C	110	12	29.4	3.98	1.55	46.3	-878.66	0.15	303	196	0.00
5	A-C	110	18	44.2	54.08	5.72	873.2	826.93	2.88	303	0	0.05
6	A-C	110	24	58.1	100.10	7.81	2055.8	1182.61	6.82	301	2	0.12
7	A-C	110	30	70.7	147.07	9.54	3597.4	1541.66	12.13	297	5	0.20
8	A-C	110	36	82.2	194.37	11.13	5429.5	1832.06	18.89	287	9	0.30
9	A-C	110	42	92.4	239.45	12.67	7424.5	1995.01	27.16	273	14	0.40
10	A-C	110	48	101.5	279.38	14.17	9423.7	1999.17	36.94	255	18	0.49
11	A-C	110	54	109.7	312.30	15.63	11290.9	1867.21	48.16	234	21	0.56
12	A-C	110	60	117.0	337.95	17.04	12949.8	1658.92	60.67	213	21	0.61
13	A-C	110	66	123.6	357.24	18.39	14382.4	1432.57	74.29	194	20	0.65
14	A-C	110	72	129.5	371.54	19.69	15605.8	1223.36	88.81	176	18	0.67
15	A-C	110	78	134.9	382.11	20.92	16650.5	1044.71	104.04	160	16	0.68
16	A-C	110	84	139.7	389.98	22.10	17547.9	897.48	119.81	146	14	0.69
17	A-C	110	90	144.1	395.92	23.21	18325.5	777.59	135.97	135	12	0.69
18	A-C	110	96	148.1	400.46	24.26	19005.4	679.87	152.40	125	10	0.68
19	A-C	110	102	151.7	403.98	25.27	19605.0	599.64	169.00	116	9	0.68
20	A-C	110	108	155.1	406.77	26.22	20138.2	533.12	185.69	108	8	0.68
21	A-C	110	114	158.1	408.99	27.13	20615.5	477.36	202.39	102	7	0.67
22	A-C	110	120	161.0	410.80	28.00	21045.7	430.14	219.06	96	6	0.67

(5) Thinning from Above: Regime D (Thinned to N=303 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-D	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-D	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	A-D	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	A-D	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	A-D	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	A-D	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
# 7	A-D	110	30	68.3	11.35	2.62	281.8	-5354.8	0.93	303	150	0.02
8	A-D	110	36	79.8	59.38	6.00	1649.4	1367.6	5.46	302	1	0.09
9	A-D	110	42	90.0	105.60	8.07	3243.8	1594.4	10.91	297	5	0.18
10	A-D	110	48	99.1	151.66	9.84	5060.2	1816.3	17.61	287	10	0.28
11	A-D	110	54	107.3	196.03	11.49	7003.4	1943.2	25.74	272	15	0.37
12	A-D	110	60	114.6	236.46	13.10	8947.4	1944.0	35.39	253	19	0.46
13	A-D	110	66	121.2	271.26	14.65	10778.9	1831.5	46.54	232	21	0.53
14	A-D	110	72	127.1	299.85	16.16	12427.7	1648.7	59.04	210	21	0.58
15	A-D	110	78	132.5	322.62	17.61	13869.9	1442.2	72.70	191	20	0.62
16	A-D	110	84	137.3	340.45	18.99	15113.7	1243.8	87.28	173	18	0.64
17	A-D	110	90	141.7	354.36	20.29	16182.4	1068.6	102.55	158	15	0.66
18	A-D	110	96	145.7	365.23	21.53	17102.8	920.4	118.34	145	13	0.66
19	A-D	110	102	149.3	373.80	22.69	17900.3	797.5	134.48	133	11	0.67
20	A-D	110	108	152.7	380.61	23.79	18596.4	696.1	150.83	123	10	0.67
21	A-D	110	114	155.7	386.10	24.83	19208.8	612.3	167.32	115	8	0.66
22	A-D	110	120	158.6	390.57	25.82	19751.5	542.7	183.84	107	7	0.66

(6) Thinning from Above: Regime E (Thinned to N=194 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-E	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-E	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	A-E	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	A-E	110	12	29.4	3.98	1.94	46.3	-878.66	0.24	194	305	0.00
5	A-E	110	18	44.2	53.96	7.14	871.3	825.10	4.49	194	0	0.04
6	A-E	110	24	58.1	98.15	9.64	2016.5	1145.12	10.42	193	1	0.09
7	A-E	110	30	70.7	141.56	11.63	3465.1	1448.66	18.05	192	1	0.15
8	A-E	110	36	82.2	184.06	13.36	5146.8	1681.61	27.21	189	3	0.23
9	A-E	110	42	92.4	224.27	14.93	6962.3	1815.60	37.72	185	5	0.31
10	A-E	110	48	101.5	260.57	16.37	8800.5	1838.18	49.37	178	6	0.38
11	A-E	110	54	109.7	291.78	17.72	10562.4	1761.84	61.98	170	8	0.44
12	A-E	110	60	117.0	317.51	18.98	12180.8	1618.44	75.37	162	9	0.50
13	A-E	110	66	123.6	338.09	20.17	13624.9	1444.07	89.44	152	9	0.54
14	A-E	110	72	129.5	354.23	21.31	14891.7	1266.81	104.08	143	9	0.57
15	A-E	110	78	134.9	366.78	22.39	15994.7	1103.01	119.18	134	9	0.60
16	A-E	110	84	139.7	376.54	23.42	16954.1	959.46	134.67	126	8	0.61
17	A-E	110	90	144.1	384.16	24.41	17791.3	837.11	150.45	118	8	0.62
18	A-E	110	96	148.1	390.16	25.35	18525.4	734.15	166.44	111	7	0.63
19	A-E	110	102	151.7	394.92	26.26	19173.2	647.80	182.56	105	6	0.63
20	A-E	110	108	155.1	398.75	27.13	19748.4	575.25	198.77	99	6	0.64
21	A-E	110	114	158.1	401.86	27.96	20262.4	513.99	214.98	94	5	0.63
22	A-E	110	120	161.0	404.41	28.76	20724.3	461.92	231.17	90	5	0.63

(7) Thinning from Above: Regime F (Thinned to N=194 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-F	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-F	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	A-F	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	A-F	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	A-F	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	A-F	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
# 7	A-F	110	30	68.3	11.35	3.28	281.8	-5354.8	1.45	194	259	0.01
8	A-F	110	36	79.8	58.84	7.46	1634.6	1352.8	8.44	194	0	0.07
9	A-F	110	42	90.0	102.41	9.88	3147.8	1513.2	16.37	192	2	0.14
10	A-F	110	48	99.1	144.33	11.83	4819.8	1672.0	25.49	189	3	0.21
11	A-F	110	54	107.3	183.99	13.54	6580.8	1761.1	35.75	184	5	0.29
12	A-F	110	60	114.6	220.31	15.09	8347.1	1766.2	47.07	177	7	0.36
13	A-F	110	66	121.2	252.39	16.54	10042.2	1695.1	59.33	169	8	0.42
14	A-F	110	72	127.1	279.82	17.89	11612.0	1569.8	72.44	160	9	0.47
15	A-F	110	78	132.5	302.69	19.17	13028.4	1416.4	86.28	151	9	0.52
16	A-F	110	84	137.3	321.45	20.39	14285.2	1256.9	100.72	142	9	0.55
17	A-F	110	90	141.7	336.71	21.54	15390.6	1105.4	115.65	133	9	0.57
18	A-F	110	96	145.7	349.07	22.64	16359.8	969.1	130.97	125	8	0.59
19	A-F	110	102	149.3	359.12	23.68	17210.0	850.3	146.57	117	7	0.60
20	A-F	110	108	152.7	367.32	24.68	17958.5	748.4	162.35	111	7	0.61
21	A-F	110	114	155.7	374.05	25.62	18620.2	661.8	178.26	104	6	0.61
22	A-F	110	120	158.6	379.63	26.53	19208.4	588.2	194.21	99	6	0.62

(8) Thinning from Above: Regime G (Thinned to N=194 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-G	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-G	110	6	16.2	38.73	3.77	250.0	250	0.50	500	0	0.02
3	A-G	110	12	31.1	79.65	5.41	924.9	675	1.85	499	1	0.07
4	A-G	110	18	46.0	124.53	6.80	2053.4	1129	4.15	494	5	0.15
5	A-G	110	24	59.9	174.37	8.16	3644.8	1591	7.59	480	14	0.26
6	A-G	110	30	72.5	227.03	9.58	5636.7	1992	12.44	453	27	0.39
7	A-G	110	36	83.9	277.07	11.10	7842.9	2206	19.02	412	41	0.51
8	A-G	110	42	94.2	318.87	12.68	10009.7	2167	27.52	364	49	0.62
9	A-G	110	48	103.3	350.07	14.27	11948.8	1939	37.92	315	49	0.68
#10	A-G	110	48	97.4	17.50	4.07	597.4	-11351	3.08	194	121	0.03
11	A-G	110	54	105.5	59.80	7.53	2150.1	1553	11.12	193	1	0.10
12	A-G	110	60	112.9	98.96	9.75	3750.8	1601	19.66	191	3	0.17
13	A-G	110	66	119.4	136.14	11.57	5404.6	1654	29.00	186	4	0.24
14	A-G	110	72	125.3	170.88	13.19	7063.9	1659	39.23	180	6	0.31
15	A-G	110	78	130.7	202.58	14.68	8675.7	1612	50.35	172	8	0.37
16	A-G	110	84	135.5	230.80	16.08	10196.3	1521	62.32	164	9	0.42
17	A-G	110	90	139.9	255.38	17.41	11597.6	1401	75.08	154	9	0.47
18	A-G	110	96	143.9	276.48	18.68	12867.1	1270	88.53	145	9	0.50
19	A-G	110	102	147.6	294.39	19.88	14004.6	1137	102.57	137	9	0.53
20	A-G	110	108	150.9	309.51	21.03	15017.5	1013	117.08	128	8	0.55
21	A-G	110	114	154.0	322.26	22.13	15917.5	900	131.95	121	8	0.56
22	A-G	110	120	156.8	333.03	23.18	16717.3	800	147.09	114	7	0.58

(9) Thinning from Above: Regime H (Thinned to N=109 at Year 12)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-H	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-H	110	6	16.2	38.73	3.77	250.0	249.96	0.50	500	0	0.02
3	A-H	110	12	31.1	79.65	5.41	924.9	674.94	1.85	499	1	0.07
# 4	A-H	110	12	29.4	3.98	2.59	46.3	-878.66	0.42	109	390	0.00
5	A-H	110	18	44.2	53.85	9.52	869.5	823.26	7.98	109	0	0.03
6	A-H	110	24	58.1	96.24	12.73	1977.9	1108.38	18.16	109	0	0.07
7	A-H	110	30	70.7	136.29	15.17	3338.4	1360.50	30.74	109	0	0.11
8	A-H	110	36	82.2	174.27	17.20	4877.9	1539.51	45.17	108	1	0.16
9	A-H	110	42	92.4	209.62	18.95	6515.6	1637.71	60.88	107	1	0.22
10	A-H	110	48	101.5	241.65	20.48	8172.7	1657.11	77.35	106	1	0.27
11	A-H	110	54	109.7	269.85	21.83	9782.4	1609.72	94.19	104	2	0.32
12	A-H	110	60	117.0	294.06	23.03	11296.7	1514.29	111.10	102	2	0.37
13	A-H	110	66	123.6	314.41	24.11	12687.7	1390.96	127.92	99	2	0.41
14	A-H	110	72	129.5	331.29	25.10	13944.5	1256.86	144.58	96	3	0.44
15	A-H	110	78	134.9	345.16	26.01	15068.7	1124.14	161.05	94	3	0.47
16	A-H	110	84	139.7	356.52	26.86	16068.7	1000.05	177.34	91	3	0.49
17	A-H	110	90	144.1	365.81	27.66	16956.8	888.05	193.47	88	3	0.51
18	A-H	110	96	148.1	373.44	28.43	17745.9	789.11	209.46	85	3	0.53
19	A-H	110	102	151.7	379.73	29.16	18448.7	702.79	225.30	82	3	0.54
20	A-H	110	108	155.1	384.94	29.86	19076.6	627.95	241.00	79	3	0.55
21	A-H	110	114	158.1	389.29	30.54	19639.8	563.20	256.57	77	3	0.55
22	A-H	110	120	161.0	392.94	31.19	20147.0	507.17	271.98	74	2	0.56

(10) Thinning from Above: Regime I (Thinned to N=109 at Year 30)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-I	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-I	110	6	16.2	38.73	3.77	250.0	250.0	0.50	500	0	0.02
3	A-I	110	12	31.1	79.65	5.41	924.9	674.9	1.85	499	1	0.07
4	A-I	110	18	46.0	124.53	6.80	2053.4	1128.5	4.15	494	5	0.15
5	A-I	110	24	59.9	174.37	8.16	3644.8	1591.4	7.59	480	14	0.26
6	A-I	110	30	72.5	227.03	9.58	5636.7	1991.9	12.44	453	27	0.39
# 7	A-I	110	30	68.3	11.35	4.37	281.8	-5354.8	2.59	109	344	0.01
8	A-I	110	36	79.8	58.30	9.90	1619.8	1338.0	14.87	109	0	0.05
9	A-I	110	42	90.0	99.33	12.95	3054.8	1434.9	28.12	109	0	0.10
10	A-I	110	48	99.1	137.36	15.27	4591.2	1536.4	42.52	108	1	0.15
11	A-I	110	54	107.3	172.51	17.20	6177.5	1586.3	57.78	107	1	0.21
12	A-I	110	60	114.6	204.49	18.86	7758.3	1580.8	73.58	105	1	0.26
13	A-I	110	66	121.2	233.04	20.31	9285.9	1527.6	89.66	104	2	0.30
14	A-I	110	72	127.1	258.07	21.61	10725.6	1439.7	105.85	101	2	0.35
15	A-I	110	78	132.5	279.71	22.78	12056.5	1330.9	122.02	99	3	0.39
16	A-I	110	84	137.3	298.19	23.85	13269.7	1213.2	138.11	96	3	0.42
17	A-I	110	90	141.7	313.87	24.85	14365.3	1095.6	154.10	93	3	0.45
18	A-I	110	96	145.7	327.12	25.77	15349.3	983.9	169.97	90	3	0.47
19	A-I	110	102	149.3	338.31	26.64	16230.6	881.4	185.72	87	3	0.49
20	A-I	110	108	152.7	347.77	27.46	17019.8	789.1	201.34	85	3	0.50
21	A-I	110	114	155.7	355.78	28.25	17727.1	707.3	216.84	82	3	0.52
22	A-I	110	120	158.6	362.60	29.00	18362.4	635.3	232.20	79	3	0.53

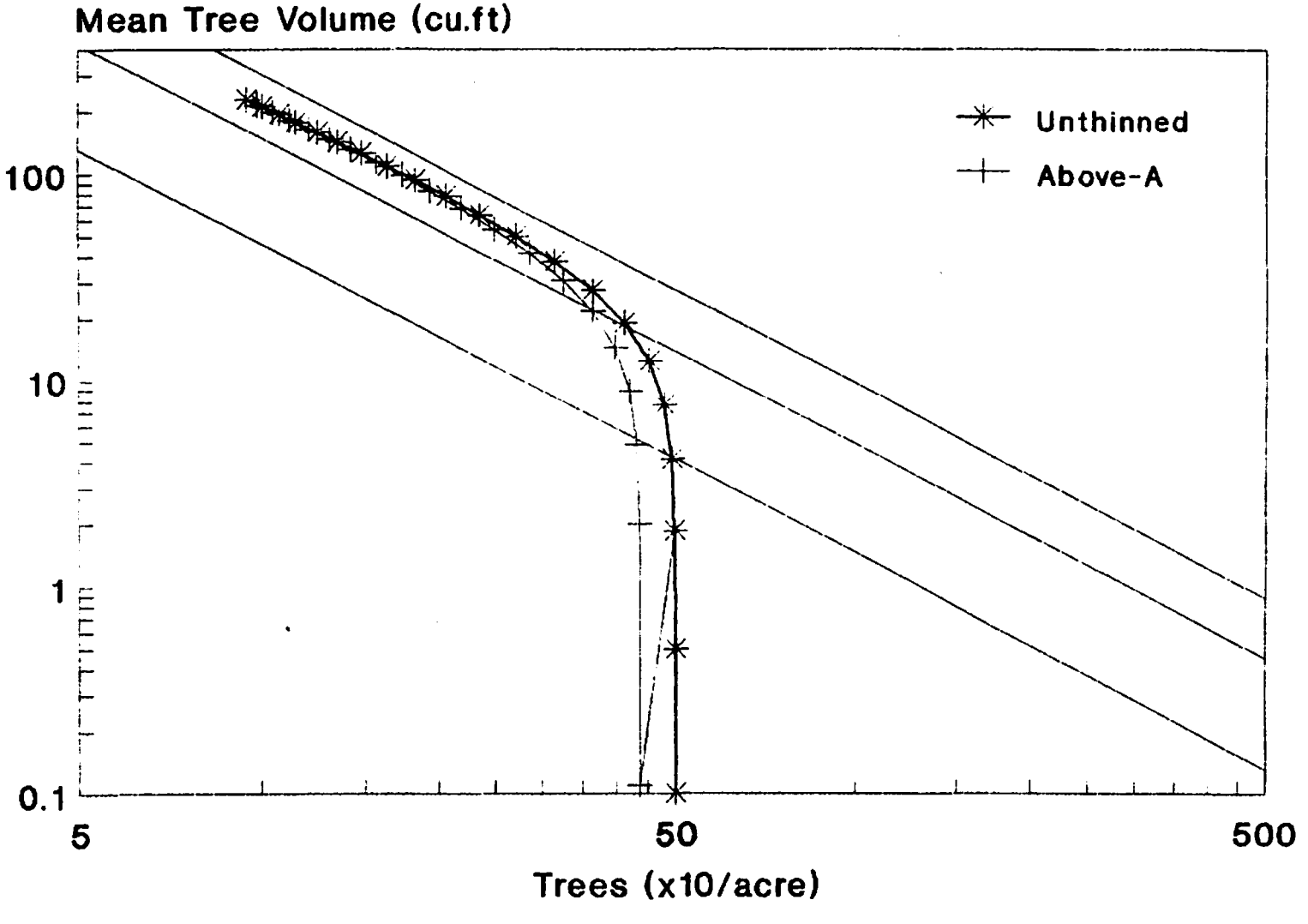
(11) Thinning from Above: Regime J (Thinned to N=109 at Year 48)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-J	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-J	110	6	16.2	38.73	3.77	250.0	250	0.50	500	0	0.02
3	A-J	110	12	31.1	79.65	5.41	924.9	675	1.85	499	1	0.07
4	A-J	110	18	46.0	124.53	6.80	2053.4	1129	4.15	494	5	0.15
5	A-J	110	24	59.9	174.37	8.16	3644.8	1591	7.59	480	14	0.26
6	A-J	110	30	72.5	227.03	9.58	5636.7	1992	12.44	453	27	0.39
7	A-J	110	36	83.9	277.07	11.10	7842.9	2206	19.02	412	41	0.51
8	A-J	110	42	94.2	318.87	12.68	10009.7	2167	27.52	364	49	0.62
9	A-J	110	48	103.3	350.07	14.27	11948.8	1939	37.92	315	49	0.68
#10	A-J	110	48	97.4	17.50	5.43	597.4	-11351	5.48	109	206	0.02
11	A-J	110	54	105.5	58.96	9.97	2120.5	1523	19.48	109	0	0.07
12	A-J	110	60	112.9	95.69	12.73	3628.8	1508	33.50	108	1	0.12
13	A-J	110	66	119.4	129.46	14.87	5144.4	1516	47.90	107	1	0.17
14	A-J	110	72	125.3	160.47	16.66	6640.9	1497	62.64	106	1	0.22
15	A-J	110	78	130.7	188.63	18.21	8088.8	1448	77.59	104	2	0.27
16	A-J	110	84	135.5	213.91	19.60	9463.6	1375	92.66	102	2	0.31
17	A-J	110	90	139.9	236.36	20.85	10749.0	1285	107.79	100	2	0.35
18	A-J	110	96	143.9	256.12	21.99	11936.5	1187	122.94	97	3	0.38
19	A-J	110	102	147.6	273.40	23.05	13023.7	1087	138.07	94	3	0.41
20	A-J	110	108	150.9	288.44	24.04	14013.3	990	153.17	91	3	0.43
21	A-J	110	114	154.0	301.51	24.97	14910.7	897	168.22	89	3	0.45
22	A-J	110	120	156.8	312.86	25.85	15723.1	812	183.21	86	3	0.47

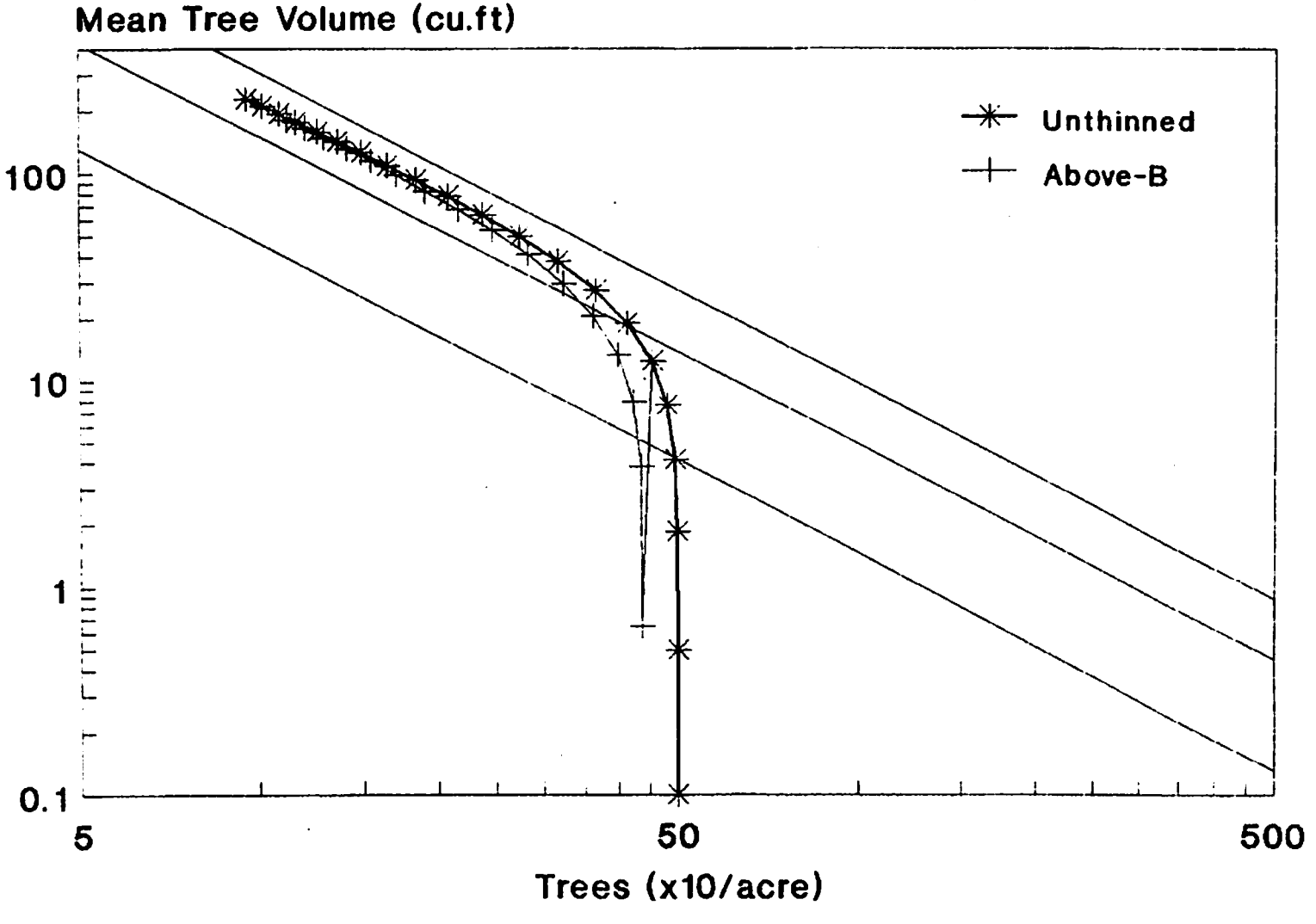
(12) Thinning from Above: Regime K (Thinned to N=109 at Year 72)

OBS	INST	DFSI	A	TOPH	BA	QMD	V	VG	MV	N	MORT	RD
1	A-K	110	0	4.5	0.00	0.00	0.0	.	0.00	500	.	0.00
2	A-K	110	6	16.2	38.73	3.77	250.0	250	0.50	500	0	0.02
3	A-K	110	12	31.1	79.65	5.41	924.9	675	1.85	499	1	0.07
4	A-K	110	18	46.0	124.53	6.80	2053.4	1129	4.15	494	5	0.15
5	A-K	110	24	59.9	174.37	8.16	3644.8	1591	7.59	480	14	0.26
6	A-K	110	30	72.5	227.03	9.58	5636.7	1992	12.44	453	27	0.39
7	A-K	110	36	83.9	277.07	11.10	7842.9	2206	19.02	412	41	0.51
8	A-K	110	42	94.2	318.87	12.68	10009.7	2167	27.52	364	49	0.62
9	A-K	110	48	103.3	350.07	14.27	11948.8	1939	37.92	315	49	0.68
10	A-K	110	54	111.5	371.73	15.83	13596.8	1648	50.01	272	43	0.72
11	A-K	110	60	118.8	386.33	17.33	14973.9	1377	63.48	236	36	0.74
12	A-K	110	66	125.4	396.14	18.75	16128.9	1155	78.04	207	29	0.75
13	A-K	110	72	131.3	402.84	20.08	17108.9	980	93.43	183	24	0.75
#14	A-K	110	72	123.7	20.14	5.82	855.4	-16254	7.85	109	74	0.03
15	A-K	110	78	129.1	54.96	9.63	2383.1	1528	21.91	109	0	0.08
16	A-K	110	84	133.9	85.80	12.07	3817.1	1434	35.33	108	1	0.13
17	A-K	110	90	138.3	114.02	13.98	5198.5	1381	48.63	107	1	0.17
18	A-K	110	96	142.3	139.92	15.60	6524.7	1326	61.93	105	2	0.22
19	A-K	110	102	145.9	163.60	17.03	7786.8	1262	75.27	103	2	0.26
20	A-K	110	108	149.3	185.13	18.31	8977.2	1190	88.67	101	2	0.29
21	A-K	110	114	152.3	204.60	19.49	10090.8	1114	102.13	99	2	0.32
22	A-K	110	120	155.2	222.13	20.58	11125.8	1035	115.64	96	3	0.35

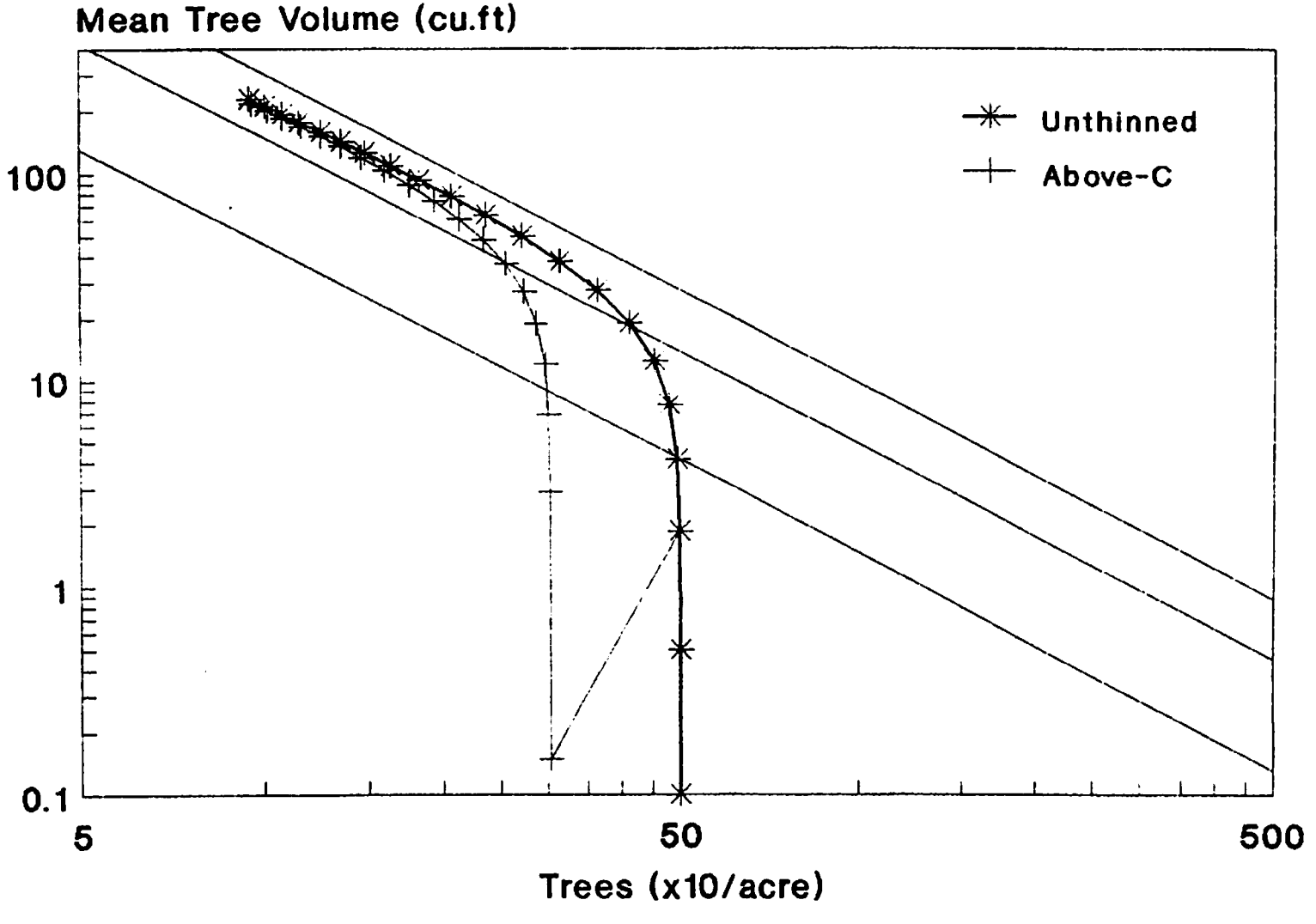
Density Management Diagram for DFSI=110
(Thinning from Above-Regime A)



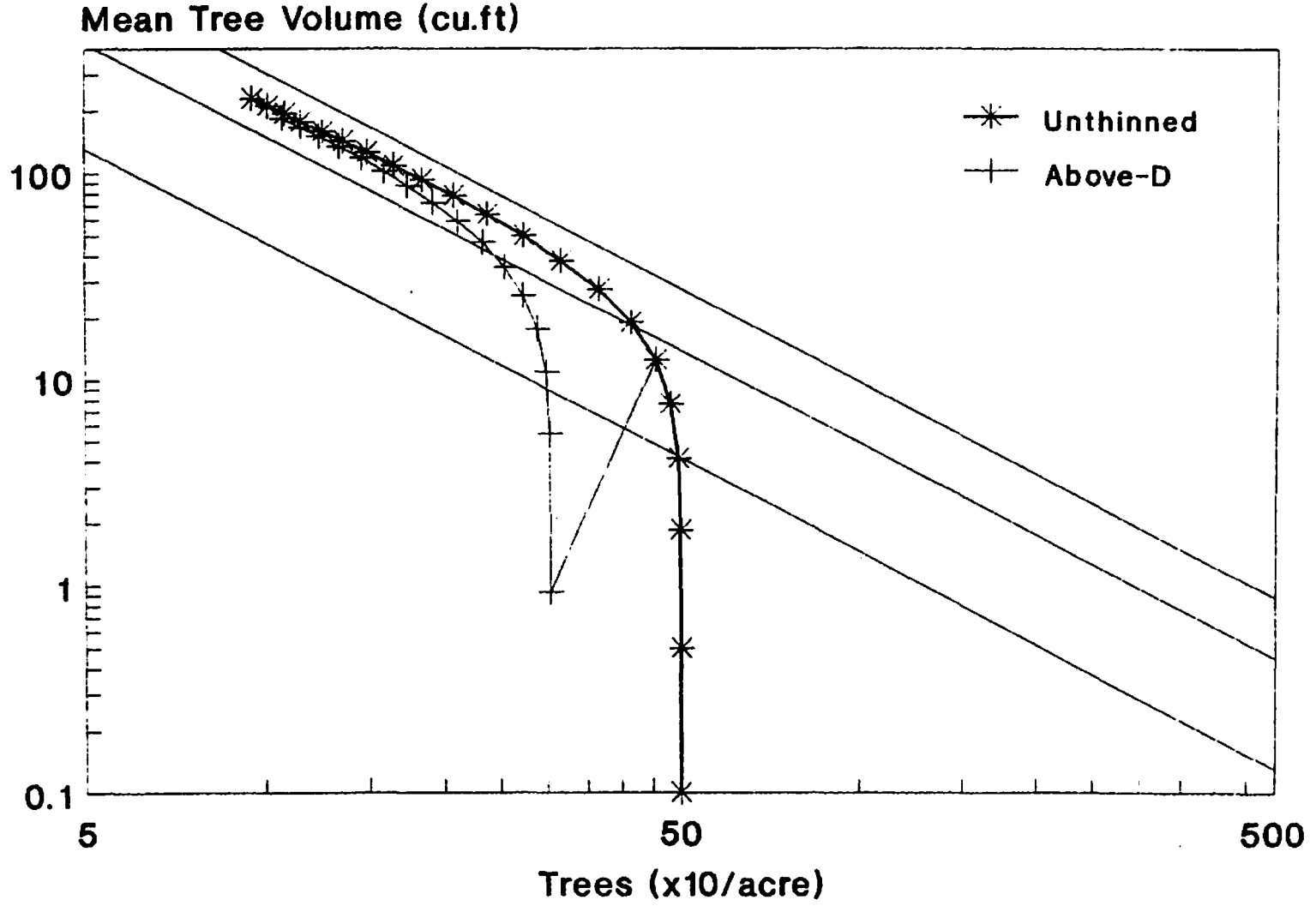
Density Management Diagram for DFSI=110
(Thinning from Above-Regime B)



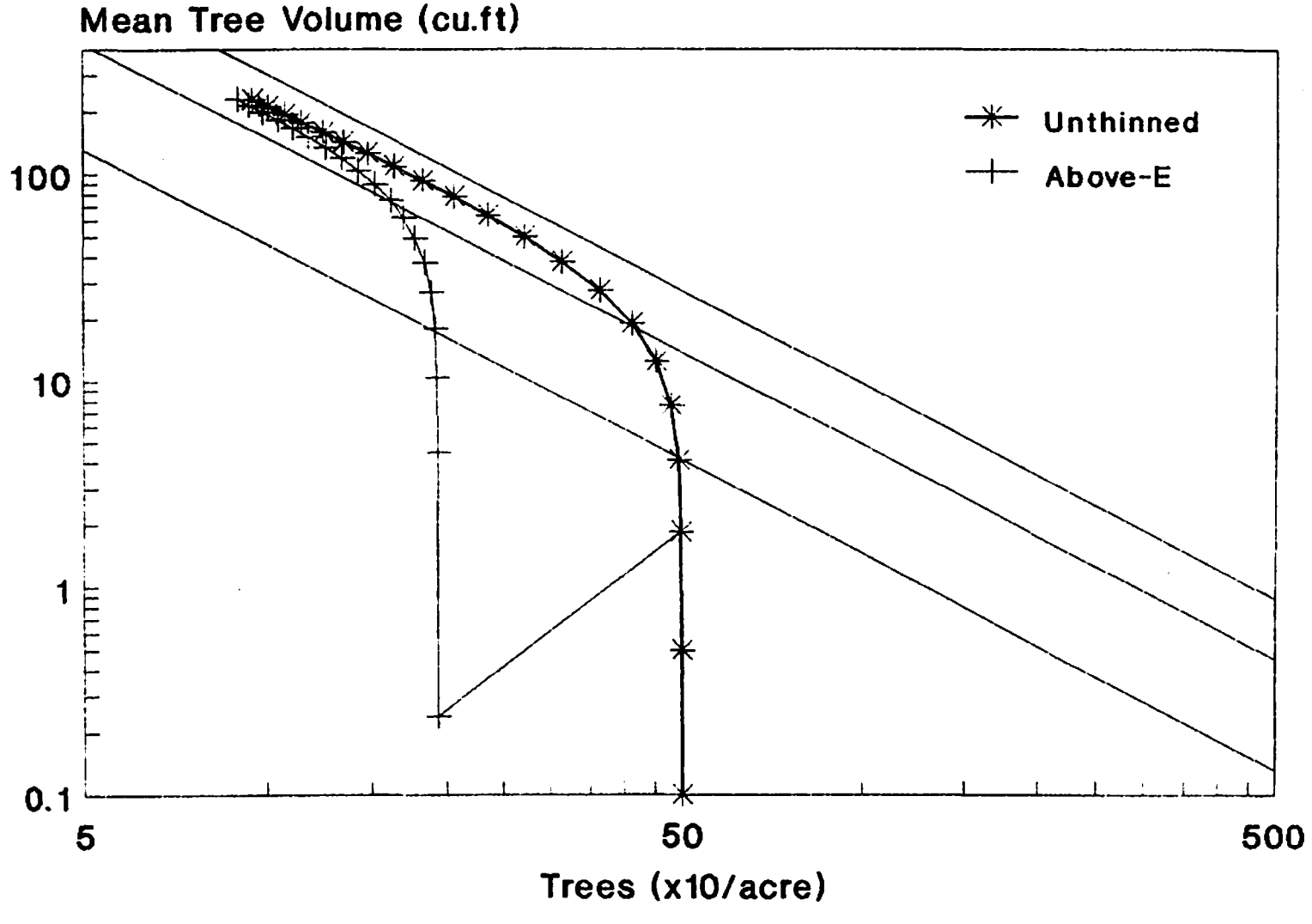
Density Management Diagram for DFSI=110
(Thinning from Above-Regime C)



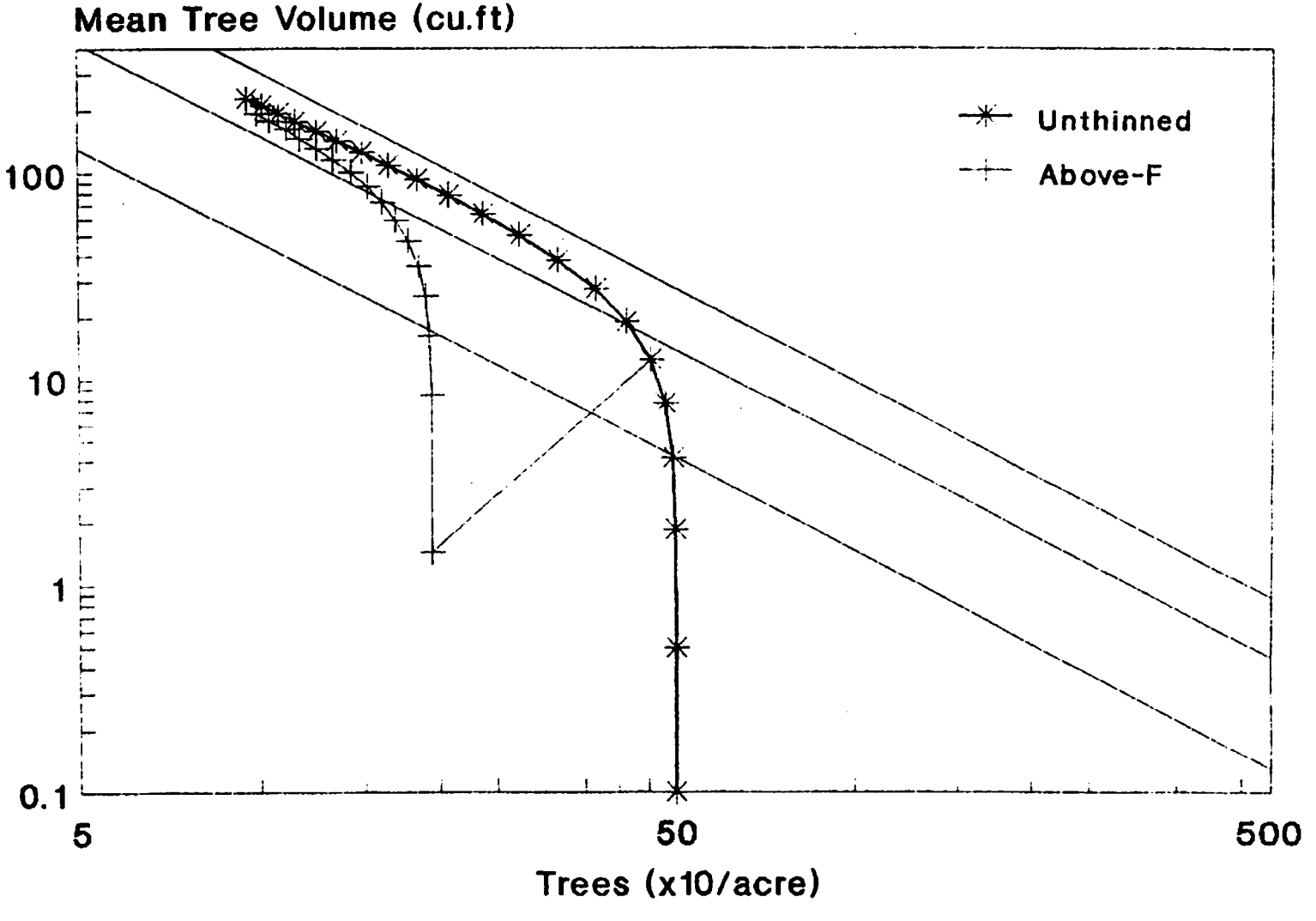
Density Management Diagram for DFSI=110
(Thinning from Above-Regime D)



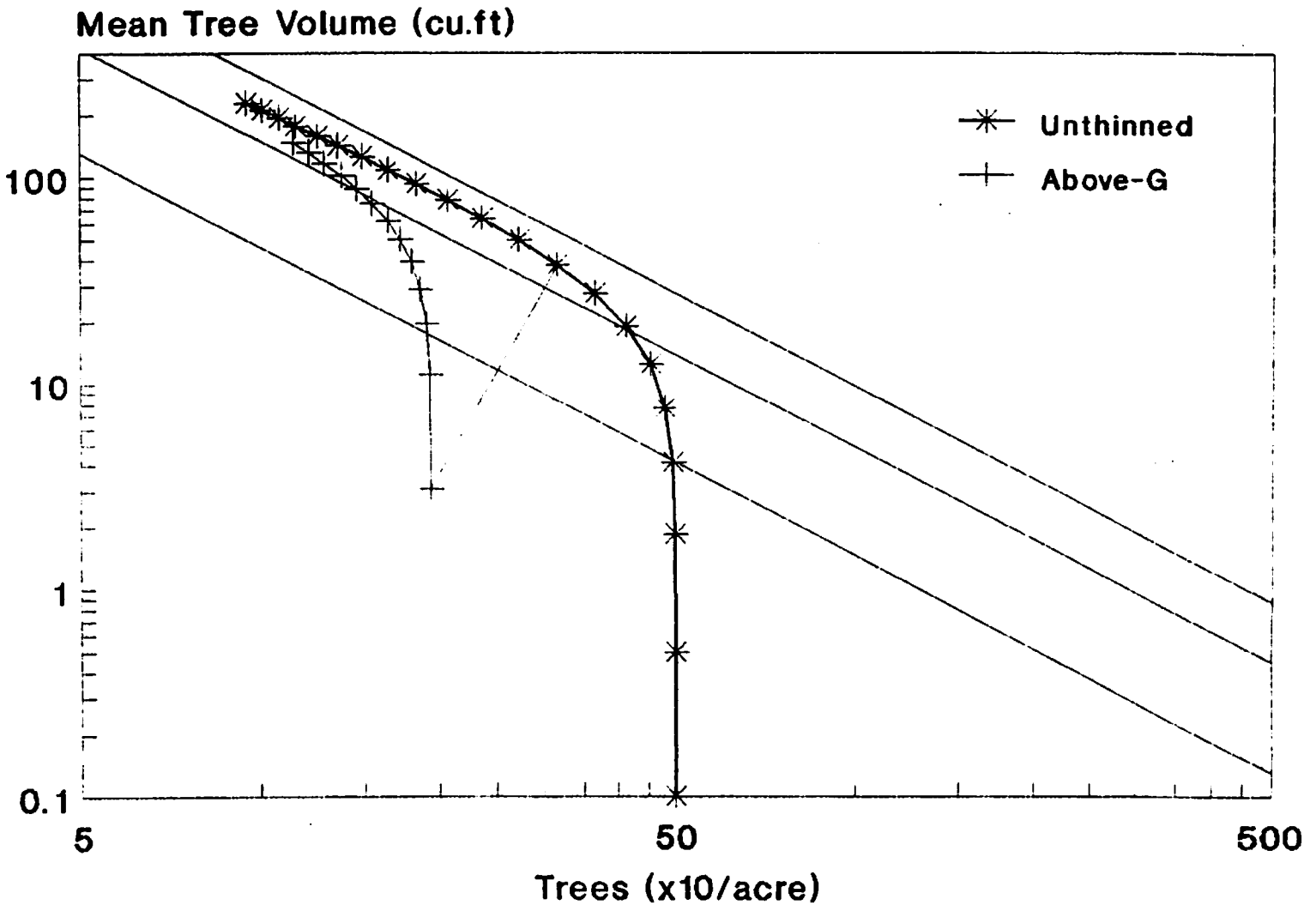
Density Management Diagram for DFSI=110
(Thinning from Above-Regime E)



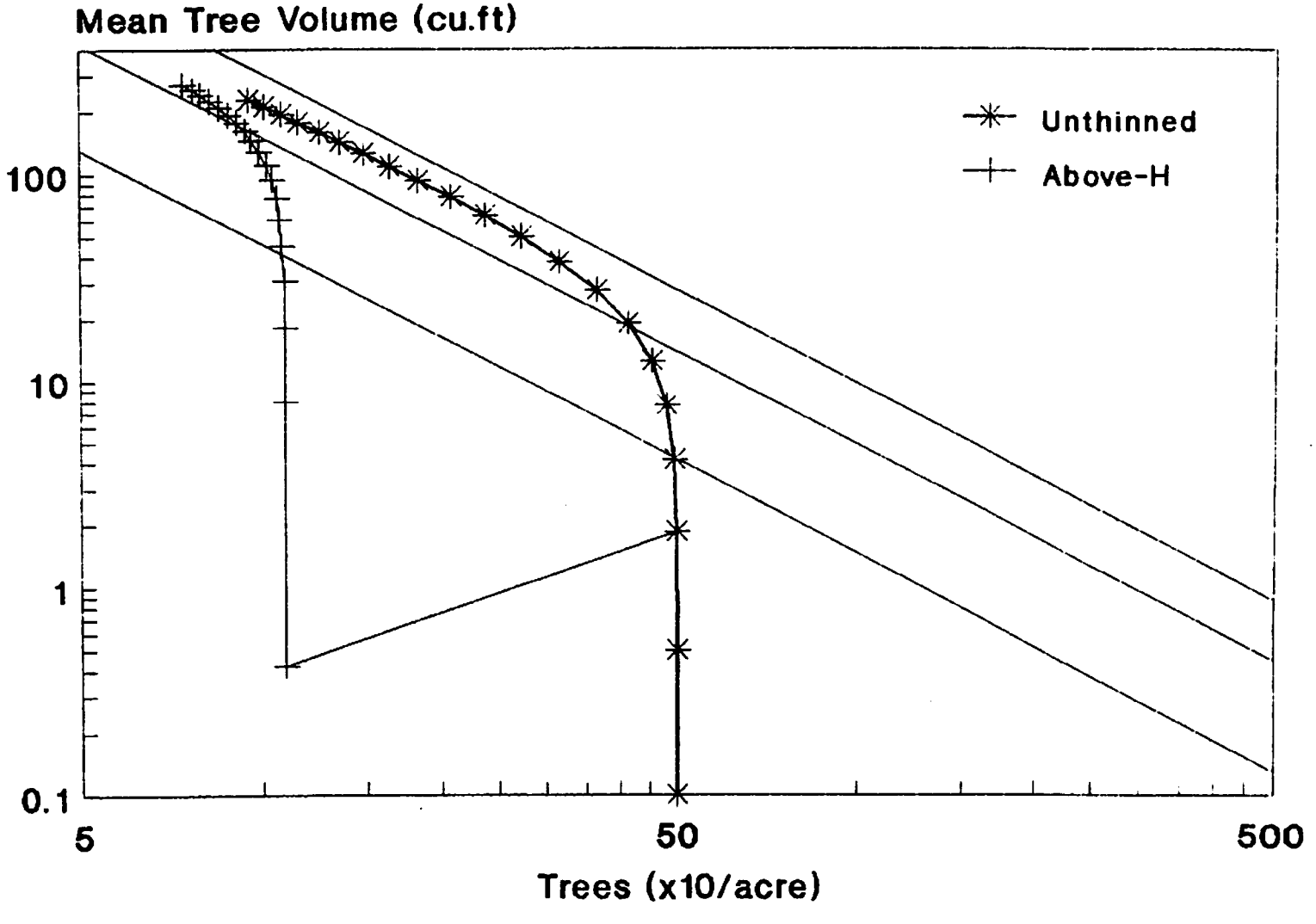
Density Management Diagram for DFSI=110
(Thinning from Above-Regime F)



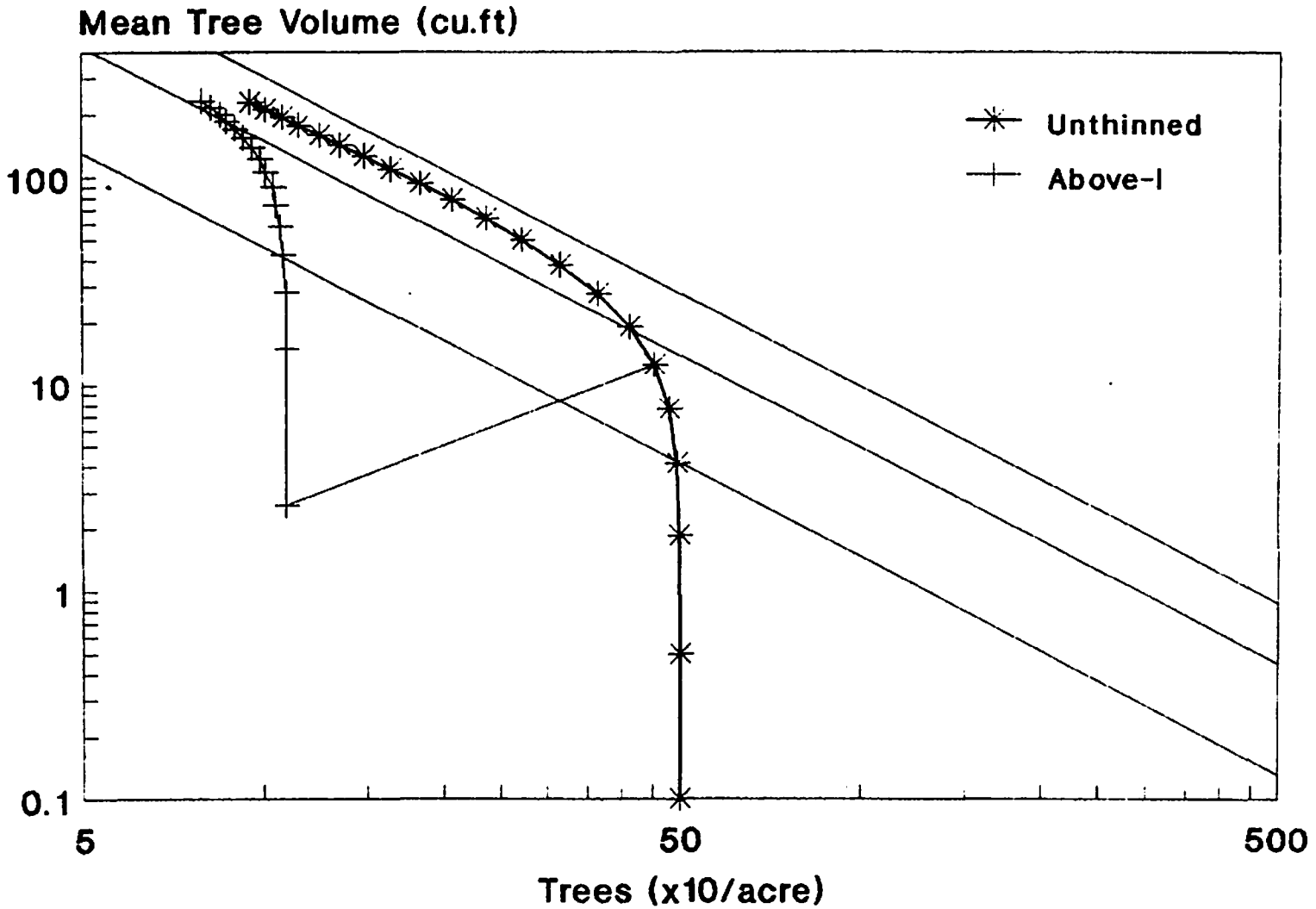
Density Management Diagram for DFSI=110
(Thinning from Above-Regime G)



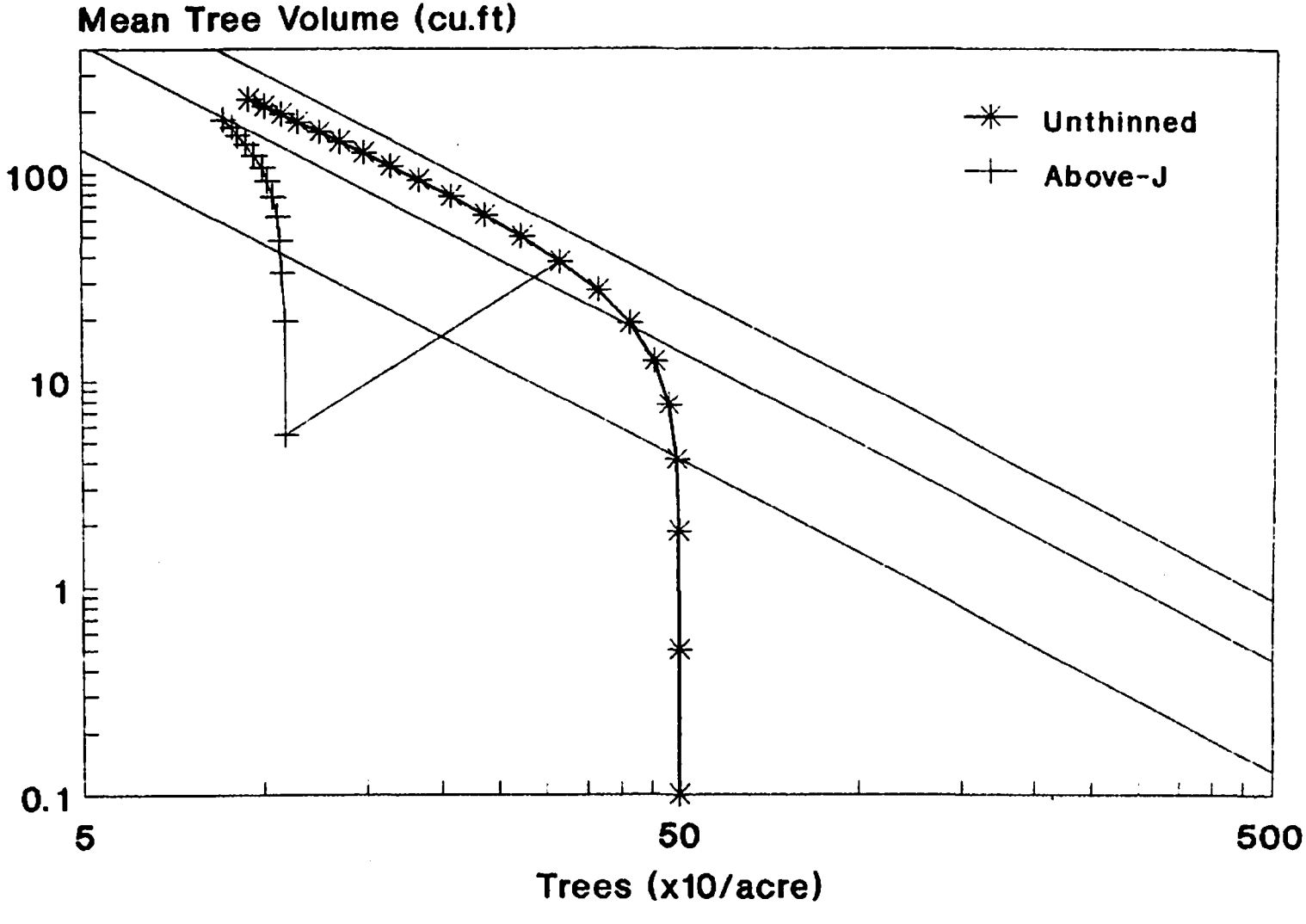
Density Management Diagram for DFSI=110
(Thinning from Above-Regime H)



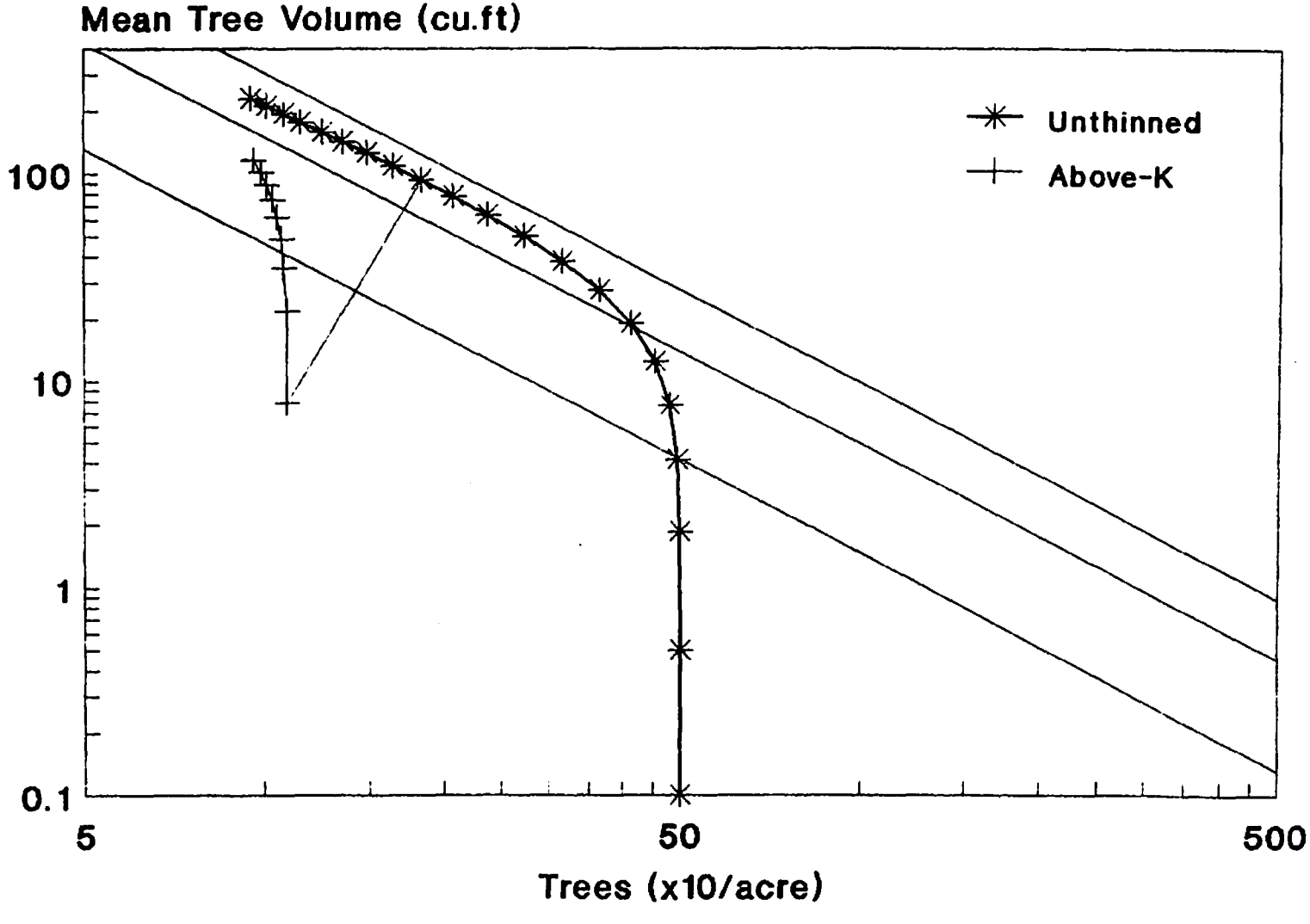
Density Management Diagram for DFSI=110
(Thinning from Above-Regime I)



Density Management Diagram for DFSI=110
(Thinning from Above-Regime J)



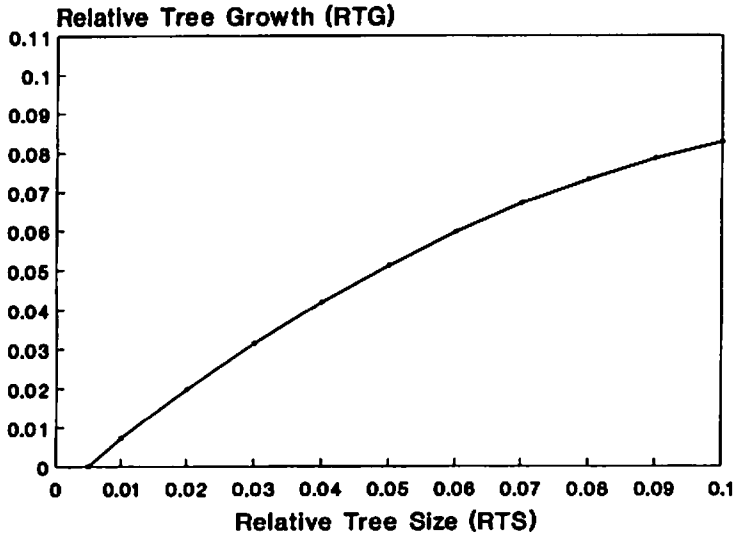
Density Management Diagram for DFSI=110
(Thinning from Above-Regime K)



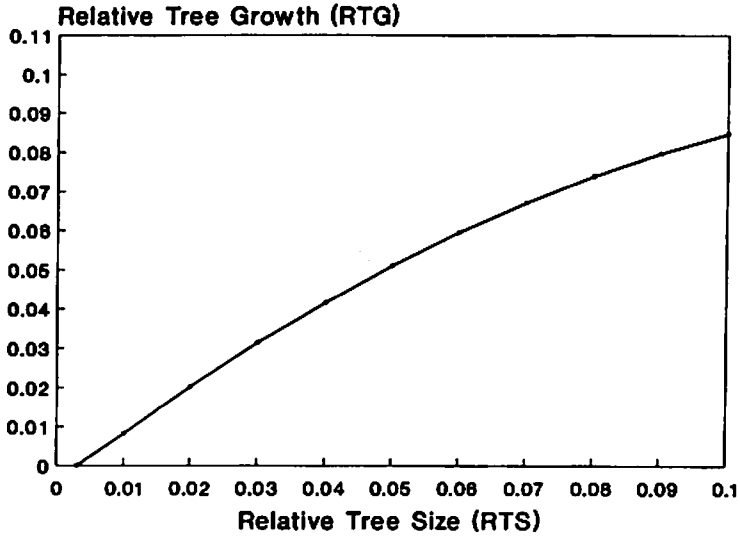
Appendix F

Figures of the Relative Size-Growth (RSG) function for thinning regimes at year 30 for site index 95.

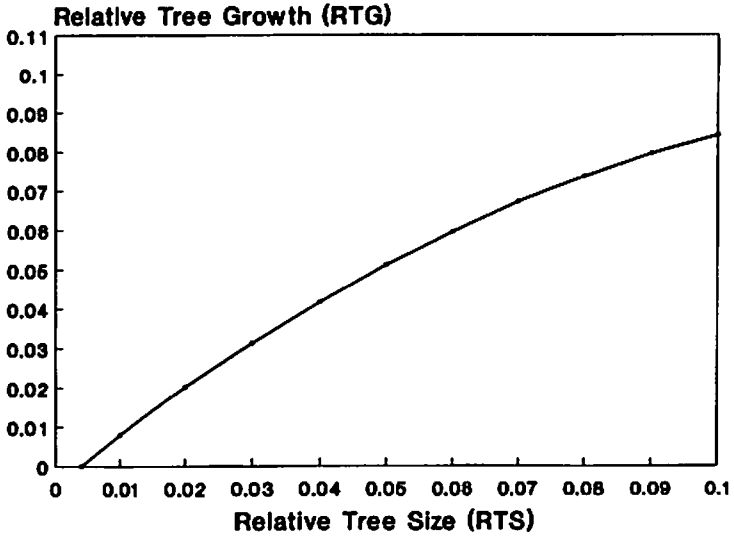
(a) Unthinned: DFSI=95, Age=30, N=476.



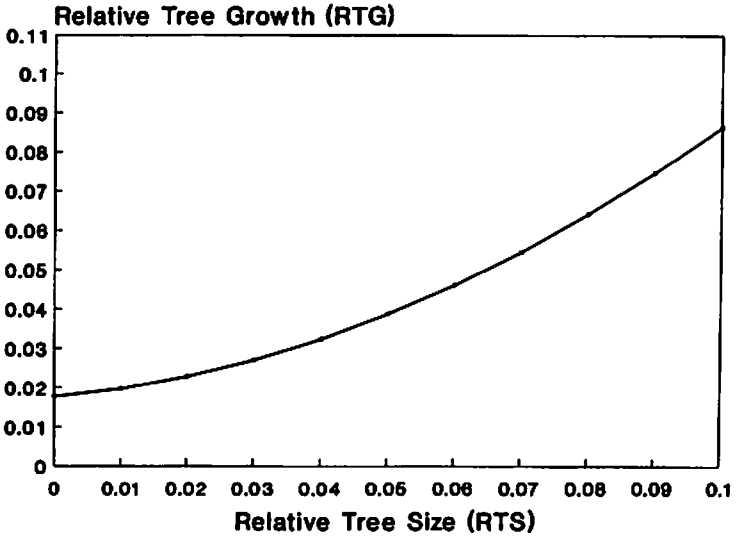
(b) Thinning Across Distribution: N=436.



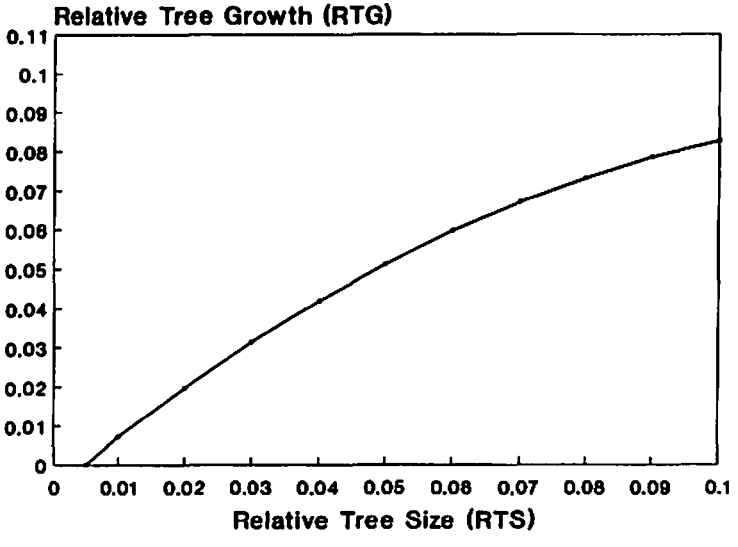
(c) Thinning from Below: N=436.



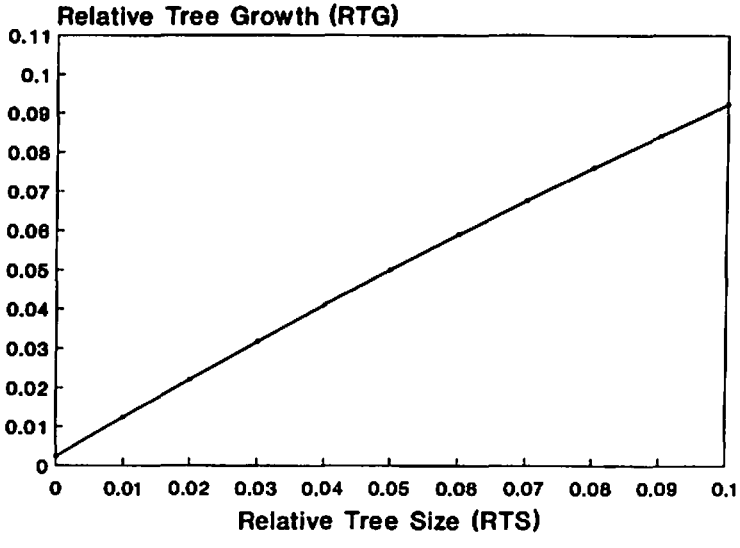
(d) Thinning from Above: N=436.



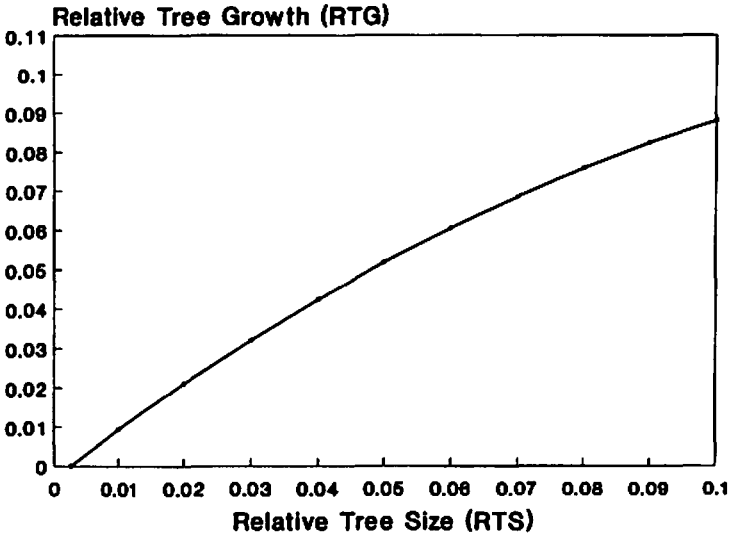
(a) Unthinned: DFSI=95, Age=30, N=476.



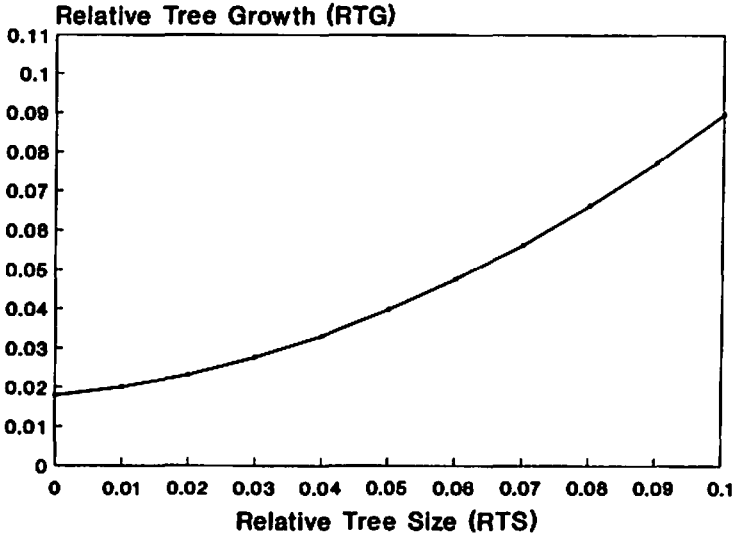
(b) Thinning Across Distribution: N=303.



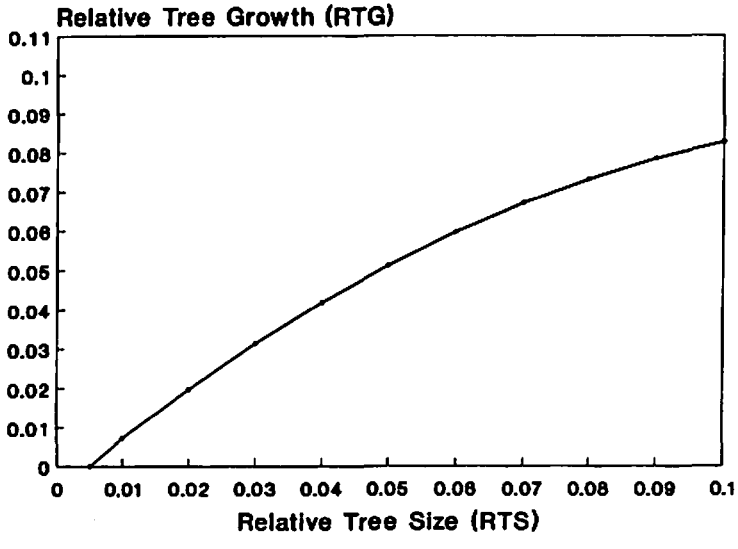
(c) Thinning from Below: N=303.



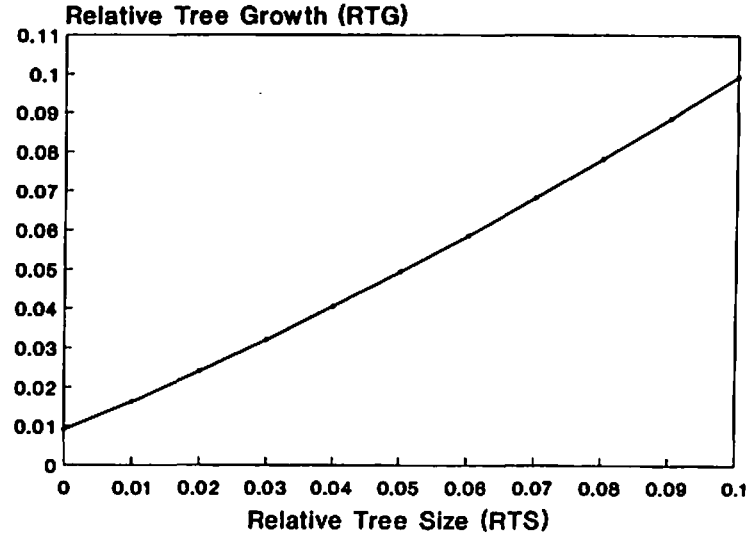
(d) Thinning from Above: N=303.



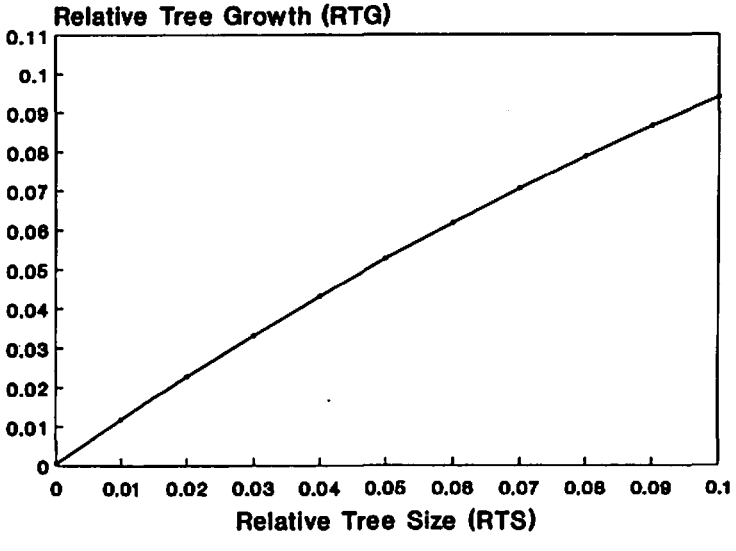
(a) Unthinned: DFSI=95, Age=30, N=476.



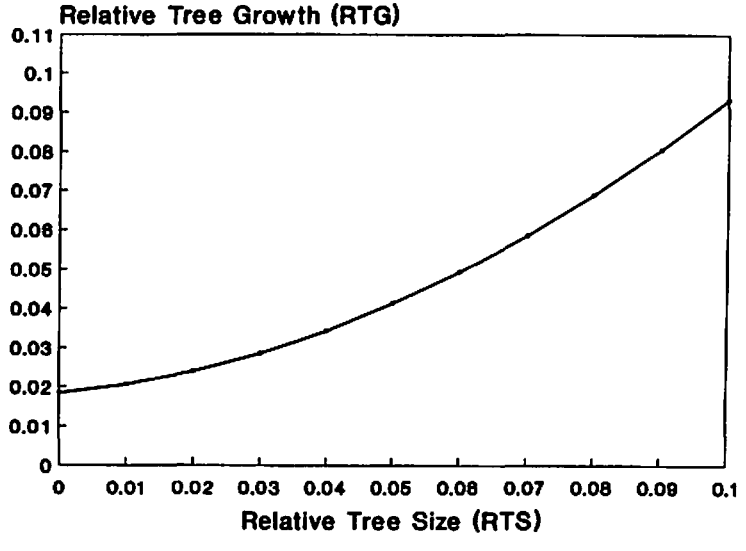
(b) Thinning Across Distribution: N=194.



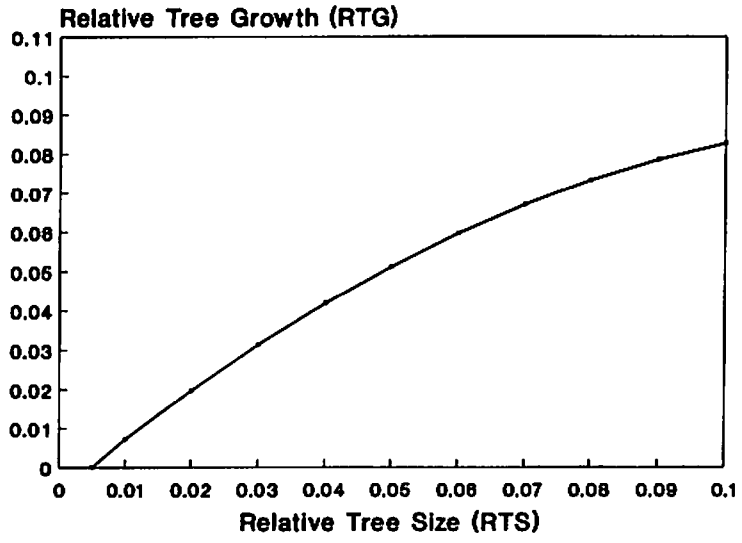
(c) Thinning from Below: N=194.



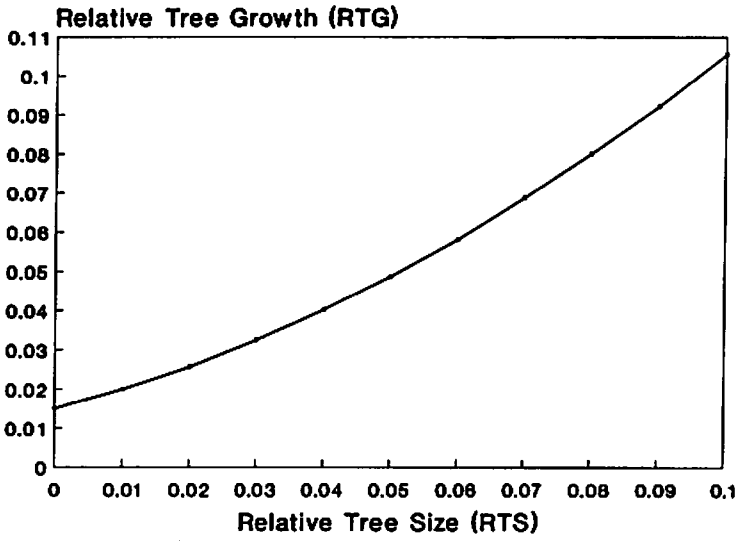
(d) Thinning from Above: N=194.



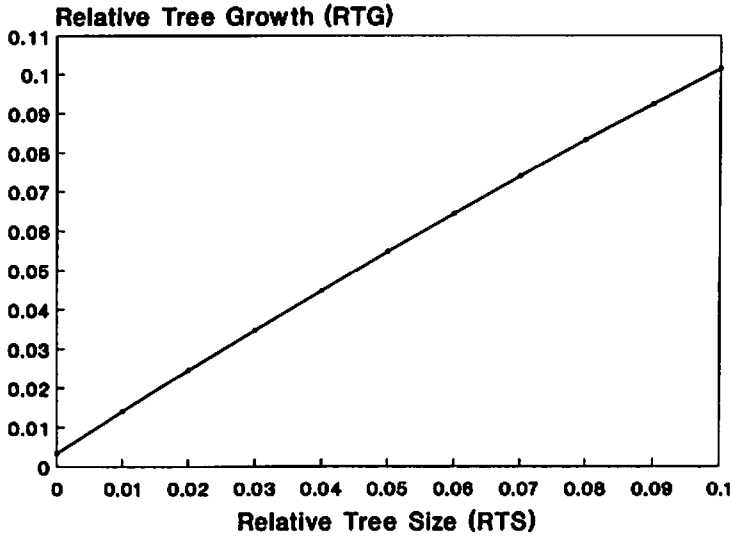
(a) Unthinned: DFSI=95, Age=30, N=476.



(b) Thinning Across Distribution: N=109.



(c) Thinning from Below: N=109.



(d) Thinning from Above: N=109.