Yield Tables for
Natural and Managed Stands:
Management Plan 10
On TFL 8

Prepared for

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Executive Summary

J.S. Thrower and Associates Ltd. was contracted by Pope & Talbot Ltd. to develop yield tables for natural and managed stands on Tree Farm Licence 8. These tables are the most important source of growth and yield information for the timber supply analysis supporting Management Plan 10. The original tables were completed in August 2001 and delivered to Timberline Forest Inventory Consultants Ltd. to be used in the timber supply analysis. Changes to the landbase and silviculture inputs necessitated the preparation of a revised set in November 2001. This report documents the models, model inputs, and analytical procedures used to derive the yield tables. It also provides a summary of yield statistics for the resulting tables.

Yield tables for existing natural stands were predicted with VDYP using the information from the forest cover inventory. Managed stand yield tables were developed from silviculture regimes that employed clearcut, patch cut, and single tree selection systems. Predictions were made for each eco-polygon defined by union of the Forest Cover Inventory and Terrestrial Ecosystem Mapping. Batch TIPSY was used to predict yields for clearcut and patch cut systems. For single tree selection, we used a system of growth equations (SINGROW) developed from permanent plot data and simulations with Prognosis^{BC}. Yield tables for regenerated stands included:

1) Improved estimates of potential site index for post-harvest regenerated stands using the results of the 2000 Site Index Adjustment project and the Terrestrial Ecosystem Mapping.
2) Ecologically based silviculture regimes developed by silviculture staff of Pope & Talbot Ltd.
3) Yield gains attributed to genetically improved planting stock.

The resulting tables showed that the predicted mean annual increment (MAI) at culmination age in natural stands averaged 2.2 m^3/ha/yr at 113 years. Future stands regenerated after clearcutting had predicted average MAI of 4.3 m^3/ha/yr at 80 years. Average patch cutting yield predictions were slightly less at 4.0 m^3/ha/yr at 78 years. The single tree selection systems had a predicted periodic annual increment of 2.4 m^3/ha/yr.

Acknowledgements

We gratefully acknowledge the contributions of Geoff Bekker, *RPF*, Randy Waterous, Lyle LeClair, *RPF*, George Delisle, and Ian Burdikin, *RPF*—all of Pope & Talbot Ltd. We also thank Albert Nussbaum, *RPF*, (Timber Supply Branch, Ministry of Forests) for his comments on the proposed methodology.

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1. INTRODUCTION

1.1 BACKGROUND

The timber supply analysis for Management Plan 10 for Pope & Talbot Ltd.'s Tree Farm Licence (TFL) 8 is to be completed in November 2001. Timberline Forest Inventory Consultants Ltd. (TFIC) will complete the timber supply analysis. Pope & Talbot has contracted J.S. Thrower & Associates Ltd. (JST) to generate yield tables for natural and managed stands for the timber supply analysis.

1.2 TERMS OF REFERENCE

This report was prepared for Geoff Bekker, *RPF* of Pope & Talbot Ltd. The JST project team included Hamish Robertson, *BSc, FIT* (project manager), Ian Cameron, *MF*, *RPF* (senior analyst), Craig Mistal, *MPM*, *FIT* (data analyst), and Guillaume Therien, *PhD* (biometrician).

1.3 OBJECTIVES

The purpose of this report is to document the models, model inputs, and analytical procedures used to derive the yield tables for the timber supply analysis in Management Plan 10 for TFL 8. The report also provides a summary of yield statistics for the resulting tables. The intent is to provide Ministry of Forests (MOF) staff with the information necessary to review and approve the yield tables and associated analysis assumptions.

1.4 PROJECT OVERVIEW

Yield tables were developed for all natural and managed stands in the timber harvesting landbase (THLB). Natural stand yield tables (NSYTs) were developed to project the growth of existing, unmanaged stands, defined as all stands older than 25 years in the forest cover (FC) inventory. The NSYTs were derived from the Variable Density Yield Projection (VDYP) software using inputs from individual polygons in the FC inventory.

Managed stand yield tables (MSYTs) were developed for silviculture regimes that employed clearcut (CC), patch cut (PC), and single tree selection (STS) systems. Predictions were made for each eco-polygon defined by union of the FC and Terrestrial Ecosystem Mapping (TEM)[1] polygons. MSYTs used the improved estimates of potential site index (PSI) developed through Site Index Adjustment (SIA).[2] MSYTs for the post-harvest regeneration (PHR) from CC and PC systems were derived with the Table Interpolation Program for Stand Yields (TIPSY), while MSYTs for STS systems were produced from a custom system of equations, SINGROW, based on permanent sample plot (PSP) data and output from Prognosis^{BC}.

Existing PHR stands were divided into two historic eras that reflect changes in silvicultural practices. *Old Existing PHR* stands had stand ages between 14 and 25 years in the current inventory. *Young Existing PHR* stands were those less than 14 years old. *Future PHR* stands refer to the stands created in the

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[1] Oikos Ecological Services. 2000. Ecosystem Mapping for Pope & Talbot's TFL 8. Contract report for Pope & Talbot Ltd., 30 pp.

[2] J.S. Thrower and Associates. 2001. Potential Site Index Estimates for Major Commercial Tree Species on TFL 8. Contract Report for Pope & Talbot Ltd., 17 pp.

timber supply analysis after harvesting of current natural stands or existing PHR stands. The characteristics of the stand categories used in the analysis are summarized in Table 2. The maximum mean annual increment (MAI) and corresponding culmination ages are summarized in Table 3.

1.5 SILVICULTURAL SYSTEMS IN MULE DEER WINTER RANGE

In practice, STS, PC, and CC systems are prescribed by Pope & Talbot within Mule Deer Winter Range (MDWR). The choice of system generally depends on site series. STS is usually prescribed on drier sites, PC on the circum-mesic sites, and CC on wetter sites (Table 1). The distribution of those site series groups in TEM suggest that there should be a small amount of CC (6%) and approximately equal amounts of STS and PC (44% and 50%). This closely approximates the relative amounts of the systems prescribed on TFL 8 over the past five years. For the timber supply analysis, we have simplified the situation slightly by projecting the 06, 07, and 08 site series as patch cuts, thereby elevating the proportion of patch cuts to 56% (Table 1). Once a silvicultural system had been assigned to an eco-polygon, the same silvicultural system was used throughout the timber supply simulation.

Table 1. Distribution of area by silvicultural systems in MDWR.

Silviculture System	Site Series	MDWR Area (%)	
		TEM	Yield Curves
STS	02, 03, 04	44	44
Patch cut	01, 05	50	56
Clearcut	06, 07, 08	6	0

Table 2. Summary of yield table inputs, data sources and models.

	Natural Stands	Old PHR Clearcut	Young PHR Clearcut	Future PHR Clearcut	Patch Cut	Single Tree Selection
Modelling Unit	FC Polygon	Eco-polygon	Eco-polygon	Eco-polygon	Eco-polygon	Eco-Polygon
Model	Batch VDYP (6.6d)	BatchTIPSY (3.0a)	BatchTIPSY (3.0a)	BatchTIPSY (3.0a)	BatchTIPSY (3.0a)	SINGROW
Age	> 25 years	14-25 years	< 14 years	All	< 25 years and future	N/A
Stratum	non-MDWR	non-MDWR	non-MDWR	non-MDWR	MDWR – wetter sites	MDWR – drier sites
Area (ha)	44,282 ha	6,847 ha	9,046 ha	62,871 ha	7,104 ha	3,058 ha
THLB (%)[3]	67%	13%	10%	86%	Current: 2% Future: 9%	5%
Stand Description	FC Inventory	Silviculture Regimes	Silviculture Regimes	Silviculture Regimes	Silviculture Regimes	FC Inventory
Site Index	FC Inventory	PSI from SIA Elevation model in ESSF	PSI from SIA Elevation model in ESSF	PSI from SIA Elevation model in ESSF	PSI from SIA	PSI from SIA
OAFS 1 & 2	N/A	See Section 3.2.4	See Section 3.2.4	See Section 3.2.4	See Section 3.2.4	N/A
Genetic Gain	N/A	N/A	8,615 ha	56,116 ha	6,139 ha	N/A

Table 3. Summary of mean annual increment (MAI) and culmination age by stand category.

	Natural Stands	Old PHR Clearcut	Young PHR Clearcut	Future PHR Clearcut	Patch Cut	Single Tree Selection
MAI	2.2 m^3/ha/yr	4.4 m^3/ha/yr	4.6 m^3/ha/yr	4.3 m^3/ha/yr	4.0 m^3/ha/yr	2.4 m^3/ha/yr[4]
Culmination Age	113 yrs	73 yrs	74 yrs	80 yrs	78 yrs	N/A

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[3] An additional 3% of current area (natural stands and existing PHR) is classified as NSR.

[4] For STS this number is actually periodic annual increment (PAI), not MAI.

2. NATURAL UNMANAGED STANDS

2.1 DESCRIPTION

Natural stands were defined as all stands in the current FC inventory with age greater than 25 years. The basic modelling unit was the FC polygon (mapsheet and polygon) and subzone. There were 6,797 polygons of natural stands, covering 44,282 ha. Most polygons (80%) were less than 10 ha and the largest was 189 ha (Figure 1).

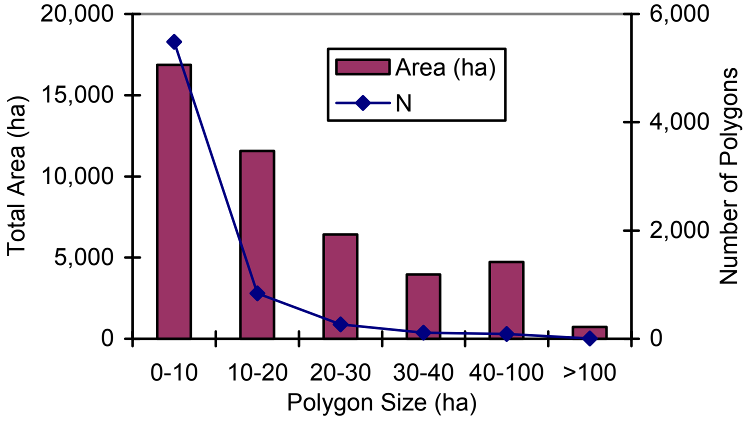

Figure 1. Distribution of polygon size for natural unmanaged stands.

2.2 VDYP INPUTS

Site index, species composition, stocking class, and crown closure values from the FC database were input into VDYP. The weighted average site index for existing natural stands was 16.3 m for all species combined (Figure 2). Most area was in the 15-m site index class. Pl represented at least 38% of all leading species and Fd represented at least 27% of all leading species. Stand density for VDYP was represented by crown closure that averaged 57%.

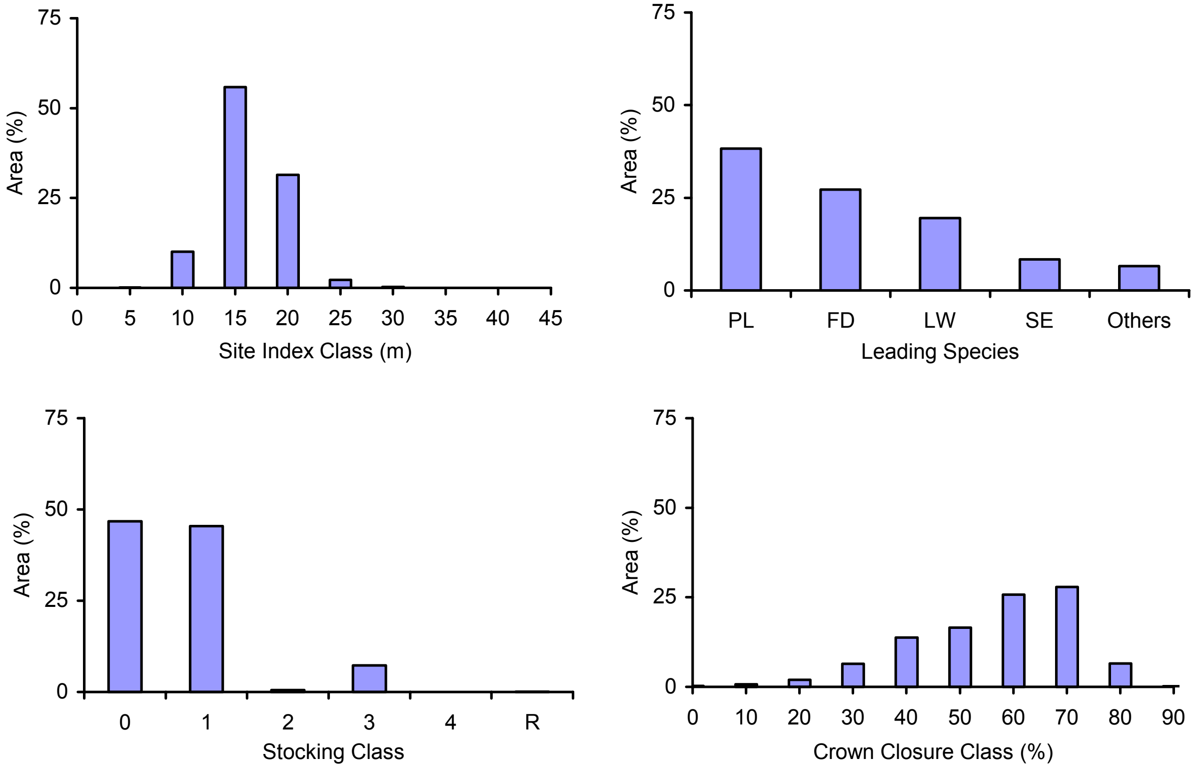

Figure 2. Area distribution for natural stands by site index, species, stocking class, and crown closure.

3. CLEARCUTTING AND PATCH CUTTING SYSTEMS

3.1 OVERVIEW

Yield tables for clearcutting and patch cutting systems were identical except for an additional reduction applied to the patch cutting curves to account for edge effects (See Section 3.2.5). Three eras of management were recognized in the development of yield curves for clearcutting systems. *Old Existing PHR* stands were stands between age 14 and 25 years in the current FC inventory. *Young Existing PHR* stands were those less than 14 years old. *Future PHR* stands refer to the stands regenerated in the timber supply analysis after harvesting of current natural stands or existing PHR stands. Patch cutting was applied within the MDWR on eco-polygons where the leading site series was 01, 05, 06, 07, or 08. In addition, other stands with insufficient volumes for STS (<125 m^3/ha) were projected as patch cuts.

3.2 COMMON CHARACTERISTICS

3.2.1 Modelling Unit and Yield Model

The modelling unit for clearcutting and patch cutting regimes was the eco-polygon formed by the union of FC polygons and the TEM polygons. Batch TIPSY 3.0a was used to predict the yields of each eco-polygon.

3.2.2 Site Index

The site index assigned to each eco-polygon was PSI, as derived in the SIA project.[2] In the ESSF, existing and future stands above 1,800 m elevation were assigned the site index from the current FC inventory. Below 1,800 m, the elevation model described in the SIA project was used to assign PSI. Furthermore, at the request of MOF staff, another set of yield curves were derived for the ESSF in which the site index from the FC inventory was used for all existing and future stands. This additional set will contribute to a sensitivity analysis of the impact of using PSI in the ESSF.

3.2.3 Silviculture Regimes

The silviculture regime tables were generated by Pope & Talbot staff from data in their Silviculture Record Management System (SRMS). For all blocks harvested since 1975, SRMS provided inventory label, regeneration delay, BEC subzone, site series, total stems, and well-spaced stems. Another SRMS query provided planting information for all blocks, which included species planted, total trees, year planted and seedlot number for each species. All blocks were categorized based on harvest year and three eras were established: 1975-1986, 1987-2000, and 2001. Within each era, blocks were categorized based on BEC Site Series. Up to six silvicultural regimes were created for each site series by era.

Total stem counts from the most recent survey were used to derive the densities for the silviculture regimes. For each species, the number of successful natural regeneration was computed by subtracting the number of planted trees from the total number of stems. Most regimes had multiple species and trees of both planted and natural origin. Yield curves for each regime were prepared from the weighted average of two TIPSY runs. The first run used the planted trees only and initial density used was the product of planting density and the survival indicated for that silviculture regime. For those regimes based on free-growing surveys, the initial densities were increase by 10% to account for early mortality. The second TIPSY run used TIPSY's natural stand option, with initial density indicated by the total stem count (natural and planted).

The weighting for the two runs were derived from a simulated experiment using TASS. An array of planted and natural densities was used to generate simulated plantations with combinations of planted seedlings and natural regeneration. For each factorial combination of planting density and regeneration density, three TASS runs were produced:

Run 1) A stand consisting of only the planted component.
Run 2) A natural stand with an initial density that was the sum of the planted and natural trees.
Run 3) A combined run in which the planted and natural densities were superimposed on the same simulated hectare.

Yields from Run 3 were predicted by regression from combinations of Run1 and Run 2, as shown in Equation 1 below:

[1] $C = a_0 * P + a_1 * N$

where C = Volume from TASS combined stand (Run 3)
P = Volume from TASS planted stand (Run 1)
N = Volume from TASS natural stand (Run 2)
a_0, a_1 = regression parameters

The percentage of stems planted with genetically improved stock was calculated for each block and species for specific seedlot numbers in the planting records. The genetic worth attributed to each species is based on information provided by the Tree Improvement Branch, using their Genetic Improvement Strategy Timeline. The genetic gains shown below are references from the Thompson Okanagan and Nelson Seed Planning Zones. It is assumed that genetically improved stock will be available and used in the future era in the same proportion as the current era.

Table 4. Genetic Worth by Species, Era, and BEC Zone

Species	1975-1986	1987-2000	Future	BEC Zone
SX (<1300m)	0	3	12	ICH, IDF
SX (>1300m)	0	3	18	MS, ESSF
PL	0	9	10	All
LW	0	6	7	All
FD	0	24	24	All

3.2.4 Operational Adjustment Factors

Operational adjustment factors (OAFs) reduce the potential yields predicted by TIPSY to levels expected of average operational stands. OAFs used for TFL 8 were selected to be comparable to those used in the recent timber supply analysis of the adjacent Boundary TSA.

For OAF1, the intent was to use 0.85 for all sites, as implemented in the Boundary TSA. The TEM for TFL 8 explicitly identified non-productive area that was not recognized in the forest cover data. Yield curves derived for eco-polygons excluded the TEM-based NP in the weighting of yield curves. When the yield curves were applied to the polygons in the timber supply analysis, the TEM-based NP was reintroduced by reducing the value of 0.85 (i.e., increasing the reduction) based on the proportion of TEM-based NP in each subzone (Equation 2, Table 5).

Table 5. OAF1 used in each subzone

Subzone	NP Area (ha)	NP Area (%)	Reduction (%)	Adjusted OAF1
ESSFdc1	98	1.3	16.0	0.840
ICHmk1	15	0.3	15.3	0.847
ICHmw2	1	0.3	15.2	0.848
IDFdm1	388	2.3	17.0	0.830
MSdm1	110	0.3	15.3	0.847
MSdm1a	1	0.1	15.1	0.849

[2] OAF1 = 0.85 * (1-NP%/100)

An OAF2 reduction of 7%, correspond to an OAF2 value of 0.93, was used as a baseline. This corresponding to the lowest reduction used in the analysis of the Boundary TSA. Additional reductions were imposed where warranted by site and stand conditions (Table 6). The primary consideration for OAF2 was the effects of the root diseases *Armillaria ostoyae* and *Phellinus weirii*. All subzones in TFL 8 were rated as high risk for root diseases according to the 1995 Root Disease Management Guidebook, so the additional landscape reduction of 2% was assigned to all stands. Site series that currently support stands with a significant component of Fd were assessed an additional reduction of 1%. This included all site series in the IDF, all site series in the ICH (except 08), and the 02 and 03 site series in the MS. Silviculture regimes that indicated more than 35% Fd as either planted seedlings or natural ingress were assessed a further 2% reduction. Regimes that involved juvenile spacing received another 1% reduction to reflect the increased risk of loss in spaced stands. Old Existing PHR stands tend to have higher OAF2 reductions because juvenile spacing was more common in that era. The area-weighted average OAF2 reductions of old, young and future PHR stands were 8.8%, 8.3%, and 8.6% respectively. These correspond to average OAF2 values of 0.912, 0.917, and 0.914 respectively. Compared with the Boundary TSA, the OAF2 reductions are about 1% lower (i.e., OAF2 values about 0.01 higher,). This difference reflects Pope & Talbot's expecation that losses to root disease will be lower on the TFL because of a higher level of stumping and mixed plantings.

Table 6. OAF2 reductions.

Source of risk or hazard	Reduction
Baseline	6.5%
High landscape hazard	2.0%
Fd in existing stands	1.0%
Fd in regenerated stands	2.0%
Juvenile spacing	1.0%

3.2.5 Edge Effects in Patch Cutting

Patch cuts were modelled with the same silviculture regimes used for clearcuts on similar site series. Since Pope & Talbot's patch cuts are generally 1 ha in size, it is important to account for the reduced growth of the regenerated stand due to edge effects from the surrounding stands.

To evaluate the edge effects, simulations of clearcuts and 1-ha patch cuts were performed with both TASS II and TASS III by MOF Research Branch staff. TASS II is the operational version of TASS that produces the database for TIPSY. TASS III is a new developmental version of TASS that incorporates a light model and is well suited to modelling of edge effects.

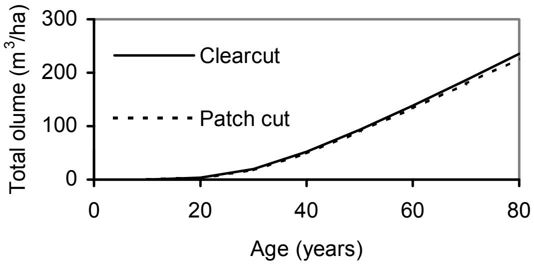

Figure 3. TASS III comparison of clearcut and patch cut yields.

The simulations involved cutting a 1-ha square patch into a planted stand of Fd that had reached 25 m of top height. The patch was planted with Douglas-fir seedlings, and yield of the regenerated trees was isolated and analyzed separately from the surrounding trees. A comparison of the volume-age curves from the clearcut and patch cut simulations suggests that the losses due to edge effects can be satisfactorily approximated as a constant percentage reduction over the rotation (Figure 3). The simulations from TASS II show reductions of approximately 10% while TASS III shows a reduction of 4%. The modellers in the MOF Research Branch suggest that the appropriate reduction is likely between 10% and 4%. For the timber supply analysis, the yield of individual patch cuts were modelled with TIPSY with an extra 7% deducted for edge effects via OAF1 (Equation 3).

$$[3] \quad \text{Patch Cut OAF1} = 0.93 * \text{Clearcut OAF1}$$

Additional constraints related to patch cutting will be addressed by the timber supply model.

3.3 OLD EXISTING PHR STANDS

Silviculture regimes for this category of stands were based on the regimes common in that era. Most stands were regenerated after clearcutting through either planting or natural regeneration. Approximately 50% of these stands were juvenile spaced. Patch cutting was uncommon in this area, but about 584 ha of Old Existing PHR in the MDWR was assigned to patch cutting curves based on their TEM attributes. Since those stands were originally clearcut, these predicted yields were about 7% lower than if we had used clearcut curves.

PSI estimates from the SIA project were used for site index in the Old Existing PHR regimes. The average site index across all species was 21.1 m for clearcut regimes and 20.4 m for patch cut regimes (Table 7, Figure 4). The was no regeneration delay attached to the yield curves for Old Existing PHR stands because the age assigned in the FC inventory was based on the actual age of trees rather than the year of logging. Pope & Talbot had surveyed all stands from that era as part of their backlog program. JST staff confirmed that the stand ages on the FC inventory were the ages collected in the surveys.

Table 7. PSI statistics for Old Existing PHR stands.

Stratum	Leading Species	Area (ha)	Area (%)	PSI (m) Avg.	PSI (m) Min.	PSI (m) Max.	PSI (m) SD
CC	BL	387	6	17.5	9.5	24.4	3.1
	FD	228	4	19.7	13.8	22.2	17.3
	PL	5,633	90	21.4	15.0	26.0	15.5
	Total	6,248	100	21.1	9.5	26.0	11.0
PC	BL	12	2	19.7	15.2	24.4	2.8
	FD	37	7	18.7	13.8	21.3	12.6
	PL	523	91	20.5	19.0	26.0	5.4
	Total	573	100	20.4	13.8	26.0	6.2

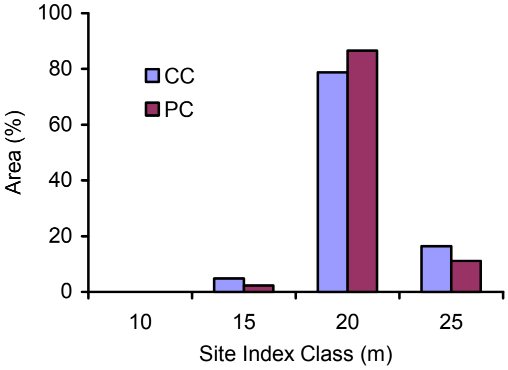

Figure 4. Area (%) by site index class for Old Existing PHR stands (all species).

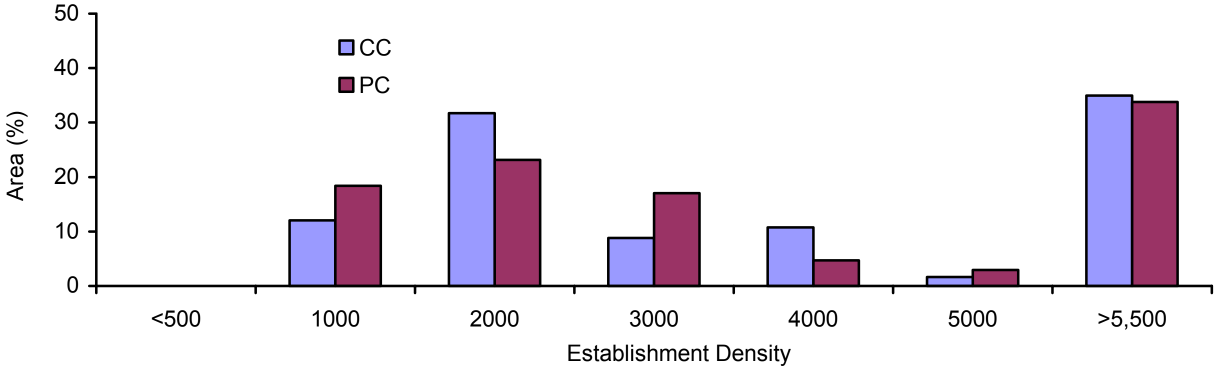

Figure 5. Distribution of stand density for Old Existing PHR stands.

3.4 YOUNG EXISTING PHR STANDS

Silviculture regimes for this category of stands were based on the regimes common in that era. Most stands were planted and fewer stands juvenile spaced than in the Old Existing PHR era. Genetic gain was modelled on 8,735 ha in CC types and 430 ha in PC types (Table 8). The average PSI across all species was 21.0 m in both CC and PC systems (Table 9, Figure 6).

Regeneration delay was estimated for each silviculture regime by Pope & Talbot staff. The average establishment density was 5,685 stems/ha in CC and 3,926 stems/ha in PC types (Figure 7).

Table 8. Tree Improvement in Young Existing PHR.

Stratum	Subzone	With Improvement (ha)	With Improvement %
CC	MSdm1	6,579	12
	ESSFdc1	993	2
	IDFdm1	672	1
	ICHmk1	193	0
	MSdm1a	172	0
	ICHmw2	6	0
	Total	8,615	16
PC	IDFdm1	305	6
	MSdm1	64	1
	ICHmk1	30	1
	MSdm1a	2	0
	Total	401	7

Table 9. PSI statistics for Young Existing PHR stands.

Stratum	Leading Species	Area		PSI (m)			
		(ha)	(%)	Avg.	Min.	Max.	SD
CC	FD	130	2	19.6	18.5	21.3	10.9
	LW	200	2	22.9	20.1	24.9	9.4
	PL	8,253	96	20.9	9.3	26.0	11.3
	SX	33	0.4	21.3	13.2	26.2	4.8
	Total	8,615	100	21.0	9.3	26.2	11.0
PC	FD	34	9	18.8	18.5	21.3	3.5
	LW	86	22	22.9	20.1	24.9	6.0
	PL	279	70	20.7	14.0	26.0	4.6
	SX	2	0.4	25.0	20.7	26.2	1.0
	Total	401	100	21.0	14.0	26.2	5.5

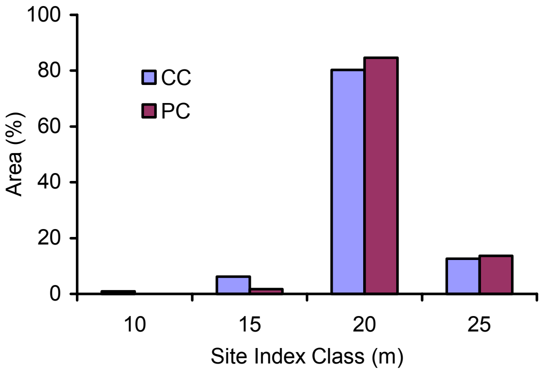

Figure 6. Area (%) by site index class for Young Existing PHR stands (all species).

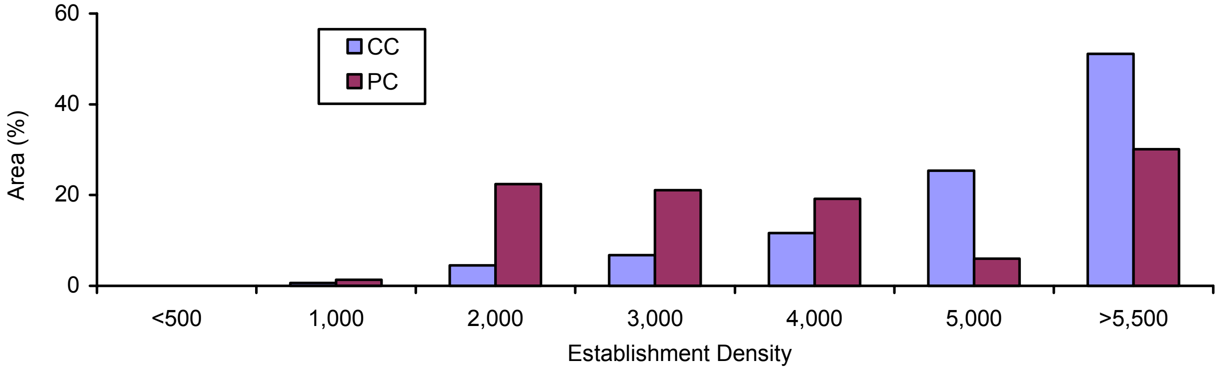

Figure 7. Distribution of stand density for young existing PHR stands.

3.5 FUTURE PHR STANDS

Silviculture regimes for this category of stands reflected current practice, as described in the regimes for the Young Existing PHR. Genetic gain was modelled on 55,582 ha in CC and 6,090 ha in PC types (Table 10). The average PSI over all species was 21.0 m in both CC and PC types (Table 11, Figure 8). The average establishment density modelled was 5,859 stems/ha in CC and 3,593 stems/ha in PC types (Figure 9). Pope & Talbot staff estimated regeneration delay for each silviculture regime.

Table 10. Tree improvement in Future PHR stands.

Stratum	Subzone	With Improvement		Without Improvement	
		(ha)	%	(ha)	%
CC	MSdm1	31,516	56	4	0
	IDFdm1	11,257	20		
	ESSFdc1	7,936	14		
	ICHmk1	4,222	8		
	MSdm1a	913	2		
	ICHmw2	272	0		
	Total	*56,116*	*100*	*4*	*0*
PC	IDFdm1	5,167	84		
	ICHmk1	521	8		
	MSdm1	408	7		
	MSdm1a	43	1		
	Total	*6,139*	*100*		*0*

Table 11. PSI statistics for Future PHR stands.

Stratum	Leading Species	Area (ha)	Area (%)	PSI (m) Avg.	PSI (m) Min.	PSI (m) Max	PSI (m) SD
CC	FD	2,830	5	18.0	16.0	21.3	48.3
	LW	2,607	5	22.7	19.0	24.9	47.2
	PL	49,940	89	20.4	7.2	26.0	26.4
	SX	742	1	21.0	8.7	26.0	16.1
	Total	56,120	100	20.4	7.2	26.0	26.6
PC	FD	608	1	18.4	16.0	21.3	19.4
	LW	1,400	2	23.0	19.0	24.9	29.4
	PL	4,067	7	21.0	15.0	26.0	9.7
	SX	64	0	25.2	21.0	26.0	5.0
	Total	6,139	11	21.3	15.0	26.0	19.3

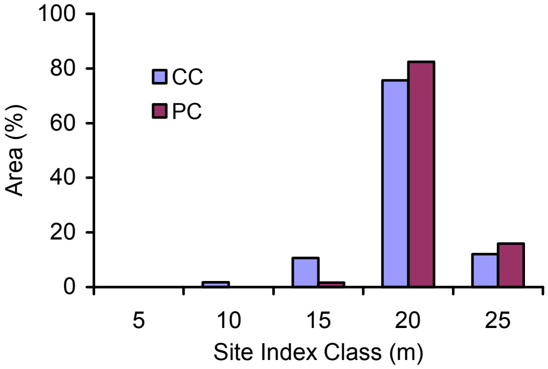

Figure 8. Area (%) by site index class for future PHR stands (all species).

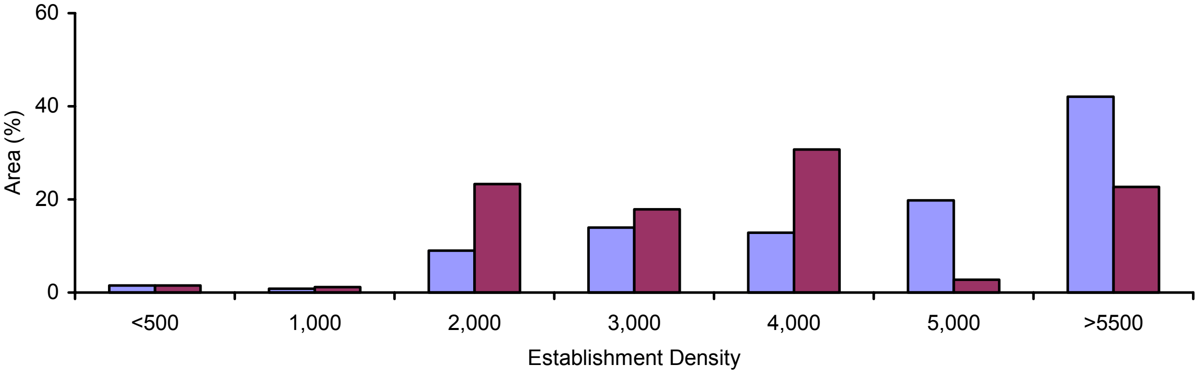

Figure 9. Distribution of stand density for future PHR stands.

4. SINGLE TREE SELECTION

4.1 BACKGROUND

Selection systems and the selection method refer to silvicultural programs that create or maintain uneven-aged stands. STS is one of the variants of the selection system in which the openings created for regeneration are approximately the area occupied by a single mature tree. STS is advocated by the Ministry of Water, Land and Air Protection to maintain forest cover in MDWR. STS is prescribed for stands on the drier site series—02, 03, and 04—in the MDWR components of the IDFdm1, MSdm1, and ICHmk1 subzones (Table 1). On TFL 8, silviculture prescriptions (SPs) for STS blocks follow the BDQ method[5] and usually prescribe 50% basal area removals with a Q-value of 1.3 and D-value of 55 cm.

Stands in which less than 60% of the basal area has been removed are exempt from green-up requirements.

The main characteristics of STS are partial cuttings that remove trees in a wide range of size classes on a regular cutting cycle.[5] The cutting cycle is the length of time required to re-grow the amount of volume removed in the harvest (Figure 10). The length of the cutting cycle depends on the amount removed and the growth rate of the residual stand. Since Pope & Talbot only removes 50% of the original volume, the amount cut depends only on the standing volume when the cutting cycle is started. The growth rate of the residual stand depends on the residual stand structure and site quality. Pope & Talbot requires a minimum harvest of 75 m^3/ha; stands with 150 m^3/ha, therefore, are the smallest stands eligible for STS.

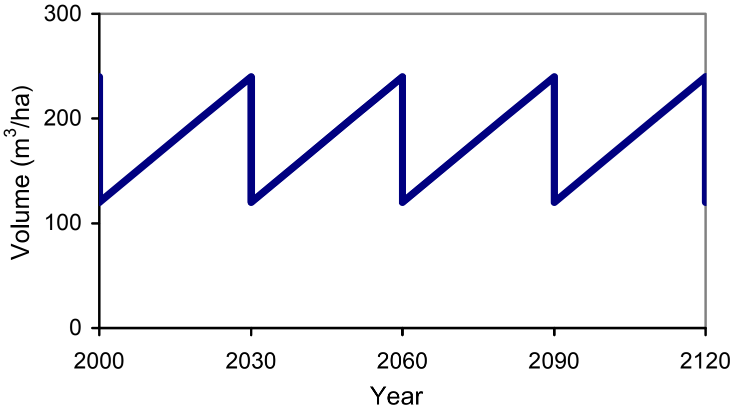

Figure 10. Example of a 30-year cutting cycle harvesting 120 m^3/ha per cycle.

4.2 SINGROW EQUATIONS

The SINGROW equations are proprietary equations developed by J.S. Thrower and Associates to model STS in timber supply analysis. The main growth equation was parameterized to growth rates observed on permanent sample plots within the Boundary Forest District and simulations of Pope & Talbot prescriptions with Prognosis^{BC}. SINGROW predicts volume growth as a function of standing volume and PSI, as shown in Equation 4 below. The final results can be displayed as volume increment curves (Figure 11), which are integrated to produce the estimates of the STS cutting cycles.

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[5] BC Ministry of Forests. 1992. Correlated guidelines for management of uneven-aged drybelt Douglas-fir stands in British Columbia. BC Ministry of Forests, Silviculture Branch, 59 pp.

[1] $dV/dt = 0.270\,V^{m} - 0.047\,V$

where dV/dt = volume increment (m^3/ha/yr)

V = volume (m^3/ha/yr)

$m = 0.576\,\mathrm{PSI}^{0.0738}$

4.3 APPLICATION TO THE STS LANDBASE

All STS stands in the MDWR were classified by a combination of 50-m^3 volume class and 3-m PSI classes based on current volumes in the FC inventory and PSI as derived from the TEM and SIA. Almost 80% of the STS area is within PSI class 18 m (Table 12). Three volume classes—200, 250, and 300 m^3/ha—comprise 68% of the area.

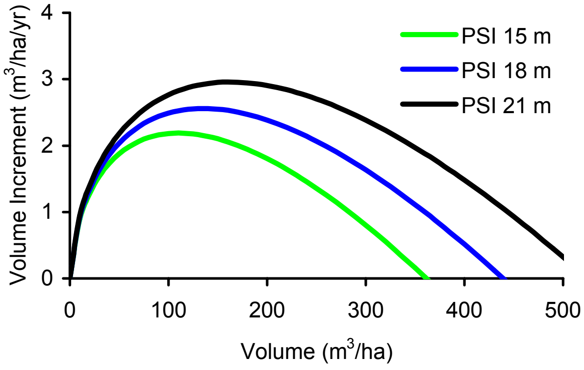


Figure 11. SINGROW volume increment curves used in STS yield tables

Table 12. Distribution of STS area by volume class and PSI class.

PSI	Pre-Harvest Volume (m^3/ha)								Total	
(m)	150	200	250	300	350	400	450	500	*Ha*	*%*
12	6	15	39	13	1				74	2
15	89	93	77	102	22	7	2		392	13
18	245	481	619	592	317	94	42	1	2,392	78
21	38	61	34	29	36	2	1	0.3	200	7
Total	378	650	769	736	377	102	44	1	3,058	
%	12	21	25	24	12	3	1	0		

The cutting cycle associated with a 50% volume removal was predicted with SINGROW for each combination of PSI class and volume class and rounded to the nearest decade (Table 13). For most of the STS area, the cutting cycles were between 30 and 60 years.

4.4 APPLICATION IN TIMBER SUPPLY ANALYSIS

The cutting cycle also determined the proportion of polygons in each class that will be harvested each decade. For example, consider the class of polygons with 300 m^3/ha growing on site index 18 m for which the predicted cutting cycle is 70 years. In each decade, 1/7 of the area in that class will be harvested. The timber supply model will then ensure that harvested polygons are not re-entered for 7 decades.

Table 13. SINGROW cutting cycles by volume class and PSI class.

PSI	Pre-Harvest Volume (m^3/ha)							
(m)	150	200	250	300	350	400	450	500
12	40	70	110					
15	30	50	70	100	220			
18	30	40	50	70	100	150		
21	30	30	40	50	70	90	120	200

5. RESULTS

5.1 PRE-AGGREGATION PROCESS

The yield table generation process created 6,767 natural stand yield tables, 327 Old Existing PHR tables, 465 Young Existing PHR tables, 685 Future PHR tables, and 22 STS tables.

The NSYTs were initially generated by polygon and subzone combination. Deciduous volume was removed and then no further transformation was required.

Yield tables for Existing and Future PHR stands were initially generated for each site series within each eco-polygon. Next a single yield table was produced for FC polygon as an area-weighted average of the component site series tables. Deciduous volume was also removed from existing and future PHR tables.

5.2 AGGREGATION PROCESS

There were a total of 8,011 combinations of FC polygons and subzone in the CC stratum and 1,636 in the PC stratum (Table 14). Of these, 464 polygons in the CC stratum and 256 polygons in PC stratum were Not Satisfactorily Restocked (NSR) and were not assigned a current yield table as either Young Existing PHR or Old Existing PHR. However, these NSR polygons were assigned a Future PHR yield table because they will be planted within the timeframe of the timber supply analysis.

Table 14. THLB polygon summary statistics.

Stratum	Yield Table	Polygons in THLB	NSR Removed	Actual No. of Polygons
CC	Current	8,011	464	7,547
	Future	8,011	0	8,011
PC	Current	1,636	256	1,380
	Future	1,636	0	1,636

Timber supply models are generally unable to accommodate such a large number of yield tables. The yield tables for CC and PC systems were, therefore, aggregated into groups of similar curves based on stratum (CC or PC), leading species, site index class (7.5 m to 37.5 m in 5 m classes), treatment (i.e., with or without genetic worth), proportion of conifer volume (rounded to the nearest 10%), and model type (TIPSY versus VDYP). For CC and PC stands there were 435 clusters. Polygons less than 1 ha were combined into two additional clusters, bringing the total to 437 clusters. Fifteen of the clusters were NSR and consequently had no current yield tables. A yield table was calculated for each cluster as the area-weighted average of all yield tables within the cluster. Area-weighted curves for the entire CC and PC strata are shown in Figure 12. The yield curves for old PHR, young PHR and future stands are so similar that they may not be distinguishable in graphs.

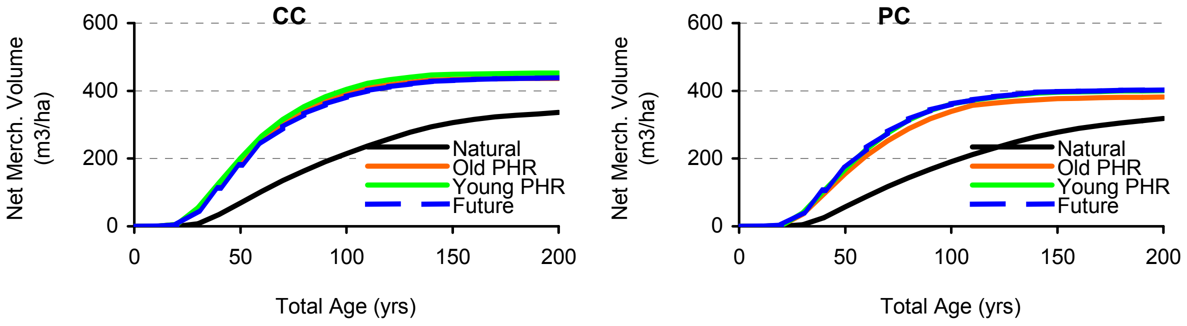


Figure 12. Area-weighted average yield curves for current and future stands.

5.3 YIELD TABLES FOR EXISTING STANDS

The current yield tables were composed of 73% NSYTs, 11% old PHR stands and 16% young PHR stands. The current tables apply to all the THLB polygons except those classified as NSR. The ICHmw2 and MSdm1a are the two most productive subzones in CC. The ESSF subzone has lower productivity (Figure 14). The average culmination MAI for natural stands was 2.2 m^3/ha/yr at 113 years in CC and 1.9 m^3/ha/yr at 118 years in PC stands (Table 16). The average culmination MAI for Old Existing PHR stands was 4.4 m^3/ha/yr at 73 years in CC and 3.6 m^3/ha/yr at 66 years in PC stands (Table 17). The average culmination MAI for Young Existing PHR stands was 4.6 m^3/ha/yr at 74 years in CC and 4.0 m^3/ha/yr at 78 years in PC stands (Table 18).

5.4 YIELD TABLES FOR FUTURE STANDS

Yield tables for Future PHR stands were applied to all areas of the THLB except the areas designated for STS. The ICHmw2 and MSdm1a were the two most productive subzones in CC. The ESSF subzone had lower productivity (Figure 14). The average culmination MAI was 4.3 m^3/ha/yr at 80 years in CC and 4.0 m^3/ha/yr at 78 years in PC stands (Table 19). The MAI ranged from 0.5 to 7.6 m^3/ha/yr in CC and from 0.5 to 7.3 m^3/ha/yr in PC stands. Most culmination ages were between 60 and 90 years while most MAI values were between 4 and 6 m^3/ha/yr in CC stands (Figure 13).

5.5 YIELD TABLES FOR SINGLE TREE SELECTION

STS is typically applied in multi-cohort stands where the concept of "stand age" does not apply. Consequently, MAI has no meaning in such stands. For the repeated cuttings of STS, the most appropriate diagnostic statistic is period annual increment (PAI) over the whole cutting cycle. PAI values in the STS stands of TFL 8 range between 1 and 3.5 m^3/ha/yr (Table 15). The area weighted average over all stands was 2.4 m^3/ha/yr.

Table 15. Summary of STS yield tables.

PAI (m^3/ha/yr)	STS Area (ha)	STS Area (%)
1.0	31	1
1.5	308	10
2.0	401	13
2.5	2,122	69
3.0	99	3
3.5	61	2
4.0	38	1

Table 16. Area-weighted yield estimates at culmination age for natural stands (12.5+).

Stratum	Subzone	Area		MAI (m^3/ha/yr)			Culmination Age (yrs)		
		(ha)	%	Avg	Min	Max	Avg	Min	Max
CC	ESSFdc1	6,290	16	2.2	0.5	5.2	119	60	240
	ICHmk1	3,618	9	2.1	0.3	5.3	117	60	180
	ICHmw2	112	0	2.3	1.5	3.4	129	70	200
	IDFdm1	8,706	22	1.9	0.1	5.0	119	60	250
	MSdm1	20,365	51	2.4	0.3	5.3	109	60	220
	MSdm1a	728	2	2.8	0.4	5.2	103	60	150
	Total	*39,820*		*2.2*	*0.1*	*5.3*	*113*	*60*	*232*
PC	ICHmk1	385	9	2.1	1.0	4.3	114	70	160
	IDFdm1	3,743	84	1.9	0.2	5.0	119	60	200
	MSdm1	288	6	2.1	0.4	4.0	112	60	150
	MSdm1a	36	1	2.3	1.3	3.7	113	80	150
	Total	*4,452*		*1.9*	*.2*	*5.0*	*118*	*60*	*042*

Table 17. Area-weighted yield estimates at culmination age for old existing stands (12.5+).

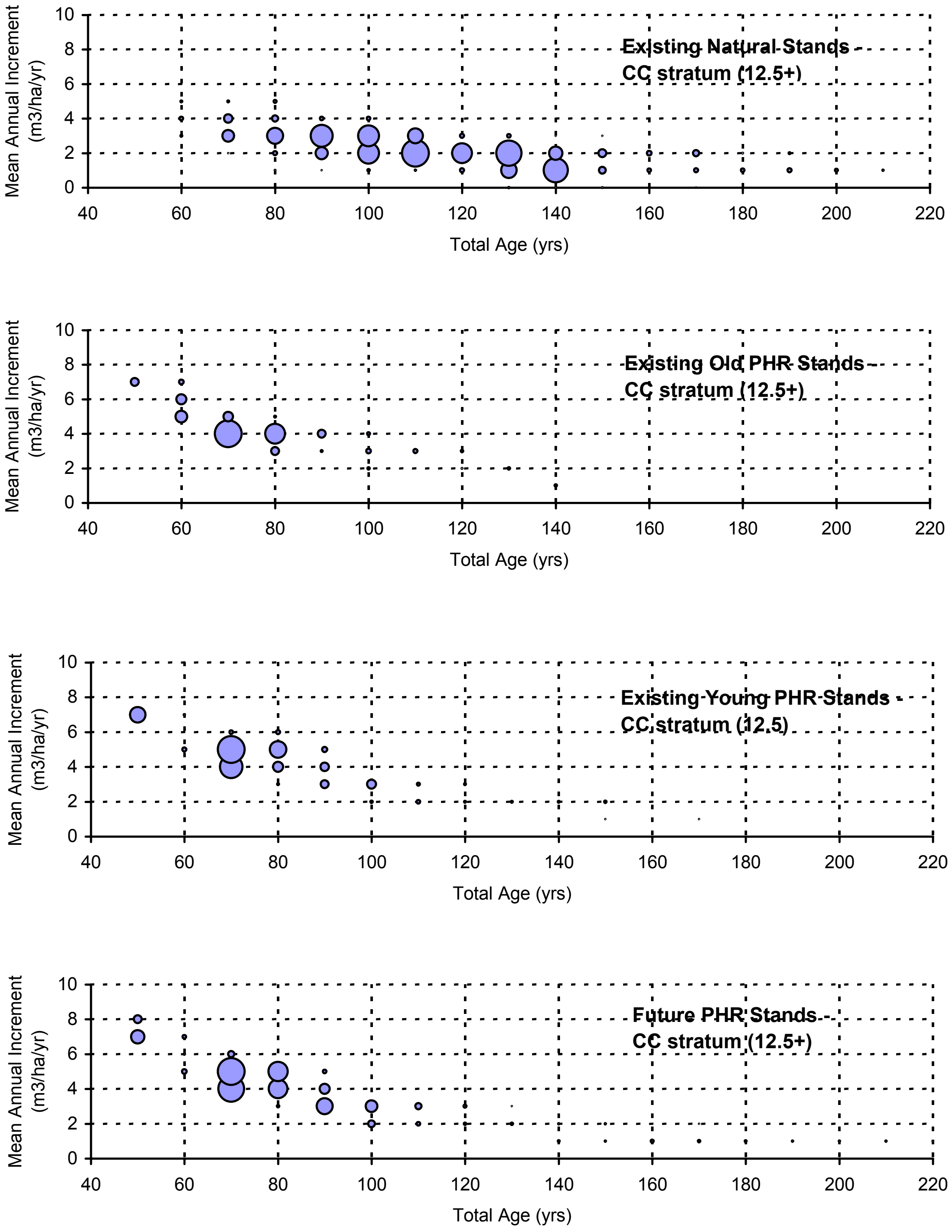
Stratum	Subzone	Area		MAI (m^3/ha/yr)			Culmination Age (yrs)		
		(ha)	%	Avg	Min	Max	Avg	Min	Max
CC	ESSFdc1	344	6	3.4	1.3	4.8	100	70	170
	ICHmk1	209	3	4.2	2.7	6.1	84	60	110
	ICHmw2	132	2	4.5	2.9	5.0	84	70	100
	IDFdm1	1,620	26	3.9	1.4	5.4	76	70	140
	MSdm1	3,942	63	4.8	2.3	7.7	69	40	100
	MSdm1a	2	0	4.9	4.0	6.1	77	60	90
	Total	6,248		*4.4*	*1.3*	*7.7*	*73*	*40*	*170*
PC	ICHmk1	39	7	3.9	2.5	5.7	76	40	140
	IDFdm1	530	93	3.6	1.3	5.1	85	60	110
	MSdm1	3	1	4.7	3.5	7.1	75	70	140
	Total	*573*		3.6	1.3	7.1	66	40	80

Table 18. Area-weighted yield estimates at culmination age for young existing stands (12.5+).

Stratum	Subzone	Area		MAI (m^3/ha/yr)			Culmination Age (yrs)		
		(ha)	%	Avg	Min	Max	Avg	Min	Max
CC	ESSFdc1	993	12	3.2	1.0	4.8	99	70	200
	ICHmk1	193	2	4.5	2.6	6.8	78	60	100
	ICHmw2	6	0	4.9	3.9	6.5	71	60	90
	IDFdm1	672	8	4.1	1.8	5.9	81	70	120
	MSdm1	6,579	76	4.9	2.1	7.3	69	50	110
	MSdm1a	172	2	5.0	2.6	6.8	75	60	100
	Total	*8,615*		*4.6*	*1.0*	*7.3*	*74*	*50*	*200*
PC	ICHmk1	30	8	4.2	2.4	6.3	78	60	100
	IDFdm1	305	76	3.9	1.6	5.5	80	70	120
	MSdm1	64	16	4.5	1.9	6.8	70	50	110
	MSdm1a	2	1	5.5	4.0	6.3	67	60	90
	Total	*401*		*4.0*	*1.6*	*6.8*	*78*	*50*	*120*

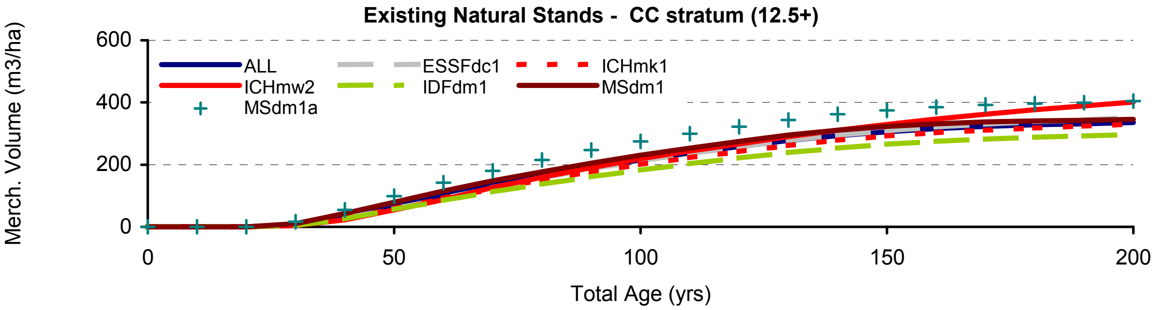
Table 19. Area-weighted yield estimates at culmination age for Future PHR stands (12.5+).

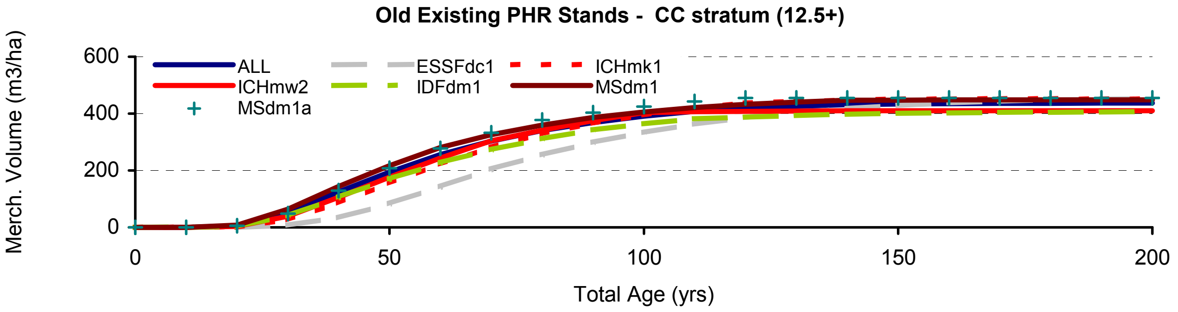
Stratum	Subzone	Area		MAI (m^3/ha/yr)			Culmination Age (yrs)		
		(ha)	%	Avg	Min	Max	Avg	Min	Max
CC	ESSFdc1	7,936	14	3.0	0.5	4.8	106	70	250
	ICHmk1	4,222	8	4.3	2.5	6.7	78	60	110
	ICHmw2	272	0	5.6	3.9	6.4	69	60	90
	IDFdm1	11,257	20	3.8	0.5	5.9	91	70	230
	MSdm1	31,520	56	4.8	2.3	7.5	70	50	100
	MSdm1a	913	2	5.0	2.5	6.7	73	60	110
	Total	56,120		*4.3*	*0.5*	*7.5*	*80*	*50*	*250*
PC	ICHmk1	521	8	4.5	2.3	6.2	75	60	110
	IDFdm1	5,167	84	3.9	0.5	5.5	79	70	230
	MSdm1	408	7	4.6	2.1	7.0	68	50	100
	MSdm1a	43	1	5.3	2.3	6.2	68	60	110
	Total	6,139		*4.0*	*0.5*	*7.0*	*78*	*50*	*230*

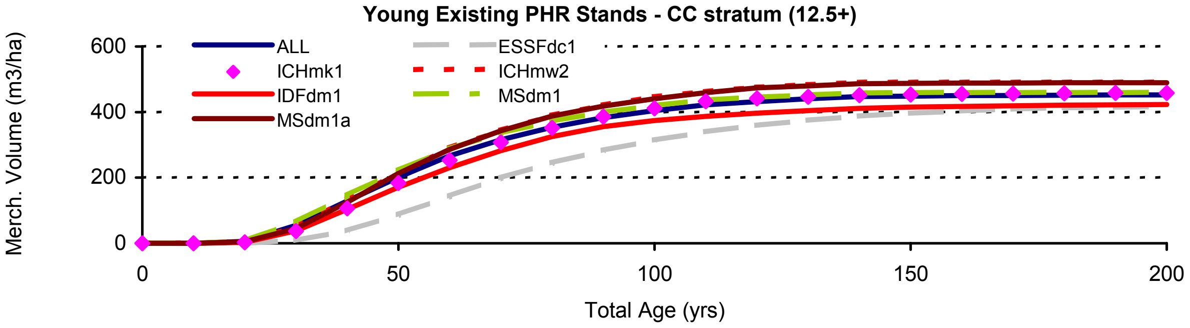


* *Bubble size is proportional to area.*

Figure 13. MAI and culmination age for existing and future yield tables.







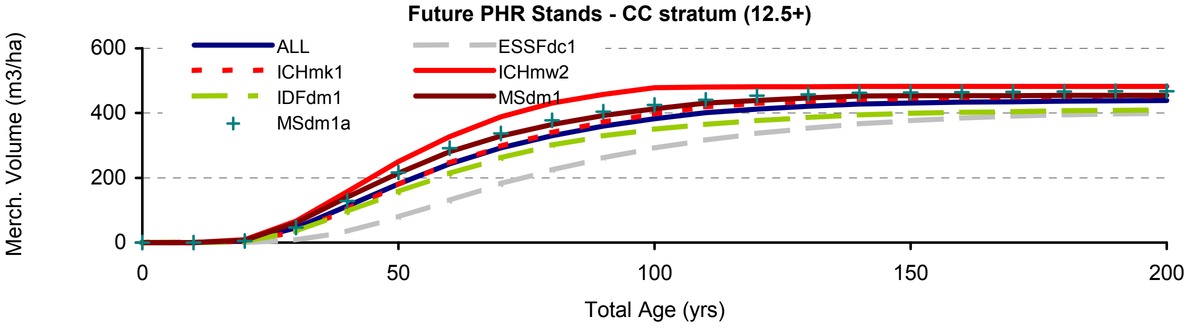


Figure 14. Area-weighted average yield curves for current and future yield tables.

APPENDIX I – TFL 8 SILVICULTURE REGIMES

The table below summarizes the silviculture regimes developed by Pope & Talbot's Silviculture Department. These regimes reflect the best estimates of the management strategies both in the past 25 years and in the future.

Old Existing PHR Silviculture Regimes

Subzone	SS	Reg No	Reg Pct.	TASS Parm	Delay	Regen Type	Density Post JS	Density TIPSY	Spp1	Pct1	Gain1 (%)	Spp2	Pct2	Gain2 (%)	Spp3	Pct3	Gain3 (%)	Spp4	Pct4	Gain4 (%)	Spp5	Pct5	Gain5 (%)
ESSFdc1	01	1	55	1.00	0	N	.	5526	BL	48	.	SX	29	.	PL	19	.	CW	4	.		.	.
ESSFdc1	01	2	15	1.00	0	N	1250	1375	BL	48	.	SX	29	.	PL	19	.	CW	4	.		.	.
ESSFdc1	01	3	30	1.16	0	N	.	3038	PL	64	.	SX	19	.	BL	17	.		.	.		.	.
ESSFdc1	01	3	30	-0.13	0	P	.	833	PL	100	.		.	.		.	.		.	.		.	.
ESSFdc1	02	1	100	1.00	0	N	.	6630	BL	40	.	PL	40	.	SX	20	.		.	.		.	.
ESSFdc1	03	1	100	1.00	0	N	.	6630	BL	40	.	PL	40	.	SX	20	.		.	.		.	.
ESSFdc1	04	1	55	1.00	0	N	.	5526	BL	48	.	SX	29	.	PL	19	.	CW	4	.		.	.
ESSFdc1	04	2	15	1.00	0	N	1250	1375	BL	45	.	PL	25	.	CW	15	.	SX	15	.		.	.
ESSFdc1	04	3	30	1.16	0	N	.	3038	PL	64	.	SX	19	.	BL	17	.		.	.		.	.
ESSFdc1	04	3	30	-0.13	0	P	.	735	PL	100	.		.	.		.	.		.	.		.	.
ESSFdc1	05	1	100	1.10	0	N	.	5861	BL	72	.	PL	15	.	SX	13	.		.	.		.	.
ESSFdc1	05	1	100	-0.11	0	P	.	510	PL	100	.		.	.		.	.		.	.		.	.
ESSFdc1	06	1	100	1.16	0	N	.	5118	BL	67	.	PL	20	.	SX	13	.		.	.		.	.
ESSFdc1	06	1	100	-0.13	0	P	.	683	PL	100	.		.	.		.	.		.	.		.	.
ICHmk1	01	1	20	1.00	0	N	.	3699	FD	36	.	LW	29	.	PL	29	.	SX	6	.		.	.
ICHmk1	01	2	80	1.00	0	N	1374	1511	FD	36	.	LW	29	.	PL	29	.	SX	6	.		.	.
ICHmk1	02	1	100	1.00	0	N	.	2025	BL	40	.	PL	40	.	SX	20	.		.	.		.	.
ICHmk1	03	1	100	1.00	0	N	.	3323	BL	40	.	PL	40	.	SX	20	.		.	.		.	.
ICHmk1	04	1	100	1.00	0	N	.	4052	BL	40	.	PL	40	.	SX	20	.		.	.		.	.
ICHmk1	05	1	100	1.00	0	N	980	1078	PL	40	.	SX	27	.	FD	20	.	LW	12	.	AC	1	.
ICHmk1	06	1	100	1.00	0	N	.	4457	BL	40	.	PL	40	.	SX	20	.		.	.		.	.
ICHmk1	07	1	100	1.00	0	N	.	3655	PL	40	.	SX	27	.	FD	20	.	LW	12	.	AC	1	.
ICHmw2	01	1	20	1.00	0	N	.	3699	FD	36	.	LW	29	.	PL	29	.	SX	6	.		.	.
ICHmw2	01	2	80	1.00	0	N	1350	1485	FD	36	.	FD	29	.	PL	29	.	SX	6	.		.	.
ICHmw2	03	1	20	1.00	0	N	.	3699	FD	36	.	LW	29	.	PL	29	.	SX	6	.		.	.
ICHmw2	03	2	80	1.00	0	N	1350	1485	FD	36	.	FD	29	.	PL	29	.	SX	6	.		.	.
ICHmw2	05	1	100	1.00	0	N	980	1078	PL	40	.	SX	27	.	FD	20	.	LW	12	.	AC	1	.
ICHmw2	07	1	100	1.00	0	N	980	1078	PL	40	.	SX	27	.	FD	20	.	LW	12	.	AC	1	.

Subzone	SS	Reg No	Reg Pct.	TASS Parm	Delay	Regen Type	Density		Spp1	Pct1	Gain1 (%)	Spp2	Pct2	Gain2 (%)	Spp3	Pct3	Gain3 (%)	Spp4	Pct4	Gain4 (%)	Spp5	Pct5	Gain5 (%)
							Post JS	TIPSY															
IDFdm1	01	1	45	1.00	0	N	.	6292	PL	66	.	FD	20	.	LW	9	.	SX	3	.	AT	2	.
IDFdm1	01	2	38	1.00	0	N	1855	2041	PL	66	.	FD	20	.	LW	9	.	SX	3	.	AT	2	.
IDFdm1	01	3	15	1.16	0	N	.	3372	PL	63	.	FD	13	.	SX	10	.	LW	10	.	AT	4	.
IDFdm1	01	3	15	-0.13	0	P	.	705	PL	72	.	SX	22	.	LW	6	.		.	.		.	.
IDFdm1	01	4	2	1.37	0	N	1162	1278	PL	80	.	LW	14	.	BL	3	.	FD	3	.		.	.
IDFdm1	01	4	2	-0.30	0	P	1162	678	PL	88	.	SX	12	.		.	.		.	.		.	.
IDFdm1	03	1	50	1.00	0	N	.	9271	FD	50	.	LW	20	.	BL	10	.	PL	10	.	SX	10	.
IDFdm1	03	2	50	1.00	0	N	1108	1219	FD	50	.	LW	20	.	BL	10	.	PL	10	.	SX	10	.
IDFdm1	04	1	35	1.00	0	N	.	7237	PL	70	.	LW	13	.	FD	9	.	SX	4	.	CW	4	.
IDFdm1	04	2	40	1.00	0	N	1315	1447	PL	70	.	LW	13	.	FD	9	.	SX	4	.	CW	4	.
IDFdm1	04	3	20	1.22	0	N	.	3183	PL	68	.	FD	28	.	SX	3	.	LW	1	.	AT	.	.
IDFdm1	04	3	20	-0.19	0	P	.	1130	PL	57	.	SX	1	.	FD	42	.		.	.		.	.
IDFdm1	04	4	5	1.47	0	N	1290	1419	PL	80	.	FD	10	.	LW	7	.	AT	2	.	BL	1	.
IDFdm1	04	4	5	-0.41	0	P	1290	660	PL	79	.	SX	12	.	FD	9	.		.	.		.	.
IDFdm1	05	1	35	1.00	0	N	.	5324	PL	53	.	LW	21	.	FD	15	.	SX	7	.	AT	4	.
IDFdm1	05	2	25	1.00	0	N	2058	2264	PL	53	.	LW	21	.	FD	15	.	SX	7	.	AT	4	.
IDFdm1	05	3	35	1.16	0	N	.	2766	PL	64	.	SX	22	.	FD	9	.	AT	5	.		.	.
IDFdm1	05	3	35	-0.13	0	P	.	770	PL	68	.	SX	31	.	FD	1	.		.	.		.	.
IDFdm1	05	4	5	1.19	0	N	1600	1760	PL	58	.	SX	42	.		.	.		.	.		.	.
IDFdm1	05	4	5	-0.13	0	P	1600	867	PL	49	.	SX	48	.	FD	3	.		.	.		.	.
IDFdm1	06	1	100	1.00	0	N	.	4468	PL	50	.	SX	30	.	FD	10	.	LW	10	.		.	.
IDFdm1	07	1	35	1.00	0	N	.	7237	PL	70	.	LW	13	.	FD	9	.	SX	4	.	CW	4	.
IDFdm1	07	2	40	1.00	0	N	1315	1447	PL	70	.	LW	13	.	FD	9	.	SX	4	.	CW	4	.
IDFdm1	07	3	20	1.22	0	N	.	3183	PL	68	.	FD	28	.	SX	3	.	LW	1	.	AT	.	.
IDFdm1	07	3	20	-0.19	0	P	.	1130	PL	57	.	SX	1	.	FD	42	.		.	.		.	.
IDFdm1	07	4	5	1.47	0	N	1290	1419	PL	80	.	FD	10	.	LW	7	.	AT	2	.	BL	1	.
IDFdm1	07	4	5	-0.41	0	P	1290	660	PL	79	.	SX	12	.	FD	9	.		.	.		.	.
MSdm1	01	1	37	1.00	0	N	.	6499	PL	70	.	LW	11	.	BL	8	.	FD	7	.	SX	4	.
MSdm1	01	2	44	1.00	0	N	1541	1695	PL	70	.	LW	11	.	BL	8	.	FD	7	.	SX	4	.
MSdm1	01	3	14	1.16	0	N	.	3653	PL	73	.	SX	9	.	LW	8	.	FD	6	.	AT	4	.
MSdm1	01	3	14	-0.13	0	P	.	795	PL	78	.	SX	18	.	LW	4	.		.	.		.	.
MSdm1	01	4	5	1.00	0	P	1415	1557	PL	97	.	SX	3	.		.	.		.	.		.	.
MSdm1	02	1	100	1.00	0	N	.	2531	PL	85	.	LW	10	.	FD	5	.		.	.		.	.
MSdm1	03	1	67	1.00	0	N	.	4218	PL	85	.	LW	10	.	FD	5	.		.	.		.	.

Subzone	SS	Reg No	Reg Pct.	TASS Parm	Delay	Regen Type	Density Post JS	Density TIPSY	Spp1	Pct1	Gain1 (%)	Spp2	Pct2	Gain2 (%)	Spp3	Pct3	Gain3 (%)	Spp4	Pct4	Gain4 (%)	Spp5	Pct5	Gain5 (%)
MSdm1	03	2	33	1.10	0	N	.	3220	PL	82	.	SX	10	.	FD	8	.		.	.		.	.
MSdm1	03	2	33	-0.11	0	P	.	536	PL	91	.	SX	9	.		.	.		.	.		.	.
MSdm1	04	1	40	1.00	0	N	.	6177	PL	68	.	FD	11	.	LW	8	.	BL	7	.	SX	6	.
MSdm1	04	2	45	1.00	0	N	1594	1753	PL	68	.	FD	11	.	LW	8	.	BL	7	.	SX	6	.
MSdm1	04	3	12	1.16	0	N	.	4222	PL	78	.	FD	8	.	SX	8	.	AC	6	.		.	.
MSdm1	04	3	12	-0.13	0	P	.	652	PL	71	.	SX	28	.	FD	1	.		.	.		.	.
MSdm1	04	4	3	1.19	0	N	1672	1839	PL	76	.	FD	12	.	BL	8	.	LW	4	.		.	.
MSdm1	04	4	3	-0.13	0	P	1672	757	PL	100	.		.	.		.	.		.	.		.	.
MSdm1	05	1	44	1.00	0	N	.	7933	PL	67	.	BL	13	.	LW	10	.	FD	7	.	AC	3	.
MSdm1	05	2	50	1.00	0	N	1304	1434	PL	67	.	BL	13	.	LW	10	.	FD	7	.	AC	3	.
MSdm1	05	3	6	1.16	0	N	.	6067	PL	60	.	LW	20	.	AT	10	.	FD	10	.		.	.
MSdm1	05	3	6	-0.13	0	P	.	808	SX	100	.		.	.		.	.		.	.		.	.
MSdm1	06	1	33	1.00	0	N	.	7519	PL	94	.	BL	3	.	LW	3	.		.	.		.	.
MSdm1	06	2	56	1.00	0	N	1121	1233	PL	94	.	BL	3	.	LW	3	.		.	.		.	.
MSdm1	06	3	11	1.16	0	N	.	2750	PL	65	.	SX	28	.	AT	7	.		.	.		.	.
MSdm1	06	3	11	-0.13	0	P	.	704	PL	55	.	SX	45	.		.	.		.	.		.	.
MSdm1	07	1	60	1.00	0	N	.	6166	PL	94	.	BL	3	.	LW	3	.		.	.		.	.
MSdm1	07	2	40	1.10	0	N	.	2255	PL	65	.	SX	28	.	AT	7	.		.	.		.	.
MSdm1	07	2	40	-0.11	0	P	.	577	PL	55	.	SX	45	.		.	.		.	.		.	.
MSdm1	08	1	37	1.00	0	N	.	6499	PL	70	.	LW	11	.	BL	8	.	FD	7	.	SX	4	.
MSdm1	08	2	44	1.00	0	N	1541	1695	PL	70	.	LW	11	.	BL	8	.	FD	7	.	SX	4	.
MSdm1	08	3	14	1.16	0	N	.	3653	PL	73	.	SX	9	.	LW	8	.	FD	6	.	AT	4	.
MSdm1	08	3	14	-0.13	0	P	.	795	PL	78	.	SX	18	.	LW	4	.		.	.		.	.
MSdm1	08	4	5	1.00	0	P	1415	1557	PL	97	.	SX	3	.		.	.		.	.		.	.
MSdm1a	01	1	20	1.00	0	N	.	3699	FD	36	.	LW	29	.	PL	29	.	SX	6	.		.	.
MSdm1a	01	2	80	1.00	0	N	1374	1511	FD	36	.	LW	29	.	PL	29	.	SX	6	.		.	.
MSdm1a	02	1	100	1.00	0	N	.	2025	BL	40	.	PL	40	.	SX	20	.		.	.		.	.
MSdm1a	03	1	100	1.00	0	N	.	3323	BL	40	.	PL	40	.	SX	20	.		.	.		.	.
MSdm1a	04	1	100	1.00	0	N	.	4052	BL	40	.	PL	40	.	SX	20	.		.	.		.	.
MSdm1a	05	1	100	1.00	0	N	980	1078	PL	40	.	SX	27	.	FD	20	.	LW	12	.	AC	1	.
MSdm1a	06	1	100	1.00	0	N	.	4457	BL	40	.	PL	40	.	SX	20	.		.	.		.	.
MSdm1a	07	1	100	1.00	0	N	.	3655	PL	40	.	SX	27	.	FD	20	.	LW	12	.	AC	1	.

Young Existing PHR Silviculture Regimes

		Reg.	Reg.	TASS		Regen	Density		Spp1	Pct1	Gain1	Spp2	Pct2	Gain2	Spp3	Pct3	Gain3	Spp4	Pct4	Gain4	Spp5	Pct5	Gain5
Subzone	SS	No	Pct	Parm	Delay	Type	Post JS	TIPSY			(%)			(%)			(%)			(%)			(%)
ESSFdc1	01	1	72	1.21	1	N	.	5955	PL	44	.	SX	31	.	BL	20	.	LW	5	.		.	.
ESSFdc1	01	1	72	-0.18	1	P	.	1051	PL	50	.	SX	50	.		.	.		.	.		.	.
ESSFdc1	01	2	28	1.21	1	N	.	7581	PL	42	.	BL	28	.	SX	20	.	LW	10	.		.	.
ESSFdc1	01	2	28	-0.18	1	P	.	1046	PL	57	.	SX	43	3		.	.		.	.		.	.
ESSFdc1	02	1	70	1.16	1	N	.	4979	PL	46	.	SX	30	.	BL	19	.	LW	5	.		.	.
ESSFdc1	02	1	70	-0.13	1	P	.	850	PL	50	.	SX	50	.		.	.		.	.		.	.
ESSFdc1	02	2	30	1.16	1	N	.	6061	PL	42	.	BL	28	.	SX	20	.	LW	10	.		.	.
ESSFdc1	02	2	30	-0.13	1	P	.	833	PL	57	.	SX	43	3		.	.		.	.		.	.
ESSFdc1	03	1	85	1.16	2	N	.	6427	PL	70	.	SX	17	.	BL	12	.	LW	1	.		.	.
ESSFdc1	03	1	85	-0.13	2	P	.	761	PL	81	.	SX	18	.	LW	1	.		.	.		.	.
ESSFdc1	03	2	15	1.21	2	N	.	5124	PL	63	.	SX	31	.	BL	6	.		.	.		.	.
ESSFdc1	03	2	15	-0.18	2	P	.	940	PL	57	.	SX	43	3		.	.		.	.		.	.
ESSFdc1	04	1	75	1.22	1	N	.	4817	PL	57	.	BL	24	.	SX	19	.		.	.		.	.
ESSFdc1	04	1	75	-0.19	1	P	.	1159	PL	75	.	SX	24	.	LW	1	.		.	.		.	.
ESSFdc1	04	2	25	1.22	1	N	.	3582	PL	45	.	BL	28	.	SX	27	.		.	.		.	.
ESSFdc1	04	2	25	-0.19	1	P	.	1341	PL	53	.	SX	46	3	BL	1	.		.	.		.	.
ESSFdc1	05	1	87	1.21	1	N	.	2681	PL	63	.	SX	20	.	LW	9	.	BL	7	.	FD	1	.
ESSFdc1	05	1	87	-0.18	1	P	.	989	PL	59	.	SX	22	.	LW	19	.		.	.		.	.
ESSFdc1	05	2	13	1.21	1	N	.	4223	SX	45	.	PL	39	.	BL	16	.		.	.		.	.
ESSFdc1	05	2	13	-0.18	1	P	.	1040	SX	59	3	PL	41	.		.	.		.	.		.	.
ESSFdc1	06	1	100	1.21	3	N	.	3500	SX	46	.	PL	27	.	BL	27	.		.	.		.	.
ESSFdc1	06	1	100	-0.18	3	P	.	896	SX	57	3	PL	43	.		.	.		.	.		.	.
ICHmk1	01	1	30	1.00	1	N	.	5743	FD	38	.	CW	17	.	SX	17	.	BL	15	.	LW	13	.
ICHmk1	01	2	55	1.21	2	N	.	3927	PL	63	.	LW	13	.	SX	10	.	BL	9	.	FD	5	.
ICHmk1	01	2	55	-0.18	2	P	.	976	PL	69	.	SX	12	.	LW	17	.	PY	2	.		.	.
ICHmk1	01	3	15	1.19	1	N	.	3612	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
ICHmk1	01	3	15	-0.14	1	P	.	1388	PL	45	.	SX	21	3	LW	34	.		.	.		.	.
ICHmk1	02	1	80	1.16	1	N	.	2882	PL	52	.	LW	27	.	FD	9	.	SX	8	.	PY	4	.
ICHmk1	02	1	80	-0.13	1	P	.	670	PL	51	.	LW	33	.	SX	8	.	PY	8	.		.	.
ICHmk1	02	2	20	1.10	2	N	.	4739	PL	64	.	LW	25	.	FD	9	.	SX	2	.		.	.
ICHmk1	02	2	20	-0.11	2	P	.	527	PL	88	4	SX	6	3	LW	6	.		.	.		.	.
ICHmk1	03	1	80	1.21	1	N	.	4803	PL	52	.	LW	27	.	FD	9	.	SX	8	.	PY	4	.
ICHmk1	03	1	80	-0.18	1	P	.	1116	PL	51	.	LW	33	.	SX	8	.	PY	8	.		.	.

		Reg.	Reg.	TASS		Regen	Density		Spp1	Pct1	Gain1	Spp2	Pct2	Gain2	Spp3	Pct3	Gain3	Spp4	Pct4	Gain4	Spp5	Pct5	Gain5
Subzone	SS	No	Pct	Parm	Delay	Type	Post JS	TIPSY			(%)			(%)			(%)			(%)			(%)
ICHmk1	03	2	20	1.21	2	N	.	7899	PL	64	.	LW	25	.	FD	9	.	SX	2	.		.	.
ICHmk1	03	2	20	-0.18	2	P	.	878	PL	88	4	SX	6	3	LW	6	.		.	.		.	.
ICHmk1	04	1	50	1.22	1	N	.	2638	PL	53	.	LW	30	.	SX	13	.	BL	2	.	AT	2	.
ICHmk1	04	1	50	-0.19	1	P	.	1125	PL	61	.	LW	25	.	SX	14	.		.	.		.	.
ICHmk1	04	2	50	1.22	1	N	.	3270	PL	49	.	SX	25	.	LW	22	.	AT	3	.	BL	1	.
ICHmk1	04	2	50	-0.19	1	P	.	1132	PL	53	3	SX	31	2	LW	16	.		.	.		.	.
ICHmk1	05	1	60	1.21	2	N	.	5412	PL	46	.	SX	26	.	LW	14	.	BL	9	.	FD	5	.
ICHmk1	05	1	60	-0.18	2	P	.	880	PL	62	.	SX	28	.	LW	10	.		.	.		.	.
ICHmk1	05	2	40	-0.52	2	P	.	1027	PL	50	.	SX	43	2	LW	7	.		.	.		.	.
ICHmk1	05	2	40	1.59	2	N	.	2243	SX	46	.	PL	43	.	BL	6	.	AT	3	.	FD	2	.
ICHmk1	06	1	60	1.21	2	N	.	5412	PL	46	.	SX	26	.	LW	14	.	BL	9	.	FD	5	.
ICHmk1	06	1	60	-0.18	2	P	.	880	PL	62	.	SX	28	.	LW	10	.		.	.		.	.
ICHmk1	06	2	40	-0.52	2	P	.	1027	PL	50	.	SX	43	2	LW	7	.		.	.		.	.
ICHmk1	06	2	40	1.59	2	N	.	2243	SX	46	.	PL	43	.	BL	6	.	AT	3	.	FD	2	.
ICHmk1	07	1	60	1.10	2	N	.	4330	PL	46	.	SX	26	.	LW	14	.	BL	9	.	FD	5	.
ICHmk1	07	1	60	-0.11	2	P	.	621	PL	62	.	SX	28	.	LW	10	.		.	.		.	.
ICHmk1	07	2	40	-0.13	2	P	.	725	PL	50	.	SX	43	2	LW	7	.		.	.		.	.
ICHmk1	07	2	40	1.19	2	N	.	1794	SX	46	.	PL	43	.	BL	6	.	AT	3	.	FD	2	.
ICHmw2	01	1	75	1.21	2	N	.	3927	PL	63	.	LW	13	.	SX	10	.	BL	9	.	FD	5	.
ICHmw2	01	1	75	-0.18	2	P	.	976	PL	69	.	SX	12	.	LW	17	.	PY	2	.		.	.
ICHmw2	01	2	25	1.19	1	N	.	3612	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
ICHmw2	01	2	25	-0.14	1	P	.	1388	PL	45	.	SX	21	3	LW	34	.		.	.		.	.
ICHmw2	03	1	75	1.21	2	N	.	3927	PL	63	.	LW	13	.	BL	9	.	FD	8	.	SX	7	.
ICHmw2	03	1	75	-0.18	2	P	.	976	PL	69	.	FD	12	.	LW	17	.	PY	2	.		.	.
ICHmw2	03	2	25	1.19	1	N	.	3287	PL	44	.	BL	25	.	LW	17	.	SX	13	.	CW	1	.
ICHmw2	03	2	25	-0.14	1	P	.	1388	PL	45	.	FD	21	24	LW	34	.		.	.		.	.
ICHmw2	05	1	75	1.21	2	N	.	3927	PL	63	.	LW	13	.	SX	10	.	BL	9	.	FD	5	.
ICHmw2	05	1	75	-0.18	2	P	.	976	PL	69	.	SX	12	.	LW	17	.	PY	2	.		.	.
ICHmw2	05	2	25	1.19	1	N	.	3612	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
ICHmw2	05	2	25	-0.14	1	P	.	1388	PL	45	.	SX	21	3	LW	34	.		.	.		.	.
ICHmw2	07	1	75	1.16	2	N	.	3142	PL	63	.	LW	13	.	SX	10	.	BL	9	.	FD	5	.
ICHmw2	07	1	75	-0.13	2	P	.	694	PL	69	.	SX	12	.	LW	17	.	PY	2	.		.	.
ICHmw2	07	2	25	1.21	1	N	.	2890	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
ICHmw2	07	2	25	-0.18	1	P	.	987	PL	45	.	SX	21	3	LW	34	.		.	.		.	.

		Reg.	Reg.	TASS		Regen	Density		Spp1	Pct1	Gain1	Spp2	Pct2	Gain2	Spp3	Pct3	Gain3	Spp4	Pct4	Gain4	Spp5	Pct5	Gain5
Subzone	SS	No	Pct	Parm	Delay	Type	Post JS	TIPSY			(%)			(%)			(%)			(%)			(%)
IDFdm1	01	3	20	1.59	2	N	.	1997	LW	50	.	PL	26	.	FD	18	.	SX	6	.		.	.
IDFdm1	01	3	20	-0.52	2	P	.	1077	LW	61	.	PL	32	3	SX	7	3		.	.		.	.
IDFdm1	01	1	45	1.00	1	N	.	5583	PL	56	.	FD	38	.	LW	3	.	AC	2	.	SX	1	.
IDFdm1	01	2	35	1.16	2	N	.	3577	PL	66	.	FD	17	.	LW	8	.	PY	6	.	SX	3	.
IDFdm1	01	2	35	-0.13	2	P	.	868	PL	68	.	SX	2	.	PY	12	.	FD	5	.	LW	13	.
IDFdm1	03	1	80	-0.18	3	P	.	468	LW	38	.	PL	30	.	PY	17	.	SX	2	.	FD	13	.
IDFdm1	03	1	80	1.18	3	N	.	1699	PL	47	.	LW	23	.	FD	16	.	SX	7	.	PY	7	.
IDFdm1	03	2	20	1.19	1	N	.	1812	PL	59	.	LW	28	.	FD	10	.	SX	3	.		.	.
IDFdm1	03	2	20	-0.13	1	P	.	671	PL	49	.	LW	44	.	SX	7	3		.	.		.	.
IDFdm1	04	1	40	1.00	1	N	.	3422	FD	45	.	PL	37	.	LW	18	.		.	.		.	.
IDFdm1	04	2	50	-0.13	3	P	.	832	LW	38	.	PL	30	.	PY	17	.	SX	2	.	FD	13	.
IDFdm1	04	3	10	1.54	1	N	.	2141	LW	38	.	PL	38	.	FD	17	.	SX	7	.		.	.
IDFdm1	04	2	50	1.16	3	N	.	2831	PL	47	.	LW	23	.	FD	16	.	SX	7	.	PY	7	.
IDFdm1	04	3	10	-0.47	1	P	.	1192	PL	49	.	LW	44	.	SX	7	3		.	.		.	.
IDFdm1	05	1	100	1.19	1	N	.	1643	LW	47	.	PL	43	.	FD	7	.	BL	3	.		.	.
IDFdm1	05	1	100	-0.13	1	P	.	866	LW	49	.	PL	48	0	SX	3	3	CW	.	.		.	.
IDFdm1	06	1	100	1.19	1	N	.	1643	LW	47	.	PL	43	.	FD	7	.	BL	3	.		.	.
IDFdm1	06	1	100	-0.13	1	P	.	866	LW	49	.	PL	48	0	SX	3	3	CW	.	.		.	.
IDFdm1	07	1	100	1.37	1	N	.	1347	LW	47	.	PL	43	.	FD	7	.	BL	3	.		.	.
IDFdm1	07	1	100	-0.30	1	P	.	710	LW	49	.	PL	48	0	SX	3	3	CW	.	.		.	.
MSdm1	01	1	30	1.00	2	N	.	5739	PL	71	.	LW	13	.	FD	8	.	SX	5	.	BL	3	.
MSdm1	01	2	1	1.00	2	N	1271	1398	PL	71	.	LW	13	.	FD	8	.	SX	5	.	BL	3	.
MSdm1	01	3	50	1.21	2	N	.	5050	PL	72	.	SX	17	.	LW	6	.	BL	4	.	FD	1	.
MSdm1	01	3	50	-0.18	2	P	.	931	PL	73	.	SX	24	.	LW	3	.		.	.		.	.
MSdm1	01	4	19	1.21	1	N	.	3526	PL	59	.	SX	18	.	LW	17	.	BL	5	.	FD	1	.
MSdm1	01	4	19	-0.18	1	P	.	911	PL	52	0	SX	26	3	LW	21	.	PW	1	.		.	.
MSdm1	02	1	90	1.10	2	N	.	3309	PL	49	.	BL	15	.	LW	13	.	FD	12	.	SX	11	.
MSdm1	02	1	90	-0.11	2	P	.	387	PL	64	.	SX	25	.	LW	11	.		.	.		.	.
MSdm1	02	2	10	1.10	1	N	.	7650	PL	43	.	LW	38	.	AC	19	.		.	.		.	.
MSdm1	02	2	10	-0.11	1	P	.	389	PL	69	.	SX	31	1		.	.		.	.		.	.
MSdm1	03	1	35	1.00	2	N	.	5306	PL	64	.	LW	18	.	FD	12	.	SX	4	.	BL	2	.
MSdm1	03	2	55	1.16	2	N	.	5515	PL	49	.	BL	15	.	LW	13	.	FD	12	.	SX	11	.
MSdm1	03	2	55	-0.13	2	P	.	646	PL	64	.	SX	25	.	LW	11	.		.	.		.	.
MSdm1	03	3	10	1.16	1	N	.	10000	PL	43	.	LW	38	.	AC	19	.		.	.		.	.

Subzone	SS	Reg. No	Reg. Pct	TASS Parm	Delay	Regen Type	Density Post JS	Density TIPSY	Spp1	Pct1	Gain1 (%)	Spp2	Pct2	Gain2 (%)	Spp3	Pct3	Gain3 (%)	Spp4	Pct4	Gain4 (%)	Spp5	Pct5	Gain5 (%)
MSdm1	03	3	10	-0.13	1	P	.	648	PL	69	.	SX	31	1		.	.		.	.		.	.
MSdm1	04	1	30	1.00	2	N	.	10000	PL	66	.	LW	27	.	FD	3	.	BL	2	.	AT	2	.
MSdm1	04	2	47	1.16	2	N	.	6875	PL	63	.	LW	21	.	SX	8	.	AT	4	.	BL	4	.
MSdm1	04	2	47	-0.13	2	P	.	873	PL	60	.	LW	19	.	SX	21	.		.	.		.	.
MSdm1	04	3	18	1.21	2	N	.	3136	PL	54	.	LW	19	.	SX	16	.	FD	6	.	BL	5	.
MSdm1	04	3	18	-0.18	2	P	.	991	PL	43	0	SX	19	3	LW	35	.	FD	3	.		.	.
MSdm1	04	4	5	1.16	2	N	1490	1639	PL	100	.		.	.		.	.		.	.		.	.
MSdm1	04	4	5	-0.13	2	P	1490	701	PL	93	.	SX	7	.		.	.		.	.		.	.
MSdm1	05	1	65	1.21	2	N	.	3237	PL	59	.	SX	26	.	LW	8	.	BL	6	.	AC	1	.
MSdm1	05	1	65	-0.18	2	P	.	885	PL	67	.	SX	32	.	LW	1	.		.	.		.	.
MSdm1	05	2	35	1.59	3	N	.	2151	PL	63	.	SX	25	.	BL	8	.	FD	4	.		.	.
MSdm1	05	2	35	-0.52	3	P	.	1036	PL	64	.	SX	36	2		.	.		.	.		.	.
MSdm1	06	1	100	1.00	1	N	.	9250	PL	90	.	LW	10	.		.	.		.	.		.	.
MSdm1	07	1	100	1.59	1	N	.	1994	PL	100	.		.	.		.	.		.	.		.	.
MSdm1	07	1	100	-0.52	1	P	.	931	PL	62	.	SX	38	.		.	.		.	.		.	.
MSdm1	08	1	100	1.00	1	N	.	8325	PL	100	.		.	.		.	.		.	.		.	.
MSdm1a	01	1	30	1.00	1	N	.	5743	FD	38	.	CW	17	.	SX	17	.	BL	15	.	LW	13	.
MSdm1a	01	2	55	1.21	2	N	.	3927	PL	63	.	LW	13	.	SX	10	.	BL	9	.	FD	5	.
MSdm1a	01	2	55	-0.18	2	P	.	976	PL	69	.	SX	12	.	LW	17	.	PY	2	.		.	.
MSdm1a	01	3	15	1.19	1	N	.	3612	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
MSdm1a	01	3	15	-0.14	1	P	.	1388	PL	45	.	SX	21	3	LW	34	.		.	.		.	.
MSdm1a	02	1	80	1.16	1	N	.	2882	PL	52	.	LW	27	.	FD	9	.	SX	8	.	PY	4	.
MSdm1a	02	1	80	-0.13	1	P	.	670	PL	51	.	LW	33	.	SX	8	.	PY	8	.		.	.
MSdm1a	02	2	20	1.10	2	N	.	4739	PL	64	.	LW	25	.	FD	9	.	SX	2	.		.	.
MSdm1a	02	2	20	-0.11	2	P	.	527	PL	88	4	SX	6	3	LW	6	.		.	.		.	.
MSdm1a	03	1	80	1.21	1	N	.	4803	PL	52	.	LW	27	.	FD	9	.	SX	8	.	PY	4	.
MSdm1a	03	1	80	-0.18	1	P	.	1116	PL	51	.	LW	33	.	SX	8	.	PY	8	.		.	.
MSdm1a	03	2	20	1.21	2	N	.	7899	PL	64	.	LW	25	.	FD	9	.	SX	2	.		.	.
MSdm1a	03	2	20	-0.18	2	P	.	878	PL	88	4	SX	6	3	LW	6	.		.	.		.	.
MSdm1a	04	1	50	1.22	1	N	.	2638	PL	53	.	LW	30	.	SX	13	.	BL	2	.	AT	2	.
MSdm1a	04	1	50	-0.19	1	P	.	1125	PL	61	.	LW	25	.	SX	14	.		.	.		.	.
MSdm1a	04	2	50	1.22	1	N	.	3270	PL	49	.	SX	25	.	LW	22	.	AT	3	.	BL	1	.
MSdm1a	04	2	50	-0.19	1	P	.	1132	PL	53	3	SX	31	2	LW	16	.		.	.		.	.
MSdm1a	05	1	60	1.21	2	N	.	5412	PL	46	.	SX	26	.	LW	14	.	BL	9	.	FD	5	.

		Reg.	Reg.	TASS		Regen	Density		Spp1	Pct1	Gain1	Spp2	Pct2	Gain2	Spp3	Pct3	Gain3	Spp4	Pct4	Gain4	Spp5	Pct5	Gain5
Subzone	SS	No	Pct	Parm	Delay	Type	Post JS	TIPSY			(%)			(%)			(%)			(%)			(%)
MSdm1a	05	1	60	-0.18	2	P	.	880	PL	62	.	SX	28	.	LW	10	.		.	.		.	.
MSdm1a	05	2	40	-0.52	2	P	.	1027	PL	50	.	SX	43	2	LW	7	.		.	.		.	.
MSdm1a	05	2	40	1.59	2	N	.	2243	SX	46	.	PL	43	.	BL	6	.	AT	3	.	FD	2	.
MSdm1a	06	1	60	1.21	2	N	.	5412	PL	46	.	SX	26	.	LW	14	.	BL	9	.	FD	5	.
MSdm1a	06	1	60	-0.18	2	P	.	880	PL	62	.	SX	28	.	LW	10	.		.	.		.	.
MSdm1a	06	2	40	-0.52	2	P	.	1027	PL	50	.	SX	43	2	LW	7	.		.	.		.	.
MSdm1a	06	2	40	1.59	2	N	.	2243	SX	46	.	PL	43	.	BL	6	.	AT	3	.	FD	2	.
MSdm1a	07	1	60	1.10	2	N	.	4330	PL	46	.	SX	26	.	LW	14	.	BL	9	.	FD	5	.
MSdm1a	07	1	60	-0.11	2	P	.	621	PL	62	.	SX	28	.	LW	10	.		.	.		.	.
MSdm1a	07	2	40	-0.13	2	P	.	725	PL	50	.	SX	43	2	LW	7	.		.	.		.	.
MSdm1a	07	2	40	1.19	2	N	.	1794	SX	46	.	PL	43	.	BL	6	.	AT	3	.	FD	2	.

Future PHR Silviculture Regimes

Subzone	SS	Reg. No.	Reg. Pct.	TASS Parm	Delay	Regen Type	Density Post JS	Density TIPSY input	Spp1	Pct1	Gain1 (%)	Spp2	Pct2	Gain2 (%)	Spp3	Pct3	Gain3 (%)	Spp4	Pct4	Gain4 (%)	Spp5	Pct5	Gain5 (%)
ESSFdc1	01	1	72	1.21	1	N	.	5955	PL	44	.	SX	31	.	BL	20	.	LW	5	.		.	.
ESSFdc1	01	1	72	-0.18	1	P	.	1051	PL	50	.	SX	50	.		.	.		.	.		.	.
ESSFdc1	01	2	28	1.21	1	N	.	7581	PL	42	.	BL	28	.	SX	20	.	LW	10	.		.	.
ESSFdc1	01	2	28	-0.18	1	P	.	1046	PL	57	.	SX	43	18		.	.		.	.		.	.
ESSFdc1	02	1	70	1.16	1	N	.	5350	PL	38	.	BL	30	.	SX	22	.	LW	10	.		.	.
ESSFdc1	02	1	70	-0.13	1	P	.	850	PL	50	2	SX	50	18		.	.		.	.		.	.
ESSFdc1	02	2	30	1.59	1	N	2000	2200	PL	38	.	BL	30	.	SX	22	.	LW	10	.		.	.
ESSFdc1	02	2	30	-0.52	1	P	2000	850	PL	50	2	SX	50	18		.	.		.	.		.	.
ESSFdc1	03	1	70	1.16	2	N	.	6427	PL	70	.	SX	17	.	BL	12	.	LW	1	.		.	.
ESSFdc1	03	1	70	-0.13	2	P	.	761	PL	81	.	SX	18	.	LW	1	.		.	.		.	.
ESSFdc1	03	2	30	1.21	2	N	.	5124	PL	63	.	SX	31	.	BL	6	.		.	.		.	.
ESSFdc1	03	2	30	-0.18	2	P	.	940	PL	57	.	SX	43	18		.	.		.	.		.	.
ESSFdc1	04	1	60	1.22	1	N	.	4817	PL	57	.	BL	24	.	SX	19	.		.	.		.	.
ESSFdc1	04	1	60	-0.19	1	P	.	1159	PL	75	.	SX	24	.	LW	1	.		.	.		.	.
ESSFdc1	04	2	40	1.22	1	N	.	3582	PL	45	.	BL	28	.	SX	27	.		.	.		.	.
ESSFdc1	04	2	40	-0.19	1	P	.	1341	PL	53	.	SX	46	18	BL	1	.		.	.		.	.
ESSFdc1	05	1	63	1.21	1	N	.	2681	PL	63	.	SX	20	.	LW	9	.	BL	7	.	FD	1	.
ESSFdc1	05	1	63	-0.18	1	P	.	989	PL	59	.	SX	22	.	LW	19	.		.	.		.	.
ESSFdc1	05	2	37	1.21	1	N	.	4223	SX	45	.	PL	39	.	BL	16	.		.	.		.	.
ESSFdc1	05	2	37	-0.18	1	P	.	1040	SX	59	17	PL	41	.		.	.		.	.		.	.
ESSFdc1	06	1	100	1.21	3	N	.	3500	SX	46	.	PL	27	.	BL	27	.		.	.		.	.
ESSFdc1	06	1	100	-0.18	3	P	.	896	SX	57	18	PL	43	.		.	.		.	.		.	.
ICHmk1	01	1	20	1.00	1	N	.	5743	FD	38	.	CW	17	.	SX	17	.	BL	15	.	LW	13	.
ICHmk1	01	2	60	1.21	2	N	.	3927	PL	63	.	LW	13	.	SX	10	.	BL	9	.	FD	5	.
ICHmk1	01	2	60	-0.18	2	P	.	976	PL	69	.	SX	12	.	LW	17	.	PY	2	.		.	.
ICHmk1	01	3	20	1.19	1	N	.	3612	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
ICHmk1	01	3	20	-0.14	1	P	.	1388	PL	45	.	SX	21	12	LW	34	.		.	.		.	.
ICHmk1	02	1	70	1.23	2	N	.	1301	PL	49	.	BL	32	.	SX	17	.	CW	1	.	LW	1	.
ICHmk1	02	1	70	-0.25	2	P	.	450	PL	50	2	PY	50	.		.	.		.	.		.	.
ICHmk1	02	2	30	1.53	2	N	1200	1320	PL	49	.	BL	32	.	SX	17	.	CW	1	.	LW	1	.
ICHmk1	02	2	30	-0.54	2	P	1200	450	PL	50	2	PY	50	.		.	.		.	.		.	.
ICHmk1	03	1	67	1.21	1	N	.	4803	PL	52	.	LW	27	.	FD	9	.	SX	8	.	PY	4	.
ICHmk1	03	1	67	-0.18	1	P	.	1116	PL	51	.	LW	33	.	SX	8	.	PY	8	.		.	.
ICHmk1	03	2	33	1.21	2	N	.	7899	PL	64	.	LW	25	.	FD	9	.	SX	2	.		.	.
ICHmk1	03	2	33	-0.18	2	P	.	878	PL	88	4	SX	6	12	LW	6	.		.	.		.	.

Subzone	SS	Reg. No.	Reg. Pct.	TASS Parm	Delay	Regen Type	Density Post JS	Density TIPSY input	Spp1	Pct1	Gain1 (%)	Spp2	Pct2	Gain2 (%)	Spp3	Pct3	Gain3 (%)	Spp4	Pct4	Gain4 (%)	Spp5	Pct5	Gain5 (%)
ICHmk1	04	1	50	1.22	1	N	.	2638	PL	53	.	LW	30	.	SX	13	.	BL	2	.	AT	2	.
ICHmk1	04	1	50	-0.19	1	P	.	1125	PL	61	.	LW	25	.	SX	14	.		.	.		.	.
ICHmk1	04	2	50	1.22	1	N	.	3270	PL	49	.	SX	25	.	LW	22	.	AT	3	.	BL	1	.
ICHmk1	04	2	50	-0.19	1	P	.	1132	PL	53	3	SX	31	8	LW	16	.		.	.		.	.
ICHmk1	05	1	60	1.21	2	N	.	5412	PL	46	.	SX	26	.	LW	14	.	BL	9	.	FD	5	.
ICHmk1	05	1	60	-0.18	2	P	.	880	PL	62	.	SX	28	.	LW	10	.		.	.		.	.
ICHmk1	05	2	40	-0.52	2	P	.	1027	PL	50	.	SX	43	9	LW	7	.		.	.		.	.
ICHmk1	05	2	40	1.59	2	N	.	2243	SX	46	.	PL	43	.	BL	6	.	AT	3	.	FD	2	.
ICHmk1	06	1	100	-0.52	2	P	.	1027	PL	50	2	SX	43	9	LW	7	1		.	.		.	.
ICHmk1	06	1	100	1.59	2	N	.	2243	SX	46	.	PL	43	.	BL	6	.	AT	3	.	FD	2	.
ICHmk1	07	1	100	-0.52	2	P	2000	819	PL	49	2	SX	42	9	LW	9	1		.	.		.	.
ICHmk1	07	1	100	1.59	2	N	2000	2200	SX	46	.	PL	44	.	BL	6	.	AT	3	.	FD	1	.
ICHmw2	01	1	70	1.19	1	N	.	3612	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
ICHmw2	01	1	70	-0.14	1	P	.	1388	PL	45	2	SX	21	12	LW	34	1		.	.		.	.
ICHmw2	01	2	30	-0.11	1	N	2000	2200	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
ICHmw2	01	2	30	1.11	1	P	2000	1388	PL	45	2	SX	21	12	LW	34	1		.	.		.	.
ICHmw2	03	1	100	1.22	1	N	.	3270	PL	49	.	SX	25	.	LW	22	.	AT	3	.	BL	1	.
ICHmw2	03	1	100	-0.19	1	P	.	1132	PL	53	3	SX	31	8	LW	16	1		.	.		.	.
ICHmw2	05	1	70	1.19	1	N	.	3612	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
ICHmw2	05	1	70	-0.14	1	P	.	1388	PL	45	2	SX	21	12	LW	34	1		.	.		.	.
ICHmw2	05	2	30	-0.11	1	N	2000	2200	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
ICHmw2	05	2	30	1.11	1	P	2000	1388	PL	45	2	SX	21	12	LW	34	1		.	.		.	.
ICHmw2	07	1	100	1.21	1	N	.	3310	PL	40	.	BL	25	.	SX	21	.	LW	13	.	CW	1	.
ICHmw2	07	1	100	-0.18	1	P	.	1116	PL	44	2	SX	22	12	LW	34	1		.	.		.	.
IDFdm1	01	3	15	1.59	2	N	.	1997	LW	50	.	PL	26	.	FD	18	.	SX	6	.		.	.
IDFdm1	01	3	15	-0.52	2	P	.	1077	LW	61	.	PL	32	3	SX	7	12		.	.		.	.
IDFdm1	01	1	35	1.00	1	N	.	5583	PL	56	.	FD	38	.	LW	3	.	AC	2	.	SX	1	.
IDFdm1	01	2	50	1.16	2	N	.	3577	PL	66	.	FD	17	.	LW	8	.	PY	6	.	SX	3	.
IDFdm1	01	2	50	-0.13	2	P	.	868	PL	68	.	SX	2	.	PY	12	.	FD	5	.	LW	13	.
IDFdm1	03	1	100	1.37	1	N	.	400	FD	75	.	AT	25	.		.	.		.	.		.	.
IDFdm1	03	1	100	-0.30	1	P	.	675	PY	67	.	PL	33	2		.	.		.	.		.	.
IDFdm1	04	1	40	1.00	1	N	.	3422	FD	45	.	PL	37	.	LW	18	.		.	.		.	.
IDFdm1	04	2	50	-0.13	3	P	.	780	LW	38	.	PL	30	.	PY	17	.	SX	2	.	FD	13	.
IDFdm1	04	3	10	1.54	1	N	.	2141	LW	38	.	PL	38	.	FD	17	.	SX	7	.		.	.
IDFdm1	04	2	50	1.16	3	N	.	2831	PL	47	.	LW	23	.	FD	16	.	SX	7	.	PY	7	.
IDFdm1	04	3	10	-0.47	1	P	.	1192	PL	49	.	LW	44	.	SX	7	12		.	.		.	.
IDFdm1	05	1	100	1.19	1	N	.	1643	LW	47	.	PL	43	.	FD	7	.	BL	3	.		.	.

Subzone	SS	Reg. No.	Reg. Pct.	TASS Parm	Delay	Regen Type	Density Post JS	Density TIPSY input	Spp1	Pct1	Gain1 (%)	Spp2	Pct2	Gain2 (%)	Spp3	Pct3	Gain3 (%)	Spp4	Pct4	Gain4 (%)	Spp5	Pct5	Gain5 (%)
IDFdm1	05	1	100	-0.13	1	P	.	866	LW	49	.	PL	48	0	SX	3	12	CW	.	.		.	.
IDFdm1	06	1	100	1.19	1	N	.	1643	LW	47	.	PL	43	.	FD	7	.	BL	3	.		.	.
IDFdm1	06	1	100	-0.13	1	P	.	866	LW	49	1	PL	48	2	SX	3	12	CW	.	.		.	.
IDFdm1	07	1	100	1.37	1	N	.	1300	LW	48	.	PL	43	.	FD	6	.	BL	3	.		.	.
IDFdm1	07	1	100	-0.30	1	P	.	698	LW	49	1	PL	48	2	SX	3	12	CW	.	.		.	.
MSdm1	01	1	30	1.00	2	N	.	5739	PL	71	.	LW	13	.	FD	8	.	SX	5	.	BL	3	.
MSdm1	01	2	1	1.00	2	N	1271	1398	PL	90	.	SX	10	.		.	.		.	.		.	.
MSdm1	01	3	50	1.21	2	N	.	5050	PL	72	.	SX	17	.	LW	6	.	BL	4	.	FD	1	.
MSdm1	01	3	50	-0.18	2	P	.	931	PL	73	.	SX	24	.	LW	3	.		.	.		.	.
MSdm1	01	4	19	1.21	1	N	.	3526	PL	59	.	SX	18	.	LW	17	.	BL	5	.	FD	1	.
MSdm1	01	4	19	-0.18	1	P	.	911	PL	52	1	SX	26	16	LW	21	.	PW	1	.		.	.
MSdm1	02	1	100	1.10	2	N	.	2760	PL	65	.	LW	33	.	FD	2	.		.	.		.	.
MSdm1	02	1	100	-0.11	2	P	.	420	PL	50	2	LW	50	1		.	.		.	.		.	.
MSdm1	03	1	35	1.00	2	N	.	5306	PL	64	.	LW	18	.	FD	12	.	SX	4	.	BL	2	.
MSdm1	03	2	60	1.16	2	N	.	5515	PL	49	.	BL	15	.	LW	13	.	FD	12	.	SX	11	.
MSdm1	03	2	60	-0.13	2	P	.	646	PL	64	.	SX	25	.	LW	11	.		.	.		.	.
MSdm1	03	3	5	1.16	1	N	.	10000	PL	43	.	LW	38	.	AC	19	.		.	.		.	.
MSdm1	03	3	5	-0.13	1	P	.	648	PL	69	.	SX	31	5		.	.		.	.		.	.
MSdm1	04	1	30	1.00	2	N	.	10000	PL	66	.	LW	27	.	FD	3	.	BL	2	.	AT	2	.
MSdm1	04	2	45	1.16	2	N	.	6875	PL	63	.	LW	21	.	SX	8	.	AT	4	.	BL	4	.
MSdm1	04	2	45	-0.13	2	P	.	873	PL	60	.	LW	19	.	SX	21	.		.	.		.	.
MSdm1	04	3	20	1.21	2	N	.	3136	PL	54	.	LW	19	.	SX	16	.	FD	6	.	BL	5	.
MSdm1	04	3	20	-0.18	2	P	.	991	PL	43	0	SX	19	15	LW	35	.	FD	3	.		.	.
MSdm1	04	4	5	1.47	2	N	.	1581	PL	100	.		.	.		.	.		.	.		.	.
MSdm1	04	4	5	-0.41	2	P	.	701	PL	93	.	SX	7	.		.	.		.	.		.	.
MSdm1	05	1	85	1.21	2	N	.	3237	PL	59	.	SX	26	.	LW	8	.	BL	6	.	AC	1	.
MSdm1	05	1	85	-0.18	2	P	.	885	PL	67	.	SX	32	.	LW	1	.		.	.		.	.
MSdm1	05	2	15	-0.18	3	P	.	1036	PL	64	.	SX	36	14		.	.		.	.		.	.
MSdm1	05	2	15	1.21	3	N	.	2710	SX	100	.		.	.		.	.		.	.		.	.
MSdm1	06	1	100	1.00	1	N	.	9250	PL	90	.	LW	10	.		.	.		.	.		.	.
MSdm1	07	1	100	1.59	1	N	.	1994	PL	100	.		.	.		.	.		.	.		.	.
MSdm1	07	1	100	-0.52	1	P	.	931	PL	62	.	SX	38	.		.	.		.	.		.	.
MSdm1	08	1	100	1.19	2	N	.	1964	PL	100	.		.	.		.	.		.	.		.	.
MSdm1	08	1	100	-0.13	2	P	.	840	PL	67	2	SX	33	18		.	.		.	.		.	.
MSdm1a	01	1	20	1.00	1	N	.	5743	FD	38	.	CW	17	.	SX	17	.	BL	15	.	LW	13	.
MSdm1a	01	2	60	1.21	2	N	.	3927	PL	63	.	LW	13	.	SX	10	.	BL	9	.	FD	5	.
MSdm1a	01	2	60	-0.18	2	P	.	976	PL	69	.	SX	12	.	LW	17	.	PY	2	.		.	.

Subzone	SS	Reg. No.	Reg. Pct.	TASS Parm	Delay	Regen Type	Density		Spp1	Pct1	Gain1 (%)	Spp2	Pct2	Gain2 (%)	Spp3	Pct3	Gain3 (%)	Spp4	Pct4	Gain4 (%)	Spp5	Pct5	Gain5 (%)
							Post JS	TIPSY input															
MSdm1a	01	3	20	1.19	1	N	.	3612	PL	40	.	BL	23	.	SX	21	.	LW	15	.	CW	1	.
MSdm1a	01	3	20	-0.14	1	P	.	1388	PL	45	.	SX	21	12	LW	34	.		.	.		.	.
MSdm1a	02	1	70	1.23	2	N	.	1301	PL	49	.	BL	32	.	SX	17	.	CW	1	.	LW	1	.
MSdm1a	02	1	70	-0.25	2	P	.	450	PL	50	2	PY	50	.		.	.		.	.		.	.
MSdm1a	02	2	30	1.53	2	N	1200	1320	PL	49	.	BL	32	.	SX	17	.	CW	1	.	LW	1	.
MSdm1a	02	2	30	-0.54	2	P	1200	450	PL	50	2	PY	50	.		.	.		.	.		.	.
MSdm1a	03	1	67	1.21	1	N	.	4803	PL	52	.	LW	27	.	FD	9	.	SX	8	.	PY	4	.
MSdm1a	03	1	67	-0.18	1	P	.	1116	PL	51	.	LW	33	.	SX	8	.	PY	8	.		.	.
MSdm1a	03	2	33	1.21	2	N	.	7899	PL	64	.	LW	25	.	FD	9	.	SX	2	.		.	.
MSdm1a	03	2	33	-0.18	2	P	.	878	PL	88	4	SX	6	12	LW	6	.		.	.		.	.
MSdm1a	04	1	50	1.22	1	N	.	2638	PL	53	.	LW	30	.	SX	13	.	BL	2	.	AT	2	.
MSdm1a	04	1	50	-0.19	1	P	.	1125	PL	61	.	LW	25	.	SX	14	.		.	.		.	.
MSdm1a	04	2	50	1.22	1	N	.	3270	PL	49	.	SX	25	.	LW	22	.	AT	3	.	BL	1	.
MSdm1a	04	2	50	-0.19	1	P	.	1132	PL	53	3	SX	31	8	LW	16	.		.	.		.	.
MSdm1a	05	1	60	1.21	2	N	.	5412	PL	46	.	SX	26	.	LW	14	.	BL	9	.	FD	5	.
MSdm1a	05	1	60	-0.18	2	P	.	880	PL	62	.	SX	28	.	LW	10	.		.	.		.	.
MSdm1a	05	2	40	-0.52	2	P	.	1027	PL	50	.	SX	43	9	LW	7	.		.	.		.	.
MSdm1a	05	2	40	1.59	2	N	.	2243	SX	46	.	PL	43	.	BL	6	.	AT	3	.	FD	2	.
MSdm1a	06	1	100	-0.52	2	P	.	1027	PL	50	2	SX	43	9	LW	7	1		.	.		.	.
MSdm1a	06	1	100	1.59	2	N	.	2243	SX	46	.	PL	43	.	BL	6	.	AT	3	.	FD	2	.
MSdm1a	07	1	100	-0.52	2	P	2000	819	PL	49	2	SX	42	9	LW	9	1		.	.		.	.
MSdm1a	07	1	100	1.59	2	N	2000	2200	SX	46	.	PL	44	.	BL	6	.	AT	3	.	FD	1	.

APPENDIX II – SUMMARY STATISTICS FOR AGGREGATED YIELD TABLES

Table 20. Statistics for the 50 largest clusters (12.5+).

Strat	Tble ID	Area (ha)	Current Conditions				Future Conditions				Current Curves			Future Curves		
											Max	Culm		Max	Culm	
			Ldg Spp	SI Class	Treated	Conif.% Class	Ldg Spp	SI Class	Treated	Conif.% class	MAI	Age	Vol	MAI	Age	Vol
CC	248	6,064	PL	22.5	1	1	PL	22.5	1	1	4.8	60	291	4.9	60	291
CC	239	3,768	PL	22.5	0	1	PL	22.5	1	1	4.6	60	278	4.9	60	292
CC	202	3,469	PL	16.5	0	1	PL	22.5	1	1	2.5	100	248	4.8	70	334
CC	201	2,994	PL	16.5	0	1	PL	19.5	1	1	2.4	100	237	4.1	70	287
CC	84	2,975	FD	13.5	0	1	PL	19.5	1	1	1.4	130	177	3.8	80	306
CC	228	2,270	PL	19.5	0	1	PL	22.5	1	1	3.0	80	240	4.8	60	290
CC	227	1,975	PL	19.5	0	1	PL	19.5	1	1	3.0	90	266	4.1	70	286
CC	231	1,498	PL	19.5	1	1	PL	19.5	1	1	4.1	80	332	4.2	70	291
CC	129	1,472	LW	13.5	0	1	PL	19.5	1	1	1.5	140	216	4.0	70	280
CC	97	1,457	FD	16.5	0	1	PL	19.5	1	1	1.9	110	209	3.8	80	305
CC	221	1,310	PL	19.5	0	1	PL	19.5	1	1	3.9	70	272	4.0	80	318
CC	155	1,299	LW	19.5	0	1	PL	22.5	1	1	2.4	110	264	4.9	60	291
CC	143	1,284	LW	16.5	0	1	PL	19.5	1	1	1.8	130	240	4.1	70	286
CC	144	1,035	LW	16.5	0	1	PL	22.5	1	1	1.9	120	227	4.8	70	336
CC	98	931	FD	16.5	0	1	PL	22.5	1	1	2.0	110	222	4.6	70	325
CC	200	882	PL	16.5	0	1	PL	16.5	1	1	2.5	100	250	3.0	100	301
CC	85	823	FD	13.5	0	1	PL	22.5	1	1	1.5	130	198	4.6	70	320
PC	341	774	FD	13.5	0	1	PL	22.5	1	1	1.5	130	197	4.1	70	288
CC	7	730		.	.	.	PL	22.5	1	1	0.0	0	0	4.8	70	337
PC	352	720	FD	16.5	0	1	PL	22.5	1	1	2.0	110	218	4.1	70	287
CC	210	681	PL	16.5	1	1	PL	16.5	1	1	3.2	90	289	3.2	100	319
CC	130	623	LW	13.5	0	1	PL	22.5	1	1	1.5	140	213	4.8	70	337
CC	6	585		.	.	.	PL	19.5	1	1	0.0	0	0	3.8	80	307
CC	154	563	LW	19.5	0	1	PL	19.5	1	1	2.3	110	250	4.1	70	286
CC	183	532	PL	13.5	0	1	PL	19.5	1	1	1.9	130	252	4.1	80	325
CC	79	498	FD	13.5	0	1	FD	19.5	1	1	1.3	130	171	2.6	80	207
CC	262	492	SE	10.5	0	1	PL	16.5	1	1	1.6	160	254	3.4	90	302
CC	244	488	PL	22.5	0	1	PL	22.5	1	1	3.6	70	250	4.8	70	333
CC	121	484	LW	10.5	0	1	PL	19.5	1	1	1.2	140	162	4.0	80	319
CC	277	456	SE	13.5	0	1	PL	22.5	1	1	2.2	130	280	5.1	60	306
CC	226	449	PL	19.5	0	1	PL	16.5	1	1	3.0	80	239	3.2	90	287
CC	275	434	SE	13.5	0	1	PL	16.5	1	1	2.1	130	267	3.2	100	317
PC	317	415		.	.	.	PL	19.5	1	1	0.0	0	0	3.5	80	284
CC	182	409	PL	13.5	0	1	PL	16.5	1	1	2.1	120	255	3.0	100	295
CC	290	402	SE	16.5	0	1	PL	22.5	1	1	2.5	110	279	4.9	60	293
CC	108	399	FD	19.5	0	1	PL	22.5	1	1	2.7	90	241	4.6	70	323
PC	340	395	FD	13.5	0	1	PL	19.5	1	1	1.5	130	193	3.7	80	293
CC	184	373	PL	13.5	0	1	PL	22.5	1	1	2.0	120	241	4.8	70	336
CC	159	365	LW	22.5	0	1	PL	22.5	1	1	3.0	90	271	4.9	60	294
CC	107	349	FD	19.5	0	1	PL	19.5	1	1	2.5	100	255	3.8	80	304
CC	45	341	BL	13.5	0	1	PL	16.5	1	1	1.7	110	191	3.4	90	307
CC	199	331	PL	16.5	0	1	PL	13.5	1	1	2.5	100	247	2.2	120	259

Strat	Tble ID	Area (ha)	Current Conditions				Future Conditions				Current Curves			Future Curves		
											Max MAI	Culm		Max MAI	Culm	
			Ldg Spp	SI Class	Treated	Conif.% Class	Ldg Spp	SI Class	Treated	Conif.% class		Age	Vol		Age	Vol
PC	404	320	PL	19.5	0	1	PL	19.5	1	1	3.4	80	276	3.5	80	280
CC	73	303	FD	10.5	0	1	PL	19.5	1	1	1.0	140	135	3.9	80	313
CC	222	294	PL	19.5	0	1	PL	22.5	1	1	4.0	70	283	4.2	80	337
CC	181	286	PL	13.5	0	1	PL	13.5	1	1	2.1	110	229	2.2	120	263
PC	351	277	FD	16.5	0	1	PL	19.5	1	1	1.9	120	227	3.7	80	299
CC	243	277	PL	22.5	0	1	PL	19.5	1	1	3.5	70	247	4.2	70	292
CC	5	273		.	.	.	PL	16.5	1	1	0.0	0	0	3.4	90	307
PC	318	264		.	.	.	PL	22.5	1	1	0.0	0	0	4.2	70	292

APPENDIX III – SUBZONE SUMMARIES FOR FUTURE PHR STANDS

The statistics and average curves given for each subzone were computed as the area-weighted average of all curves in the subzone.

Table 21. Summaries by subzone for future stands on TFL 8 (12.5+).

Stratum	Subzone	Area (ha)	THLB (%)	Average of Inputs			Average of Outputs		
				Avg. SI (m)	Establish. Density (sph)	Species Comp.	MAI (m^3/ha/yr)	Culm.Age (yrs)	Culm. Vol. (m^3/ha)
CC	ESSFdc1	7,936		16.1	5,719	PL51SX45FD4	3.0	106	298
	ICHmk1	4,222		20.7	4,218	PL52SX20FD27CW1	4.3	78	335
	ICHmw2	272		23.2	3,198	SX43PL41FD15CW1	5.6	69	380
	IDFdm1	11,257		20.5	3,054	FD50PL47SX3	3.8	91	307
	MSdm1	31,520		21.4	5,769	PL71FD17SX12	4.8	70	327
	MSdm1a	913		22.1	4,082	PL48SX29FD21CW2	5.0	73	363
PC	ICHmk1	521		21.8	4,123	PL48SX26FD24CW2	4.5	75	334
	IDFdm1	5,167		21.2	3,367	PL51FD46SX3	3.9	79	299
	MSdm1	408		21.8	5,771	PL72FD16SX12	4.6	68	308
	MSdm1a	43		23.7	3,233	PL46SX39FD13CW2	5.3	68	357

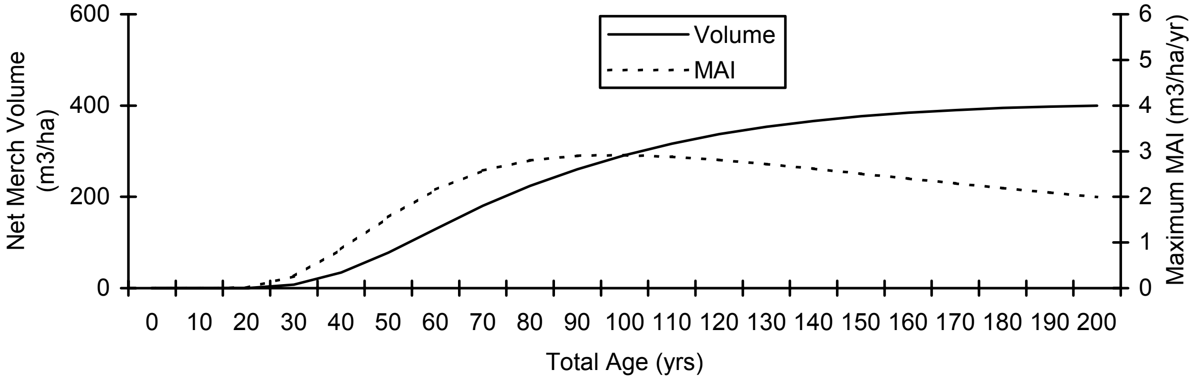
Yields for Clearcut Stands in the ESSFdc1

Table 22. Avg. TIPSY input for the ESSFdc1

Attribute	Value
Total Area	7,936
Site Index	16.1
Density	5,719
Proportion Pl	51%
Proportion Sx	45%
Proportion Fd	4%
OAF1	0.84
OAF2	0.92

Table 23. Avg. TIPSY output for the ESSFdc1 subzone

Site Series	Area (ha)	Area (%)	Max MAI (m^3/ha/yr)	Culm Age (yrs)	Culm Vol (m^3/ha)
01	3,614	46	3.2	102.0	313
02	488	6	1.4	167.0	226
03	2,200	28	2.5	108.3	263
04	1,316	17	3.9	88.8	332
05	38	0	3.7	94.9	320
06	281	4	2.8	116.9	332
Avg			3.0	106	298
Min			0.5	70	137
Max			4.8	250	379
Std Dev			0.8	27	45



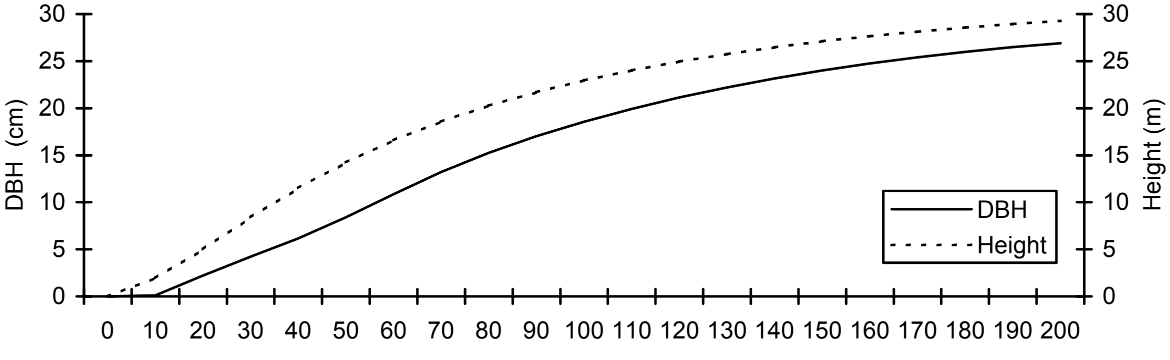


Figure 15. Volume and diameter over age curves for the ESSFdc1 subzone (CC, 12.5+) in TFL 8.

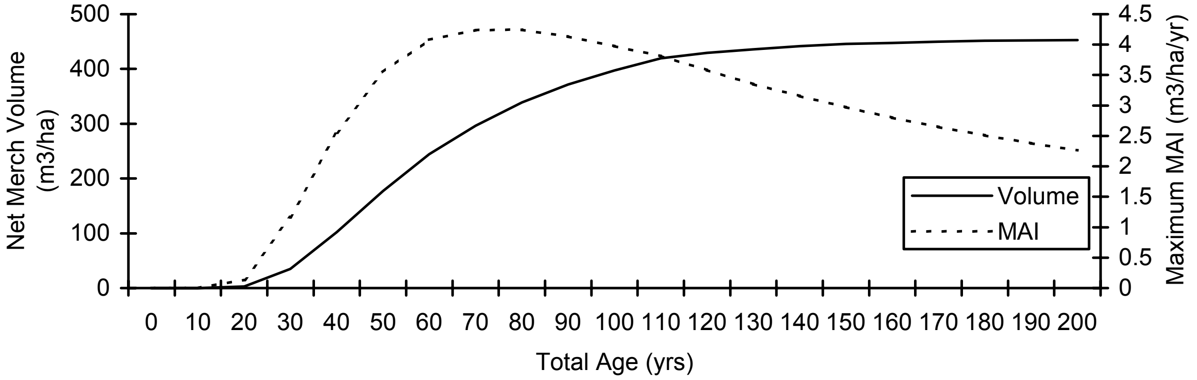
Yields for Clearcut Stands in the ICHmk1

Table 24. Avg. TIPSY input for the ICHmk1

Attribute	Value
Total Area	4,222
Site Index	20.7
Density	4,218
Proportion Pl	52%
Proportion Sx	20%
Proportion Fd	27%
Proportion Cw	1%
OAF1	0.85
OAF2	0.91

Table 25. Avg. TIPSY output for the ICHmk1 subzone

Site Series	Area (ha)	Area (%)	Max MAI (m^3/ha/yr)	Culm Age (yrs)	Culm Vol (m^3/ha)
01	1,008	24	5.0	74	366
02	148	3	2.6	110	282
03	1,438	34	3.6	80	291
04	1,233	29	4.3	80	345
05	236	6	5.8	70	407
06	152	4	6.7	60	401
07	8	0	4.7	80	376
Avg			4.3	78	335
Min			2.5	60	276
Max			6.7	110	419
Std Dev			0.8	8	41



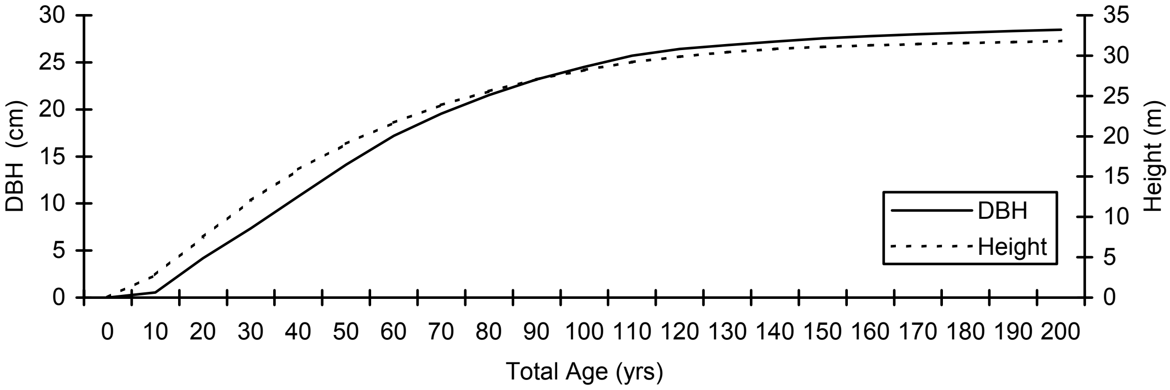


Figure 16. Volume and diameter over age curves for the ICHmk1 subzone (CC, 12.5+) in TFL 8.

Yields for Clearcut Stands in the ICHmw2

Table 26. Avg. TIPSY input for the – ICHmw2.

Attribute	Value
Total Area	272
Site Index	23.2
Density	3,198
Proportion Sx	43%
Proportion Pl	41%
Proportion Fd	15%
Proportion Cw	1%
OAF1	15%
OAF2	7%

Table 27. Avg. TIPSY output for the ICHmw2.subzone

Site Series	Area (ha)	Area (%)	Max MAI (m^3/ha/yr)	Culm Age (yrs)	Culm Vol (m^3/ha)
01	178	65	5.5	70	384
03	18	7	4.4	80	349
05	67	25	6.4	60	382
07	9	3	3.9	90	355
Avg			5.6	69	380
Min			3.9	60	349
Max			6.4	90	391
StdDev			0.6	7	13

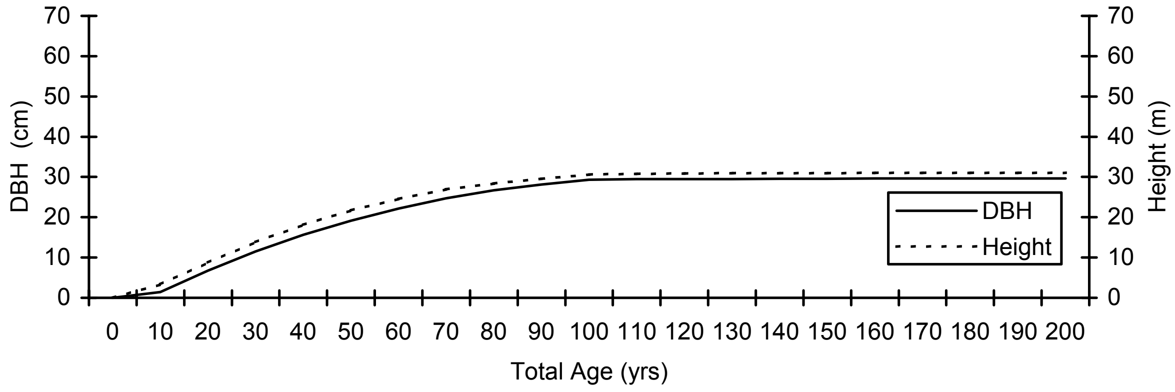


Figure 17. Volume and diameter over age curves for the ICHmw2 subzone (CC, 12.5+) in TFL 8.

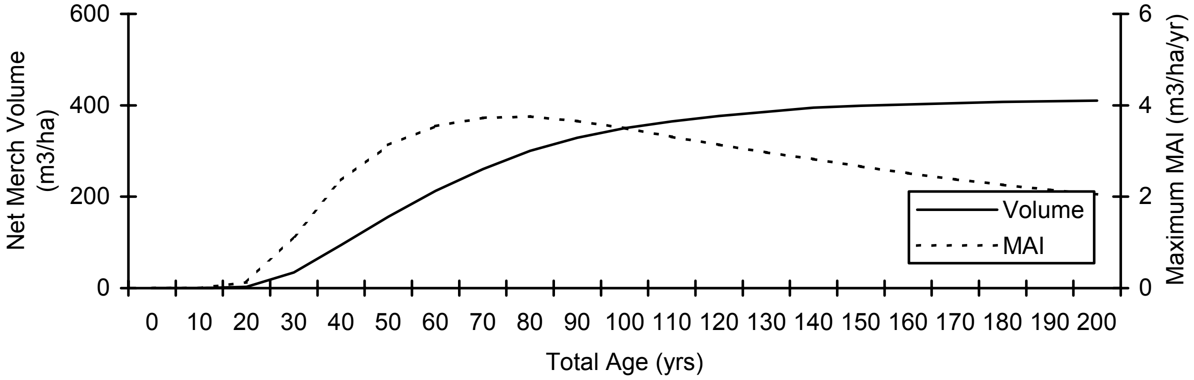
Yields for Clearcut Stands in the IDFdm1

Table 28. Avg. TIPSY input for the IDFdm1.

Attribute	Value
Total Area	11,257
Site Index	20.5
Density	3,054
Proportion Fd	50%
Proportion Pl	47%
Proportion Sx	3%
OAF1	0.83
OAF2	0.90

Table 29. Avg. TIPSY output for the IDFdm1 subzone

Site Series	Area (ha)	Area (%)	Max MAI (m^3/ha/yr)	Culm Age (yrs)	Culm Vol (m^3/ha)
01	4,709	42	4.3	71.5	305
03	855	8	0.5	230	115
04	4,213	37	3.4	90	304
05	1,107	10	5.5	80	440
06	207	2	5.9	70	413
07	166	1	4.8	80	387
Avg			3.8	91	307
Min			0.5	70	115
Max			5.9	230	440
StdDev			1.2	41	74



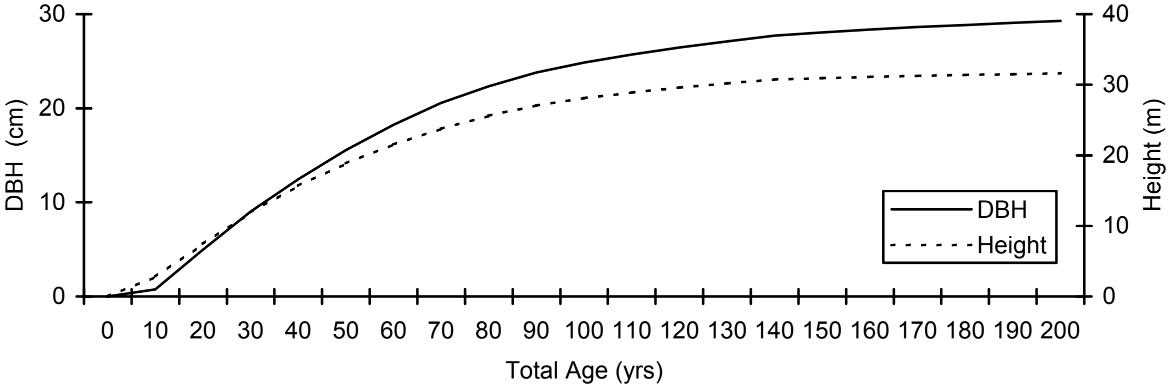


Figure 18. Volume and diameter over age curves for the IDFdm1 subzone (CC, 12.5) in TFL 8.

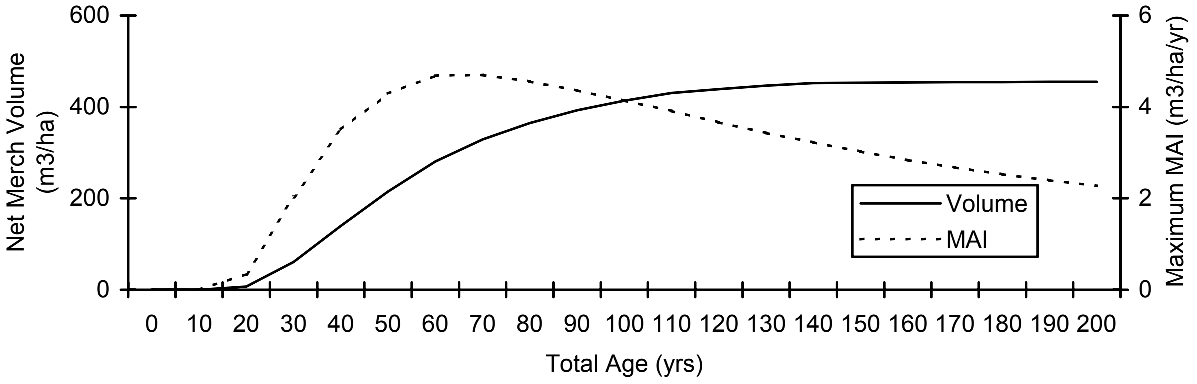
Yields for Clearcut Stands in the MSdm1

Table 30. Avg. TIPSY input for the MSdm1

Attribute	Value
Total Area	31,520
Site Index	21.4
Density	5,769
Proportion Pl	71%
Proportion Fd	17%
Proportion Sx	12%
OAF1	0.85
OAF2	0.92

Table 31. Avg. TIPSY output for the MSdm1 subzone

Site Series	Area (ha)	Area (%)	Max MAI (m^3/ha/yr)	Culm Age (yrs)	Culm Vol (m^3/ha)
01	14,213	45	4.6	72	334
02	763	2	2.3	100	228
03	2,628	8	3.7	80	295
04	9,176	29	4.5	72	318
05	91	0	5.5	72	395
06	3,150	10	7.0	50	352
07	361	1	4.1	70	290
08	1,139	4	7.5	50	376
Avg			4.8	70	327
Min			2.3	50	228
Max			7.5	100	434
StdDev			1.0	10	30



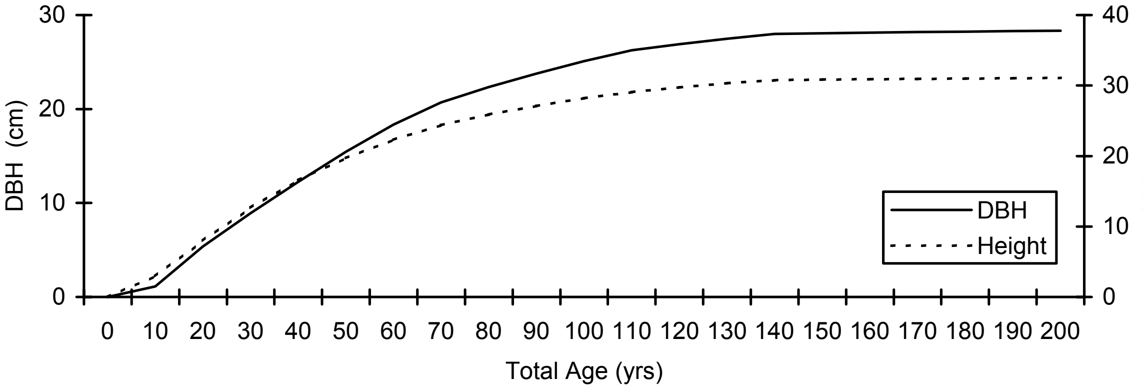


Figure 19. Volume and diameter over age curves for the MSdm1 subzone (CC. 12.5) in TFL 8.

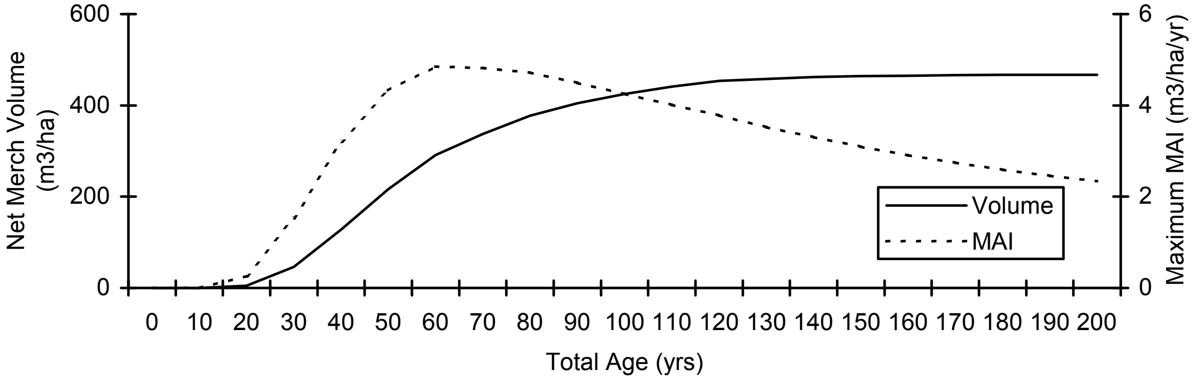
Yields for Clearcut Stands in the MSdm1a

Table 32. Avg. TIPSY input for the MSdm1a

Attribute	Value
Total Area	913
Site Index	21.1
Density	4,082
Proportion Pl	48%
Proportion Sx	29%
Proportion Fd	21%
Proportion Cw	2%
OAF1	0.95
OAF2	0.91

Table 33. Avg. TIPSY output for the MSdm1a subzone

Site Series	Area (ha)	Area (%)	Max MAI (m^3/ha/yr)	Culm Age (yrs)	Culm Vol (m^3/ha)
01	441	48	5.0	74	366
02	11	1	2.6	110	282
03	148	16	3.6	80	291
04	56	6	4.3	80	345
05	128	14	5.8	70	408
06	123	13	6.7	60	402
07	7	1	4.7	80	377
Avg			5.0	73	363
Min			2.5	60	277
Max			6.7	110	419
StdDev			0.9	9	42



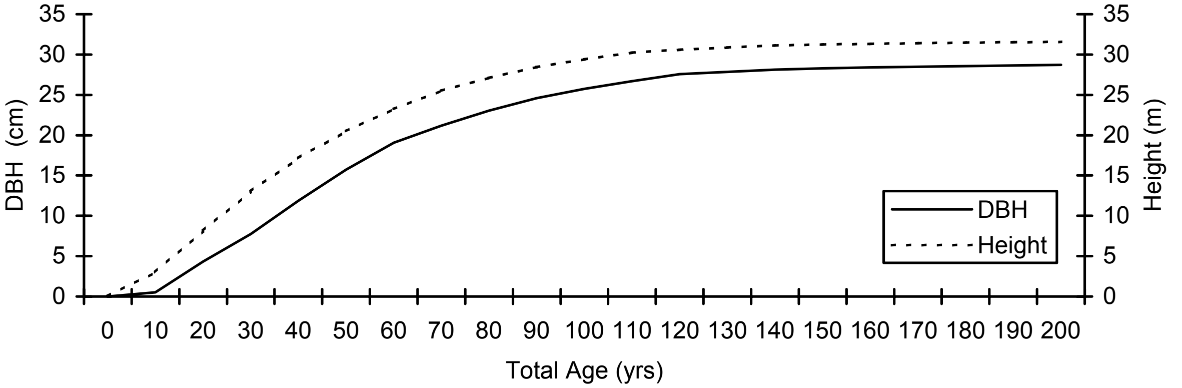


Figure 20. Volume and diameter over age curves for the MSdm1a subzone (CC, 12.5) in TFL 8.