Hinton Wood Products
A division of West Fraser Mills
Forest Management Agreement
FMA 8800025
O.C. 565/2007

Mountain Pine Beetle Forest Management Plan Amendment
Technical Report #2
- Yield Projections -

April 30, 2010

EXECUTIVE SUMMARY

Yield curves are required for use in the timber supply analysis that accompanies Forest Management Plan development. This report documents the development of yield curves for the Hinton Wood Products Forest Management Agreement area, for use in the 2009 Mountain Pine Beetle Forest Management Plan.

Contained in this document are detailed methodologies for creating volume-age yield curves, GYPSY based volume-age yield curves, including rules for stratification, plot attribute assignment, plot deletions, volume compilation methods, and modelling techniques. Resulting yield curves, volume tables, model parameters and fit statistics are also included.

Additional growth and yield - related FMP information including cull deductions, methods for development of piece size curves (trees/m^3), and calculation of regeneration lag is also provided.

Table Of Contents

List of Tables

1. Overview

1.1 Background

The yield curves represent a requirement in the development of a Forest Management Plan as listed in the Alberta Sustainable Resource Development (SRD) Forest Management Planning Standard (SRD 2006). Yield curves are required for use in the Timber Supply Analysis that accompanies Forest Management Plan development.

This document describes the datasets and methods used to create volume – age yield curves for Hinton Wood Products (HWP) 2009 Mountain Pine Beetle Forest Management Plan (MPB FMP). The developed yield curves characterize both the contributing landbase, areas available for forest management, and the passive landbase, areas not currently available for forest management.

Accompanying this document is a Regulated Forestry Professional (RFP) checklist derived from the Alberta Forest Management Planning Standard, Version 4.1 (SRD 2006) relating to yield curve development and documentation deliverables as well as:

- Plot dataset with compiled individual tree and plot level volumes;
- Block datasets with compiled attributes for input in Growth and Yield Projection System (GYPSY 2009);
- All datasets used in the yield curve development. SAS programs used in the yield curve development can be provided to SRD upon request;
- Digital versions of the yield curves; and
- Data dictionaries for all datasets submitted.

1.2 Yield Stratification

The term "FMP Yield Stratum" refers specifically to yield stratification used in the 2009 MPB FMP. FMP Yield Strata are applied to all stands in the forested landscape (i.e., stratum assignments are made to forested polygons only).

FMP Yield Stratum assignment was based on several variables: AVI data, Base10 yield strata, contributing or passive landbase assignments, stand origin type, crown closure, and site. For fire origin stands and pre-1991 cutblocks, AVI overstory or AVI understory were used to determine the final yield stratum assignment. Stratum assignment was primarily based on overstory AVI attributes, with the following exceptions:

- Non-forested overstory with a forested understory (use understory AVI attributes);
- Stands with an A crown closure overstory and an understory with a crown closure equal to B, C, or D (use understory attributes);
- Stands with a deciduous overstory (A, B, C, or D in crown closure), an understory within the coniferous landbase with the crown closure equal to B, C, or D and no older than 1930 (use AVI understory attributes);
- Horizontal stands in which the understory proportion of the stand was greater than 50% (use understory attributes); and
- Horizontal stands in which the understory is the only valid forest cover group (use understory attributes).

The AVI layer used to characterize the polygon (overstory or understory) will be referenced as the story of primary management (SoPM). For blocks harvested since the start of the 1991 timber year, Yield Stratum assignment was defined by referencing regeneration surveys and silviculture stratum declarations (see Technical report #1 – Landbase Classification for a full discussion).

Twenty seven yield strata were identified for the 2009 MPB FMP using the above mentioned variables. A description of the FMP Yield Strata and the variables used to assign the strata are presented in Table 1-1.

Table 1-1. FMP Yield Strata and yield curves for 2009 MPB Forest Management Plan.

Landbase	Stand Origin	Story Managed	BCG	FMP Yield Stratum	Description	Yield Curve Name	Total Net Area (ha)
Contributing	Fire, Pre-91Cut blocks or Cut blocks without an opening number	Overstory	D	1	Pure deciduous, A&B crown closure	E_B1_XL	11,251
			D	2	Pure deciduous, C&D crown closure	E_B1_XH	35,465
			DC	3	Deciduous leading (Pl) mixedwood	E_B2_XX	16,015
			DC	4	Deciduous leading(Sw or Sb) mixedwood	E_B3_XX	13,276
			CD	5	Coniferous leading (Sw or Sb) mixedwood	E_B4_XX	9,239
			CD	6	Coniferous leading (Pl) mixedwood	E_B5_XX	21,057
			C	7	Pure coniferous, Sw leading, poor and medium sites	E_B7_MX	43,671
			C	8	Pure coniferous, Sw leading, good sites, A&B crown closure	E_B7_GL	11,766
			C	9	Pure coniferous, Sw leading, good sites, C&D crown closure	E_B7_GH	6,866
			C	10	Pure coniferous, Pl leading, poor and medium sites, A&B crown closure	E_B8_ML	38,092
			C	11	Pure coniferous, Pl leading, poor and medium sites, C&D crown closure	E_B8_MH	131,841
			C	12	Pure coniferous, Pl leading, good sites, A&B crown closure	E_B8_GL	33,808
			C	13	Pure coniferous, Pl leading, good sites, C&D crown closure	E_B8_GH	103,589
			C	14	Pure coniferous, Sb leading	E_B9_XX	7,392
		Understory	D, DC, CD	15	Pure deciduous and all mixedwoods - characterized based on understory	E_UN_DM	15,843
			C	16	Pure coniferous - all, characterized based on understory	E_UN_CX	51,955
Contributing	Recent Cut blocks harvested since the start of the 1991 timber year with an opening number	ALL	D	17	Pure deciduous, managed stands post 91, A&B crown closure	E_B1_XL	6
			D	18	Pure deciduous, managed stands post 91, C&D crown closure	E_B1_XH	1,510
			DC	19	Deciduous leading (Pl) mixedwood, managed stands post 91	E_B2_XX	1,180
			DC	20	Deciduous leading (Sw or Sb) mixedwood, managed post 91	E_B3_XX	968
			CD	21	Coniferous leading (Sw or Sb) mixedwood, managed post 91	G_B4_XX	2,315
			CD	22	Conferous leading (Pl) mixedwood, managed post 91	G_B5_XX	3,424
			C	23	Pure coniferous, Sw leading, managed post 91	G_B7_XX	12,336
			C	24	Pure coniferous, Pl leading, managed post 91	G_B8_XX	76,615
			C	25	Pure coniferous, Sb leading, managed post 91	E_B9_XX	682
Total	-	-	-	-		-	650,163
Passive	ALL	ALL	D, DC, CD	26	Pure deciduous and all mixedwoods	E_PAS_D	25,086
			C	27	Pure coniferous - all	E_PAS_C	278,276
Total	-	-	-	-		-	303,362

1.3 Yield Curves

A series of yield curves[1] were fit for each yield stratum. The following is a summary of the yield curves that were developed for the 2009 MPB FMP; detailed descriptions of yield curve development are provided in Chapters 2 to 4.

Natural Stand Yield Curves. Natural stand yield curves were developed for most FMP Yield Strata of the contributing and passive landbase. HWP's PGS provided the data for fitting both deciduous and coniferous volumes were fit as a function of stand age. FMP Yield Stratum and stand age were taken from the story of primary management.

Managed Stand Yield Curves. SRD's stand growth model (GYPSY version 1.0) was used to develop yield curves for four FMP Yield Strata – 21, 22, 23, and 24. Average projections of GYPSY 2009 using performance survey data from 2006, 2007, and 2008 were used to create the managed yield curves for the four strata. Due to a lack of data no specific managed stand yield curves were developed for the other five managed yield strata – 17, 18, 19, 20 and 25, instead the corresponding natural stand yield curves were used.

[1] The term yield curve is used to represent a set of three separate curves: a volume-age curve for coniferous volume, a volume-age curve for deciduous volume, and a volume-age curve for total volume.

Composite Yield Curves. Six composite yield curves (area-weighted yield curves) were developed for natural stands on the contributing landbase: four by broad cover group (i.e., D, DC, CD, and C), one to represent the combined coniferous (C/CD/DC) landbase, and one to represent the total landbase (C/CD/DC/D).

Piece Size Curves. Piece size curves were developed for all FMP yield strata. For the FMP yield strata 1 to 20, 25, 26, and 27 the number of trees per cubic meter was fit as a function of stand age for deciduous and coniferous species separately. FMP yield stratum and stand age were taken from the story of primary management. Piece size curves were also developed for strata 21, 22, 23, and 24 using the merchantable volume and merchantable density provided by GYPSY version 1.0.

2. Stratification

2.1 Overview

FMP Yield Strata are the basic units for forest management in the 2009 MPB FMP. Yield strata are also the units upon which yield curves are based; as such, plot data must be assigned to an FMP Yield Stratum for empirical yield curve development.

Since yield curves are applied to landbase polygons, the rules for assigning attributes to plots must be consistent with the rules used to assign attributes to the landbase. In order to maintain absolute consistency between plot attribute assignment and landbase attribute assignment, plots were linked spatially to the landbase to assign attributes.

Information on how plots were linked to the landbase is provided in Chapter 3. The landbase classification into the contributing vs. passive landbase, stand type assignment (natural and managed), as well as the landbase classification into FMP Yield Strata are discussed in '2009 Mountain Pine Beetle Forest Management Plan Technical Report #1 - Landbase Classification' (HWP 2009).

As described in the '2009 Mountain Pine Beetle Forest Management Plan Technical Report #1 - Landbase Classification' (HWP 2009) FMP Yield Strata were assigned using base10 yield strata, landbase type, stand origin, story of primary management, site productivity, and crown closure. Table 2-1 presents the variables used and the strata assignment.

Table 2-1. Assignment of FMP yield strata.

Landbase	Stand Origin	Story Managed	BCG	Leading Con. Sp.	Leading Dec. Sp.	Base10 Yield Strata	Site Productivity	CC Class	FMP Yield Stratum	Yield Curve Name	Fire Origin Areas (ha)	Managed Stands (ha)	Total Net Area (ha)
Contributing	Fire, Pre-91Cut blocks or Cut blocks without an opening number	Overstory	D	n/a	AW, PB	1	ALL	AB	1	E_B1_XL	9,174	2,078	11,251
			D	n/a	AW, PB	1	ALL	CD	2	E_B1_XH	30,931	4,534	35,465
			DC	PL	n/a	2	ALL	ABCD	3	E_B2_XX	11,880	4,135	16,015
			DC	SW, SB, FB	n/a	3	ALL	ABCD	4	E_B3_XX	9,983	3,293	13,276
			CD	SW, SB, FB	n/a	4, 6	ALL	ABCD	5	E_B4_XX	5,141	4,098	9,239
			CD	PL	n/a	5	ALL	ABCD	6	E_B5_XX	14,170	6,888	21,057
			C	SW, FB	n/a	7	PM	ABCD	7	E_B7_MX	28,336	15,336	43,671
			C	SW, FB	n/a	7	G	AB	8	E_B7_GL	10,099	1,667	11,766
			C	SW, FB	n/a	7	G	CD	9	E_B7_GH	5,713	1,153	6,866
			C	PL	n/a	8	PM	AB	10	E_B8_ML	25,396	12,695	38,092
			C	PL	n/a	8	PM	CD	11	E_B8_MH	121,277	10,565	131,841
			C	PL	n/a	8	G	AB	12	E_B8_GL	17,672	16,136	33,808
			C	PL	n/a	8	G	CD	13	E_B8_GH	79,758	23,832	103,589
			C	SB	n/a	9	ALL	ALL	14	E_B9_XX	4,777	2,615	7,392
		Understory	D, DC, CD	SW, SB, PL	AW, PB	1-6	ALL	ALL	15	E_UN_DM	15,843	0	15,843
			C	SW, SB, PL	n/a	7, 8, 9	ALL	ALL	16	E_UN_CX	51,955	0	51,955
Contributing	Recent Cut blocks harvested since the start of the 1991 timber year with an opening number	ALL	D	n/a	AW, PB	1	ALL	AB	17	E_B1_XL	0	6	6
			D	n/a	AW, PB	1	ALL	CD	18	E_B1_XH	0	1,510	1,510
			DC	PL	n/a	2	ALL	ALL	19	E_B2_XX	0	1,180	1,180
			DC	SW, SB, FB	n/a	3	ALL	ALL	20	E_B3_XX	0	968	968
			CD	SW, SB	n/a	4, 6	ALL	ALL	21	G_B4_XX	0	2,315	2,315
			CD	PL	n/a	5	ALL	ALL	22	G_B5_XX	0	3,424	3,424
			C	SW	n/a	7	ALL	ALL	23	G_B7_XX	0	12,336	12,336
			C	PL	n/a	8	ALL	ALL	24	G_B8_XX	0	76,615	76,615
			C	SB	n/a	9	ALL	ALL	25	E_B9_XX	0	682	682
Total	-	-	-	-	-	-	-	-	-	-	442,103	208,060	650,163
Passive	ALL	ALL	D, DC, CD	SW, SB, PL	AW, PB	1-6	ALL	ALL	26	E_PAS_D	22,426	2,660	25,086
			C	SW, SB, PL	n/a	7, 8, 9	ALL	ALL	27	E_PAS_C	267,931	10,345	278,276
Total	-	-	-	-	-	-	-	-	-	-	290,357	13,005	303,362

3. Plot Attribute Assignment and Data Compilation

3.1 Overview

This section describes the plot data used to build yield curves for all FMP yield strata. This section describes the data sources and the initial number of plots and performance survey blocks used to develop the yield curves, as well as the method of assigning landbase attributes to plots and blocks along with dataset deletions. The methods for compiling gross merchantable volume (m^3/ha) for each eligible plot at different utilizations are described, as well as the methods for compiling inputs for GYPSY.

3.2 Data Sources

Both permanent sample plot (PSP) data and performance survey data were used to create the yield curves for the previously defined FMP Yield Strata. All data were collected within the HWP Forest Management Agreement (FMA) area.

Table 3-1 presents the total number of fire origin PSPs and the number of blocks used to create the yield curves for the FMP Yield Strata.

Table 3-1. Data sources used in yield curve development.

Data Source	Data Type	Sampling Program	Ownership	Collection Years	Number of Plots	
					Natural Stands	Managed Stands
HWP	PSP	PGS	HWP	1956-2008	3,119	n/a
HWP	TSP	Performance Survey	HWP	2006-2008	n/a	602
Total					3,119	602

The following sections provide a summary of the data collection protocols as they relate to use for yield curve development.

3.2.1 HWP PGS Data

HWP has been collecting growth and yield data from their FMA area since 1956 as part of their Permanent Growth Sample (PGS) program. Plots have been remeasured up to six times and provide a valuable source of information about changes in stand characteristics over time.

Data are stored in a Microsoft Access database called the "One Database". The One Database includes data collected under a variety of research programs; each dataset is identified using an installation number to identify the different data collection protocols. PGS plots are identified as installations 1-8. Installation 1 represents the original PGS grid (established between 1956 and 1961). Installation 2 represents a supplemental "expansion" grid, established in 1988, to include areas added to the HWP FMA area. The remaining installations represent PGS plots established on a stratified (non-grid) basis, each with a specific research focus (e.g., mixedwoods, caribou lichen, young pine, etc.).

Current data collection protocols for PGS plots are identified in Hinton Wood Products' Permanent Growth Sample Manual (v. 18, January 2008).

Grid-based PGS plots were established in clusters of four, with cluster centers established every two miles at the intersection of the Alberta Legal Survey grid section lines. Four PGS plots were established 100.6 m from the cluster center at bearings of 45, 135, 225 and 315 degrees. Plots were offset in order to ensure that the entire plot was located in a single stand (cover) type.

Main plot sizes are either 405 or 810 m². Generally, the 810 m^2 plot size is used for sampling fire origin stands. PGS plots were established in both fire origin and regenerated stands, with some regenerated plots reestablished in the same location as fire origin plots after harvesting. Subplots are used to capture sapling and regeneration data.

Tagging limits for sampling have changed over the years; the current protocol is that all trees (live and dead) ≥ 7.1 cm DBH are tagged and measured within the main tree plot. The tree data collection includes species, DBH, height, height to live crown, crown size, tree status and damage codes.

Only the last re-measurement of the fire origin permanent sample plots was included in the dataset used to develop the FMP yield curves. There were a total of 3,119 fire origin plots that had a last re-measurement. If the stand age at the last re-measurement was greater than 200 years then the plot was not used in the curve fitting. From this total, 836 plots were removed from the database due to landbase deletions (Table 3-4).

3.2.2 HWP Performance Survey Data

Compiled performance survey data were used as input in GYPSY in order to create FMP yield curves for managed stands for FMP Yield Strata: 21, 22, 23, and 24. The performance survey data were collected in three years: 2006, 2007, and 2008. The protocols for data collection were

changed from 2006 through to 2008, however the data collected and used for the yield curves' development remained largely similar.

Performance Survey Data Collected in 2006

The data collected in 2006 is comprised of 184 blocks surveyed in the 2006/2007 timber year based on a protocol effective since May 1st, 2006. The objective of the performance survey was to ensure adequate forest stocking, survival and growth rates (SRD 2006).

The survey is a rectangular grid based sample of the harvested block using perpendicular control and survey lines to locate at their intersection 10 m^2 circular plots (1.78 m in radius). The grid is spaced proportionally to the area of the block, with a minimum number of plots per opening or per hectare, depending on the size of the opening to be surveyed.

The 2006 performance survey protocols had the objective of identifying the number of stocked plots with a viable coniferous or deciduous tree. The entire block would be declared successfully regenerated based on the ratio between the number of stocked plots and the total number of surveyed plots within the opening.

There are 4 standards, one for each broad cover group: D, DC, CD, and C. For D and C standards only one crop tree per plot could be selected, coniferous tree for C standard and deciduous tree for D standard. A plot was considered stocked if the crop tree was from an acceptable species and met the minimum height.

Some additional optional information from this survey was used to compile the necessary inputs for GYPSY. Density of trees between 0.3 m and 1.3 m in height as well as greater than 1.3 m were collected by species in each plot. Every fourth plot, detailed plot, was expanded to 100 m^2 (5.64 m in radius) and one top height tree by species was measured for height, diameter at breast height, and total age. Density, total age, and top height as collected from this survey were compiled and used as inputs for GYPSY projections.

Performance Survey Data Collected in 2007

The surveys of the 158 blocks assessed in the 2007/2008 timber year had the same objectives as the performance data collected in 2006. However, the Free-to-Grow requirements for coniferous crop trees were removed. A plot was considered stocked if the measured tree (tallest tree in the basic plot) met certain criteria: species, age, origin, and was taller than a minimum height.

In the 2007 protocol there are two options for data collection: breast height and stump height option. The breast height option counts trees taller than 1.3 m in the basic plots, while the stump height option counts trees taller than 0.3 m in the basic plots. Both protocols were used by HWP to collect the 2007 performance survey data.

Total age, height, and diameter at breast height for top height trees by species were measured in the expanded detailed plot (100 m^2). The top height, total age, and density information collected in 2007 were compiled and used as inputs in GYPSY projections.

Performance Survey Data Collected in 2008

The 260 blocks surveyed in the 2008/2009 timber year were based on the 2008 protocol which kept the same objectives as the previous protocols and collected similar data. The grid based survey was established in a similar manner to the previous surveys as well as the calculation of the number of plots required for sampling each block.

In all basic plots, trees, advanced and seedlings separately, were counted by species. The counts included trees greater than 0.3 m for the coniferous species and greater than 1.3 m for the deciduous species. Height of the tallest tree by species group was also recorded.

In the detailed plots the diameter of 3 coniferous trees by species group were measured at stump height. In the same plots, the diameter at breast height was measured for 3 deciduous trees by species group. Height was also measured and recorded for all the trees with a measured diameter.

In the expanded detailed plot (100 m^2) one top height tree was measured from each species group. Total age, diameter at breast height (deciduous) or stump height (coniferous), and total height were measured for each top height tree. Top height, total age, and density information were compiled and used as inputs for GYPSY projections.

3.3 Plot Attribute Assignment and Deletions

3.3.1 HWP PGS Data

Attribute Assignment

All PGS PSPs had spatial locations. The existing spatial coordinates were used to locate the plots within the landbase AVI polygons. The PGS plots were therefore linked spatially to the landbase AVI polygons. Each plot was assigned the FMP Yield Stratum and the stand age from the polygon where the plot was located.

Plot Deletions

Plots were eligible for natural stand empirical yield curves development if they were:

1. Within the contributing or passive landbase;

2. Established in natural stands (post-fire) that had not been burned since the last re-measurement, and had not been harvested either before or after the last re-measurement (still standing);

3. Establishment status of "F" (fire origin) in database;

4. Disturbed plots were eligible if the disturbance was a fire, the disturbed plot was still considered a fire origin plot; and

5. Only the last measurement was used with no restrictions on the number of years between the photo date and the last re-measurement year.

Several areas within the HWP FMA area were removed from the contributing landbase and considered unlikely to produce merchantable sawlogs at 15/11 utilization. Plots that fell within these areas were also removed from the dataset used to fit the FMP yield curves for the contributing landbase. Table 3-2 presents the hierarchy of the subjective deletions used to determine whether an area is not capable of producing merchantable sawlogs at 15/11 utilization.

Plots that were located in polygons deleted from the landbase or in subjectively deleted portions of the polygon (Table 3-2) were removed from the dataset used to fit the natural stand yield curves (MYS_DEL = 'Y').

Table 3-2. Deletion rules for plots used in yield curve development.

Del	Definition	Deletion Rule
OB	Area outside the FMA	Delete plot if it falls outside the FMA area
NN	Naturally non-vegetated	Delete plot if it falls in a "NN" polygon
NV	Naturally non-forested	Delete plot if it falls in a "NV" polygon
AN	Anthropogenic non-vegetated	Delete plot if it falls within an "AN" polygon
AV	Anthropogenic vegetated	Delete plot if it falls within an "AV" polygon
EP	Eastern Sloped Prime Protection Areas	Used plot for passive landbase yield strata
DR	Disposition reservations	Used plot for passive landbase yield strata
WT	Wet site	Used plot for passive landbase yield strata
LR	Larch composition is 10% or more of the SoPM	Used plot for passive landbase yield strata
EC	Unmerchantable ecosites	Used plot for passive landbase yield strata
AO	Stand with an "A" overstory only	Used plot for passive landbase yield strata
SB	Black spruce composition makes up 80% or more of the SoPM	Used plot for passive landbase yield strata
PP	Potentially Productive	Used plot for passive landbase yield strata
SS	Steep Slopes	Used plot for passive landbase yield strata
WB	Watercourse Buffers	Used plot for passive landbase yield strata
CL	Seismic lines and cutlines	Used plot for passive landbase yield strata

Additional Deletions

Several additional plots were removed from the final dataset used to fit the FMP natural stand yield curves.

- 56 plots that were older than 200 years at the last measurement were not included in the yield curve fitting since the yield curve was fit between stand age 0 and 200 years;
- 6 plots had a negative calculated stand age and were removed from the curve fitting; and
- 2 plots with volumes larger than 500 m^3 were removed from FMP yield stratum 5, coniferous – deciduous mixtures with white spruce, black spruce, or balsam fir leading species.

Table 3-3 presents the 64 plots that were deleted, the FMP stratum, and the reason for their deletions. Both coniferous and deciduous volumes were deleted.

Table 3-3. Deleted plots by FMP yield stratum and reason for deletion.

FMP Yield Stratum	Plot ID	Age	Merchantable Volume (m^3/ha) Coniferous	Deciduous	Total	Reason for Deletion
7	1-4010149-F-810	209	178.8	4.6	183.4	Stand age greater than 200 years
7	1-4010150-F-810	209	142.0	5.8	147.8	Stand age greater than 200 years
7	1-4010341-F-810	212	223.9	0.0	223.9	Stand age greater than 200 years
7	1-4010342-F-810	212	447.6	0.0	447.6	Stand age greater than 200 years
7	1-5010019-F-810	212	240.2	0.0	240.2	Stand age greater than 200 years
7	1-5010020-F-810	212	275.5	0.0	275.5	Stand age greater than 200 years
7	1-5010049-F-810	209	208.7	0.0	208.7	Stand age greater than 200 years
7	1-5010164-F-810	300	297.8	0.0	297.8	Stand age greater than 200 years
7	1-5010266-F-810	262	158.5	0.0	158.5	Stand age greater than 200 years
7	1-5010267-F-810	262	191.4	0.0	191.4	Stand age greater than 200 years
7	1-5010345-F-810	249	85.5	0.0	85.5	Stand age greater than 200 years
7	1-5010346-F-810	249	306.3	0.0	306.3	Stand age greater than 200 years
7	1-5010350-F-810	212	124.0	0.0	124.0	Stand age greater than 200 years
7	1-5010449-F-810	212	72.0	0.0	72.0	Stand age greater than 200 years
7	1-5010450-F-810	209	97.2	0.0	97.2	Stand age greater than 200 years
7	1-5010452-F-810	260	205.7	0.0	205.7	Stand age greater than 200 years
7	1-5010453-F-810	260	258.1	0.0	258.1	Stand age greater than 200 years
7	1-5010454-F-810	260	248.2	0.0	248.2	Stand age greater than 200 years
7	1-5010459-F-810	263	142.1	0.0	142.1	Stand age greater than 200 years
7	1-5010460-F-810	263	179.6	0.0	179.6	Stand age greater than 200 years
7	1-5010462-F-810	263	174.7	0.0	174.7	Stand age greater than 200 years
10	1-5010165-F-810	300	163.1	0.0	163.1	Stand age greater than 200 years
10	1-5010556-F-810	210	106.6	0.0	106.6	Stand age greater than 200 years
11	1-5010023-F-810	212	274.7	0.0	274.7	Stand age greater than 200 years
11	1-5010024-F-810	212	322.5	0.0	322.5	Stand age greater than 200 years
11	1-5010025-F-810	212	440.7	0.0	440.7	Stand age greater than 200 years
11	1-5010026-F-810	212	414.2	0.0	414.2	Stand age greater than 200 years
11	1-5010050-F-810	231	91.0	0.0	91.0	Stand age greater than 200 years
11	1-5010051-F-810	231	132.5	0.0	132.5	Stand age greater than 200 years
11	1-5010052-F-810	231	293.3	0.0	293.3	Stand age greater than 200 years
11	1-5010077-F-810	262	329.4	0.0	329.4	Stand age greater than 200 years
11	1-5010349-F-810	209	264.2	0.0	264.2	Stand age greater than 200 years
13	1-5010078-F-810	262	266.2	0.0	266.2	Stand age greater than 200 years
27	1-2010523-F-810	219	0.0	0.0	0.0	Stand age greater than 200 years
27	1-2010524-F-810	219	1.4	0.0	1.4	Stand age greater than 200 years
27	1-4010198-F-810	201	85.4	0.0	85.4	Stand age greater than 200 years
27	1-4010212-F-810	232	160.8	0.0	160.8	Stand age greater than 200 years
27	1-4010213-F-810	232	372.9	17.9	390.7	Stand age greater than 200 years
27	1-5010159-F-810	212	3.9	0.0	3.9	Stand age greater than 200 years
27	1-5010161-F-810	262	154.1	0.0	154.1	Stand age greater than 200 years
27	1-5010162-F-810	210	15.9	0.0	15.9	Stand age greater than 200 years
27	1-5010260-F-810	262	147.7	0.0	147.7	Stand age greater than 200 years
27	1-5010261-F-810	262	122.6	0.0	122.6	Stand age greater than 200 years
27	1-5010263-F-810	227	110.3	0.0	110.3	Stand age greater than 200 years
27	1-5010264-F-810	256	150.2	0.0	150.2	Stand age greater than 200 years
27	1-5010265-F-810	263	119.7	0.0	119.7	Stand age greater than 200 years
27	1-5010270-F-810	262	84.5	0.0	84.5	Stand age greater than 200 years
27	1-5010352-F-810	212	206.0	0.0	206.0	Stand age greater than 200 years
27	1-5010367-F-810	232	94.5	0.0	94.5	Stand age greater than 200 years
27	1-5010368-F-810	232	24.3	0.0	24.3	Stand age greater than 200 years
27	1-5010369-F-810	232	103.3	0.0	103.3	Stand age greater than 200 years
27	1-5010370-F-810	232	24.5	0.0	24.5	Stand age greater than 200 years
27	1-5010455-F-810	210	187.5	0.0	187.5	Stand age greater than 200 years
27	1-5010456-F-810	210	266.1	0.0	266.1	Stand age greater than 200 years
27	1-5010457-F-810	260	181.3	0.0	181.3	Stand age greater than 200 years
27	1-5010458-F-810	260	193.6	0.0	193.6	Stand age greater than 200 years
15	1-5010713-F-810	< 0	91.6	0.0	91.6	Stand age smaller than 0 years
16	1-2010121-F-810	< 0	143.0	0.0	143.0	Stand age smaller than 0 years
16	1-4010252-F-810	< 0	71.4	0.0	71.4	Stand age smaller than 0 years
26	1-2010355-F-810	< 0	101.5	23.9	125.4	Stand age smaller than 0 years
27	1-3010558-F-810	< 0	78.6	0.0	78.6	Stand age smaller than 0 years
27	1-3010559-F-810	< 0	2.5	0.0	2.5	Stand age smaller than 0 years
5	1-2010072-F-810	120	552.0	0.0	552.0	Con. volume greater than 500 m^3
5	1-2010725-F-810	125	519.9	54.1	574.0	Con. volume greater than 500 m^3

PGS PSPs Summary

Table 3-4 presents the distribution of eligible and ineligible fire origin PSPs by FMP yield stratum. Eligible plots are those used for curve fitting. Influential points were considered the 64 plots from Table 3-3, plots with negative ages, plots with ages greater than 200 years, and plots with high volumes for a particular stratum.

Table 3-4. Number of eligible, ineligible, and influential points for fire origin permanent sample plots by FMP yield stratum.

Landbase	FMP Yield Stratum	FMP Yield Curve	Number of Plots			
			Eligible	Influential	Ineligible	Total
Contributing	1	E_B1_XL	34	-	-	34
	2	E_B1_XH	104	-	-	104
	3	E_B2_XX	54	-	-	54
	4	E_B3_XX	34	-	-	34
	5	E_B4_XX	13	2	-	15
	6	E_B5_XX	44	-	-	44
	7	E_B7_MX	76	21	-	97
	8	E_B7_GL	35	-	-	35
	9	E_B7_GH	18	-	-	18
	10	E_B8_ML	69	2	-	71
	11	E_B8_MH	345	9	-	354
	12	E_B8_GL	70	-	-	70
	13	E_B8_GH	311	1	-	312
	14	E_B9_XX	25	-	-	25
	15	E_UN_DM	49	1	-	50
	16	E_UN_CX	173	2	-	175
Passive	26	E_PAS_D	63	1	-	64
	27	E_PAS_C	702	25	-	727
Unassigned			-	-	836	836
Total			2,219	64	836	3,119

3.3.2 HWP Performance Survey Data

Attribute Assignment

The 10 m^2 TSPs collected in each opening did not have spatial locations collected at the time of survey. Each opening was sampled using a variable number of TSPs proportional to the area of the opening. In the landbase classification process the harvested blocks were identified and attributes were assigned to each polygon. A detailed description of the process of attribute assignment to cutblocks was made in "2009 MPB Forest Management Plan Technical Report #1 – Landbase classification".

The link between the polygon attributes and the TSPs surveyed in the opening was based on the ARIS unique opening number.

The TSPs were compiled at the opening level and the opening compiled characteristics were used as input in GYPSY (SRD 2009) to create yield projections used for the managed yield

curves. Each opening was assigned the FMP Yield Stratum and the stand age from the attached polygon attributes.

Block Deletions

Blocks were eligible for managed stand yield curves development if they were:

1. Within the contributing landbase.

If the polygons were not part of the contributing landbase, the performance survey blocks were not included in the dataset used to create the managed yield curves. No additional deletions were made to this dataset.

Performance Survey Blocks Summary

Since performance survey data were mainly distributed in several yield strata, managed yield curves were developed only for four FMP yield strata: 21, 22, 23, and 24 (Table 1-1). In these yield strata the number of blocks was sufficiently large to permit a managed yield curve to be developed. Table 3-5 presents the distribution of blocks by FMP Yield Strata for which managed yield curves were developed.

Table 3-5. Distribution of blocks by FMP Yield Strata.

Landbase	FMP Yield Stratum	FMP Yield Curve	Number of Blocks
Contributing	21	G_B4_XX	10
	22	G_B5_XX	16
	23	G_B7_XX	103
	24	G_B8_XX	450
Unassigned			7
Other Strata			10
Passive			6
Total			602

3.4 Age Assignment

3.4.1 HWP PSP Data

Stand age for the defining layer at the reference year (2008) was also already appended to plot data from linking plot locations to landbase polygons.

Stand age for each plot at the year of measurement was calculated as stand age in 2008 (the reference year) minus the number of years between 2008 and the year of the last re-measurement:

$$Age_{Obs} = Age_{2008} - (2008 - MmtYear)$$

Where : Age_{Obs} = stand age at year of last re-measurement

Age_{2008} = stand age in 2008

MmtYear = year of the last re-measurement

3.4.2 Performance Survey Data

Stand age was assigned to each block when the polygon attributes were appended to the block data from linking the landbase attributes with the surveyed block data.

The stand age for performance survey blocks was not used in the managed yield curves' development. The stand age was only used to calculate regeneration lag for the managed yield curves as described in section 6.3.

3.5 Volume and Data Compilation

3.5.1 Overview

The PGS PSPs and the performance survey data were compiled separately for different uses. The PGS PSP data were used to create volume – age yield curves, while the performance survey data were compiled to be input in GYPSY. However, two species, tamarack larch and white birch, were considered non-merchantable in the HWP FMA area and were removed from both datasets' compilation. Table 3-6 presents the merchantable and non-merchantable tree species for Hinton Wood Products.

Table 3-6. Merchantable and non-merchantable tree species on HWP FMA area.

Coniferous Species		Deciduous Species	
Merchantable	**Non-Merchantable**	**Merchantable**	**Non-Merchantable**
Black Spruce (SB)	Tamarack Larch (LT)	Trembling Aspen (AW)	White Birch (BW)
Engelmann Spruce (SE)		Balsam Poplar (PB)	
White Spruce (SW)			
Lodgepole Pine (PL)			
Balsam Fir (FB)			
Alpine Fir (FA)			
Douglas Fir (FD)			

3.5.2 PGS Data Volume Compilation

Each eligible PGS permanent sample plot was used to compile gross merchantable stand volume estimates. Gross merchantable volume indicates that no deduction for cull was applied to the volume compilation.

For each sample plot, both coniferous and deciduous volumes were also compiled to different utilization standards presented in Table 3-7. The first utilization (Utilization 1) was based for coniferous species on the height of the tree, a 15.0 cm stump height, a minimum 15.0 cm diameter outside bark at stump height, an 11.0 cm top diameter inside bark, and a minimum log length of 3.76 m. For deciduous species the first utilization is a cut to length with a target length

of 2.56 m and minimum log length of 1.78 m. The minimum diameter outside bark was 15.0 cm at 15.0 cm stump height and the minimum top diameter inside bark was 10 cm.

The second utilization (Utilization 2) for coniferous was the same as the first utilization with the exception of the top diameter inside bark that was changed to 13.0 cm. For deciduous the standards were the same as the first utilization with the exception of the minimum log length set to 2.56 m.

The third utilization for coniferous (Utilization 3) was cut to length with a 15.0 cm diameter at a stump height of 15.0 cm, a top diameter inside bark of 13.0 cm and the following allowable lengths: 4.98 m, 4.37 m, and 3.76 m. The tree was segmented, if possible, into logs of 4.98 m, with the last piece of 4.98 m. If the last piece was shorter then 4.98 m then a log length of 4.37 m was taken. If 4.37 m was not available then a log of 3.76 m was taken (Table 3-6). The deciduous merchantability criteria for utilization 3 are the same as the criteria for utilization 1 but only aspen is included in the compilation.

The merchantability criteria for the deciduous fourth utilization (Utilization 4) are the same as for utilization 2, however only aspen is included in the compilation: a minimum diameter of 15.0 cm at a stump height of 15.0 cm, a top diameter of 10.0 cm and a minimum log length of 2.56 m. Table 3-7 summarizes the utilization criteria for coniferous, while Table 3-8 summarizes the utilization criteria for deciduous.

Table 3-7. Coniferous minimum utilization standards.

Utilization	Coniferous		
Characteristic	UT1	UT2	UT3[1]
Stump height	15.0 cm	15.0 cm	15.0 cm
Minimum log length	3.76 m	3.76 m	3.76 m
Cut to length	Tree Lengh	Tree Length	4.98/ 4.37/3.76 m
Minimum stump diameter outside bark	15.0 cm	15.0 cm	15.0 cm
Minimum top diameter inside bark	11.0 cm	13.0 cm	13.0 cm

[1] First log length and all subsequent are 4.98 m , if not available then 4.37 m, if not available then 3.76 m

Table 3-8. Deciduous minimum utilization standards.

Utilization	Deciduous			
Characteristic	UT1	UT2	UT3[1] (Aw only)	UT4[1] (Aw only)
Stump height	15.0 cm	15.0 cm	15.0 cm	15.0 cm
Minimum log length	1.78 m	2.56 m	1.78 m	2.56 m
Cut to length	2.56 m	2.56 m	2.56 m	2.56 m
Minimum stump diameter outside bark	15.0 cm	15.0 cm	15.0 cm	15.0 cm
Minimum top diameter inside bark	10.0 cm	10.0 cm	10.0 cm	10.0 cm

[1] Only aspen was used for deciduous compilation

Dead trees were removed from the dataset used to compile volumes. Trees with damaged conditions were kept in the dataset and their volumes were compiled and added to plot volume.

Calculations involved the iterative process presented in "Ecologically Based Individual Tree Volume Estimation For Major Alberta Tree Species" (Huang 1994b). Trees not meeting utilization limits were not included in the compilation.

For coniferous volume compilation for utilization 1 and utilization 2, the merchantable length of each tree was divided into 30 sections of equal length. The merchantable length was calculated as the bole length from stump height to the minimum diameter inside bark. Diameters were determined for the top, middle and bottom of each section using Kozak's variable exponent taper equation (Kozak 1988) and ecoregion/tree species-specific coefficients for the province of Alberta (Huang 1994a). The equation was:

$$dib = a_0 DBH^{a_1} * a_2^{DBH} * X^{b_1 Z^2 + b_2 \ln(Z+0.001) + b_3 \sqrt{Z} + b_4 e^Z + b_5 \left(\frac{DBH}{H}\right)} \qquad \text{(eq. 1)}$$

Where: dib = stem diameter inside bark (cm) at height h (m)

DBH = diameter at breast height outside bark (cm)

H = total tree height[2] (m)

$$X = \frac{1 - \sqrt{h/H}}{1 - \sqrt{p}}$$

$Z = h/H$

h = stem height (m)

p = relative height of inflection point from the ground

$a_0, a_1, a_2, b_1, b_2, b_3, b_4, b_5$ = coefficients

For each tree, volumes for each section were calculated using Newton's equation (Husch *et al.* 1982):

$$MV = \frac{ML/10}{6} * (0.00007854) * (d_0^2 + 4d_1^2 + d_2^2) \qquad \text{(eq. 2)}$$

Where: MV = merchantable volume (m^3)

ML = merchantable length (m)

[2] Recorded total height was used for volume calculations. Where heights were missing, nonlinear locally calibrated DBH – Height equations were used to calculate missing values (Huang 2009).

d_0 = diameter at bottom of section (cm)

d_1 = diameter at middle of section (cm)

d_2 = diameter at top of section (cm)

For the cut to length utilizations that include all utilizations for deciduous trees and utilization 3 for coniferous trees, the merchantable length and the minimum top diameter inside bark were calculated differently.

For deciduous trees, the bole was segmented into logs of 2.56 m with the last log of 2.56 m or 1.78 m depending on utilization. Using the Kozak's taper equation, the top diameter inside bark of the last log was calculated for each tree. The calculated top diameter became the minimum top diameter inside bark and the merchantable length for that tree and the cut to length utilization became the length from stump height (15.0 cm) to the calculated top diameter inside bark.

For the coniferous trees, the bole was segmented into logs of 4.98 m with the last log of 4.98 m. If 4.98 m was not available as the last log then 4.37 m was taken and if 4.37 m was not available then a log of 3.76 m was taken. Using the same approach as for deciduous trees, a top diameter inside bark was calculated for the last log of each coniferous tree. Merchantable length was calculated as the bole length from stump height (15.0 cm) to the newly calculated top diameter inside bark.

Once the merchantable length and the minimum top diameter inside bark were recalculated, each individual tree was divided into 30 sections. Diameters were determined for the top, middle and bottom of each section using Kozak's variable exponent taper equation (Kozak 1988) and ecoregion/tree species-specific coefficients for the province of Alberta (Huang 1994a). For each tree, volumes for each section were calculated using Newton's equation (Husch et al. 1982).

Gross merchantable tree volumes were then determined by summing individual section volumes for each tree. Tree volumes were converted to gross merchantable stand volume (volume per hectare) using the appropriate plot size expansion factor. Plots with no merchantable trees were assigned zero gross merchantable volume (0 m^3/ha) and retained within the dataset.

For each plot and each utilization, the total coniferous gross merchantable stand volume was calculated by summing the m^3/ha estimates for each live coniferous tree within the plot. The total deciduous gross merchantable stand volume was calculated by summing the m^3/ha estimates for each live deciduous tree within the plot.

For deciduous utilizations 3 and 4 only the aspen trees were summarized to compile the deciduous volume in m^3/ha.

3.5.3 Performance Survey Data Compilation

The performance survey data were compiled at the opening level to obtain input variables for GYPSY. To obtain growth projections, GYPSY requires several input variables: total age, site index, density, percent stocking. Each of these variables was compiled for each opening using the TSP data collected during performance surveys from 2006, 2007, and 2008.

Total Age

Mean total age was calculated using only four individual species: lodgepole pine, trembling aspen, white spruce, and black spruce. The total age information collected in the detailed plots was used to calculate the mean total age by species.

Site Index

Site index was calculated using only information from four individual species: lodgepole pine, trembling aspen, white spruce, and black spruce. The trees selected as top height trees in the detailed plots were used to calculate the site index. The site index equations from the GYPSY version 1.0 released in December 2009 were used to calculate individual site index.

An individual site index was calculated for each tree if the measured total age was greater or equal to 10 years. All trees younger than 10 years were excluded from site index compilation. The individual site indices were averaged by species and opening to produce a mean site index for the opening. The mean site index by opening was used as input for GYPSY projections.

Density

Density was calculated using the tree counts in the basic plot. Both seedling and advanced trees were included in the density compilation. Lodgepole pine counts marked as affected by western gall rust (WGR = 'Y') were removed from the density compilation. Tamarack larch and white birch counts were also removed from the density calculations since both species were considered non merchantable. The species were grouped into four species groups and the density was calculated for each species group separately. Aspen species group (AW) included trembling aspen and balsam poplar, pine (PL) species group included lodgepole pine, white spruce (SW) species group included white spruce, balsam fir, and alpine fir, while black spruce (SB) species group included black spruce.

For the aspen species group only counts of trees greater or equal to 1.3 m were included in the density compilation. For the coniferous species groups (SW, SB, PL) all trees greater than 0.3 m were included in the compilation.

However, there are several exceptions to the rule of including all coniferous trees greater than 0.3 m in the density compilation. Based on the available guidelines at the time, the 2007 performance survey data were collected based on two different protocols: "Breast Height" protocol or "Stump Height" protocol. In the breast height protocol all trees, coniferous and deciduous, were recorded (counted) if they were greater than 1.3 m in height, while in the stump height protocols all trees greater than 0.3 m were counted. In the 2007 dataset out of 158

openings surveyed 115 were sampled using a breast height protocol and 43 openings were sampled using a stump height protocol.

As a consequence of the sampling protocols, the input coniferous density will be underestimated in some 115 openings. There is no difference in the input deciduous density.

The first step in the density calculations was to sum all the counts from all plots within the opening by species group. A second step was to expand the counts to per hectare values by multiplying each sum with 1000. Finally, the density by species group was calculated as the ratio between per hectare expanded sum counts and the total number of plots within the opening.

Percent stocking

A plot is considered stocked with a certain species group if the species group has a count greater than 0 in that plot. Percent stocking for a species group was calculated as the ratio between the number of stocked plots with the species group and the total number of plots within the opening.

Additional Issues

Some modifications of data inputs were required for species groups that did not have a calculated total age or a calculated site index. Modifications were also required when the site index was missing or calculated with less than 3 observations or when the species group density was smaller than 55 stems per hectare.

- If the total age for a particular species group was missing (no top height trees sampled in the detailed plots) the following procedure was used to calculate the age for the missing species group.
    - The regeneration lag by species group and opening was calculated as the difference between the block age and the species group's mean total age;
    - The mean regeneration lag by species group and FMP Yield Stratum was calculated; and
    - The species group missing total age was calculated as the difference between the block age and the species group mean regeneration lag.
- If the number of observations used to calculate site index was smaller than 3 or if site index was missing, the mean site index by FMP Yield Stratum was used. If the mean FMP Yield Stratum site index was missing, then the mean site index for the entire dataset was used.
- If the density for a particular species was smaller than 55 stems per hectare then the density was set to 55 stems per hectare. GYPSY would not run if the density for a particular species group was smaller than 55 stems per hectare.

Utilization Criteria

The managed yield curves were created using the utilization criteria presented in Table 3-9 for coniferous species and in Table 3-10 for deciduous species.

Table 3-9. Minimum utilization standards used for coniferous species in the managed yield curves.

Utilization Characteristic	Conifeorus		
	UT1	UT2	UT3
Stump height	15.0 cm	15.0 cm	15.0 cm
Minimum log length	3.66 m	3.66 m	3.76 m
Cut to length	Tree Length	Tree Length	Cut to Length
Minimum stump diameter outside bark	15.0 cm	15.0 cm	15.0 cm
Minimum top diameter inside bark	11.0 cm	13.0 cm	13.0 cm

Table 3-10. Minimum utilization standards used for deciduous species in the managed yield curves.

Utilization Characteristic	Deciduous
	UT1
Stump height	15.0 cm
Minimum log length	3.66 m
Cut to length	Tree Length
Minimum stump diameter outside bark	15.0 cm
Minimum top diameter inside bark	10.0 cm

4. Baseline Yield Curves

4.1 Overview

Natural stand empirical yield curves were developed for FMP yield strata 1 to 16 of the contributing landbase. Coniferous and deciduous volumes were fit separately as a function of stand age using nonlinear regression techniques. One set of yield curves was created for each utilization criteria. These yield curves represent the base natural yield curves for the contributing landbase of Hinton Wood Products.

Managed yield curves were created using GYPSY projections and performance survey data coming from post-harvest stands. Due to the limited distribution of data across the FMP yield strata, managed yield curves were only created for managed FMP yield strata 21, 22, 23, and 24. For the rest of the FMP managed yield strata: 17, 18, 19, 20, and 25, the natural stand empirical yield curves will be used (i.e. stand will regenerate back to itself).

The passive landbase was split in two yield strata, FMP yield strata 26 and 27 (Table 1-1). A natural base yield curve was developed for each of the passive landbase's yield strata. Coniferous and deciduous volumes were fit separately as a function of stand age using nonlinear regression techniques. One set of curves was created for each utilization criteria. These yield curves represent the base natural yield curves for the passive landbase of Hinton Wood Products.

Area-weighted composite yield curves were also developed for natural stands. Six area-weighted curves were developed for natural stands: four to represent each broad cover group (D, DC, CD, and C), one overall composite for the coniferous landbase (DC, CD and C combined), and one overall composite for the whole landbase (D, DC, CD and C combined). Curves were based on coniferous and deciduous utilization 1 natural stand yield curves, weighted by the proportion of area of natural stands that each FMP Yield Stratum currently represents within the contributing landbase. FMP Yield Strata 15 and 16 were not included in the composite yield curves since stratum 15 amalgamates broad cover groups D, DC, and CD.

A full list of baseline yield curves is provided in Table 4-1.

Table 4-1. Baseline FMP yield curves for both contributing and passive landbase.

FMP Yield Stratum	Natural Stands Yield Curves	Managed Stands Yield Curves
1	E_B1_XL	
2	E_B1_XH	
3	E_B2_XX	
4	E_B3_XX	
5	E_B4_XX	
6	E_B5_XX	
7	E_B7_MX	
8	E_B7_GL	
9	E_B7_GH	
10	E_B8_ML	
11	E_B8_MH	
12	E_B8_GL	
13	E_B8_GH	
14	E_B9_XX	
15	E_UN_DM	
16	E_UN_CX	
17		E_B1_XL[1]
18		E_B1_XH[1]
19		E_B2_XX[1]
20		E_B3_XX[1]
21		G_B4_XX
22		G_B5_XX
23		G_B7_XX
24		G_B8_XX
25		E_B9_XX[1]
26	E_PAS_D[2]	E_PAS_D[2]
27	E_PAS_C[2]	E_PAS_C[2]
COMPOSITE	ALL_NAT_UT1	

[1] Yield curves developed for the natural stands (fire origin) were used

[2] A single yield curve was developed for both natural and managed stands in each yield stratum

4.2 Natural Stand Yield Curves

4.2.1 Contributing Landbase Yield Curve Development

The PGS PSP dataset was used to fit natural stand yield curves for the contributing landbase (see Section 3 for information on data preparation). Baseline natural stand yield curves for the contributing landbase were fit for each of the coniferous and deciduous utilizations using one of two models:

2-parameter model (2P):

$$Volume = a(Age)^{b} e^{(-a*Age)}$$

2-parameter model with constant (2P+k):

$$Volume = a(Age)^{b} e^{\left(-Age/k\right)}$$

Where: *Volume* = gross merchantable stand volume (m^3/ha)

Age = stand age at year of measurement

a, b, k = coefficients

Conifer and deciduous volumes were modelled using one of the two equations. Where the constant k was required to achieve biologically reasonable curve form, values between 10 and 100 were tested to achieve the most biologically reasonable fit that also fit to the data. Total volume was calculated by summing conifer and deciduous volume.

The deciduous curve for utilizations 3 and 4 was created by fitting only the aspen volumes to stand age using non-linear regression techniques.

Model selection was qualitatively based on goodness-of-fit. Sample size, model form, coefficients and fit statistics (R^2) by yield curve are presented by utilization in Table 4-2 to Table 4-5. Yield curves for the contributing landbase using all four utilizations are presented in Appendix I.

Table 4-2. Model form and model coefficients, baseline natural stand yield curves for coniferous and deciduous UT1.

FMP Yield Stratum	FMP Yield Curve	Number of Observations	Species Type	Model Form	Model Coefficients a	b	k	R^2
1	E_B1_XL	34	Coniferous	2P	0.01878708	2.25777036		0.12
			Deciduous	2P+k	0.00003393	3.86655666	40	0.42
2	E_B1_XH	104	Coniferous	2P	0.01076884	2.14961833		0.11
			Deciduous	2P+k	0.00036483	3.43722564	40	0.29
3	E_B2_XX	54	Coniferous	2P	0.02206213	2.33402026		0.04
			Deciduous	2P+k	0.00000000	7.29309946	20	0.20
4	E_B3_XX	34	Coniferous	2P	0.02052723	2.33972955		-0.02
			Deciduous	2P+k	0.00019631	3.64704336	30	-0.02
5	E_B4_XX	13	Coniferous	2P+k	0.00000000	7.28751369	20	0.36
			Deciduous	2P	0.03082437	2.33884371		0.25
6	E_B5_XX	44	Coniferous	2P+k	0.00046362	3.24136809	50	0.31
			Deciduous	2P+k	0.00000000	6.26379731	20	0.11
7	E_B7_MX	76	Coniferous	2P	0.01654541	2.40773677		0.28
			Deciduous	2P	0.01437313	1.51585730		-0.01
8	E_B7_GL	35	Coniferous	2P	0.01672060	2.38190934		0.15
			Deciduous	2P	0.04753758	2.56889600		0.09
9	E_B7_GH	18	Coniferous	2P	0.01676161	2.42678290		0.51
			Deciduous	2P	0.02787761	2.18907157		0.00
10	E_B8_ML	69	Coniferous	2P	0.01576481	2.29519937		0.19
			Deciduous	2P	0.00992382	1.53762874		0.02
11	E_B8_MH	345	Coniferous	2P	0.01175600	2.33335514		0.31
			Deciduous	2P	0.00685403	1.40519746		0.01
12	E_B8_GL	70	Coniferous	2P	0.01611310	2.39287615		0.38
			Deciduous	2P+k	0.00000000	7.52811708	20	0.08
13	E_B8_GH	311	Coniferous	2P	0.01159207	2.40493502		0.42
			Deciduous	2P+k	0.00000000	7.34279090	20	0.04
14	E_B9_XX	25	Coniferous	2P	0.01234387	2.24980882		0.18
			Deciduous	2P+k	0.00000000	7.62824622	20	0.08
15	E_UN_DM	49	Coniferous	2P	0.05066081	2.59009609		-0.04
			Deciduous	2P+k	0.00044357	3.53382002	30	0.29
16	E_UN_CX	173	Coniferous	2P	0.01938194	2.45518317		0.19
			Deciduous	2P+k	0.04557356	2.11729679	30	0.03
Total		1,454						

Table 4-3. Model form and model coefficients, baseline natural stand yield curves for coniferous and deciduous UT2.

FMP Yield Stratum	FMP Yield Curve	Number of Observations	Species Type	Model Form	Model Coefficients a	b	k	R^2
1	E_B1_XL	34	Coniferous	2P	0.01792678	2.23126064		0.13
			Deciduous	2P+k	0.00002822	3.90279115	40	0.43
2	E_B1_XH	104	Coniferous	2P	0.00996556	2.13632374		0.11
			Deciduous	2P+k	0.00030698	3.47109786	40	0.30
3	E_B2_XX	54	Coniferous	2P	0.01965756	2.28940267		0.05
			Deciduous	2P+k	0.00000000	7.32103777	20	0.20
4	E_B3_XX	34	Coniferous	2P	0.02045628	2.32594351		-0.02
			Deciduous	2P+k	0.00017169	3.67313867	30	-0.02
5	E_B4_XX	13	Coniferous	2P+k	0.00000000	7.33636299	20	0.38
			Deciduous	2P	0.03055922	2.32965821		0.25
6	E_B5_XX	44	Coniferous	2P+k	0.00013381	3.49252756	50	0.33
			Deciduous	2P+k	0.00000000	6.30305809	20	0.11
7	E_B7_MX	76	Coniferous	2P	0.01609151	2.38280786		0.29
			Deciduous	2P	0.01364914	1.50030524		-0.01
8	E_B7_GL	35	Coniferous	2P	0.01632969	2.36534277		0.16
			Deciduous	2P	0.04734957	2.56120700		0.09
9	E_B7_GH	18	Coniferous	2P	0.01615681	2.40603711		0.49
			Deciduous	2P	0.02739995	2.18032205		0.00
10	E_B8_ML	69	Coniferous	2P	0.01371037	2.23339930		0.18
			Deciduous	2P	0.00955183	1.53186835		0.02
11	E_B8_MH	345	Coniferous	2P+k	0.00009895	3.50000739	50	0.29
			Deciduous	2P	0.00670905	1.40076612		0.01
12	E_B8_GL	70	Coniferous	2P	0.01518839	2.35898357		0.36
			Deciduous	2P+k	0.00000000	7.53806748	20	0.08
13	E_B8_GH	311	Coniferous	2P+k	0.00014428	3.51208960	50	0.41
			Deciduous	2P+k	0.00000000	7.34907970	20	0.04
14	E_B9_XX	25	Coniferous	2P	0.01035128	2.19137471		0.22
			Deciduous	2P+k	0.00000000	7.62716573	20	0.08
15	E_UN_DM	49	Coniferous	2P	0.04878980	2.55648427		-0.04
			Deciduous	2P+k	0.00041172	3.54693612	30	0.29
16	E_UN_CX	173	Coniferous	2P	0.01870209	2.42573353		0.18
			Deciduous	2P+k	0.04364962	2.12374990	30	0.02
Total		1,454						

Table 4-4. Model form and model coefficients, baseline natural stand yield curves for coniferous and deciduous UT3.

Stratum Number	FMP Yield Curve	Number of Observations	Species Type	Model Form	Model Coefficients			R^2
					a	b	k	
1	E_B1_XL	34	Coniferous	2P	0.01749499	2.21228791		0.13
			Deciduous	2P+k	0.00000466	4.24945017	40	0.43
2	E_B1_XH	104	Coniferous	2P	0.00962977	2.12700245		0.11
			Deciduous	2P+k	0.00006298	3.78496652	40	0.28
3	E_B2_XX	54	Coniferous	2P	0.01852322	2.26640933		0.06
			Deciduous	2P+k	0.00000000	7.44355079	20	0.15
4	E_B3_XX	34	Coniferous	2P	0.02019984	2.31389421		-0.02
			Deciduous	2P+k	0.00103776	3.19276013	30	-0.04
5	E_B4_XX	13	Coniferous	2P+k	0.00000000	7.36252620	20	0.39
			Deciduous	2P	0.03027134	2.30511621		0.21
6	E_B5_XX	44	Coniferous	2P+k	0.00009472	3.55520576	50	0.34
			Deciduous	2P+k	0.00000000	7.06867175	20	0.18
7	E_B7_MX	76	Coniferous	2P	0.01573144	2.36387606		0.30
			Deciduous	2P	0.01069433	1.32906671		0.00
8	E_B7_GL	35	Coniferous	2P	0.01623905	2.35457892		0.16
			Deciduous	2P	0.05009990	2.54551472		0.10
9	E_B7_GH	18	Coniferous	2P	0.01571637	2.39023393		0.48
			Deciduous	2P	0.03396610	2.17500460		0.00
10	E_B8_ML	69	Coniferous	2P	0.01320846	2.20961700		0.18
			Deciduous	2P	0.00366270	1.55847485		0.03
11	E_B8_MH	345	Coniferous	2P+k	0.00007454	3.53904892	50	0.29
			Deciduous	2P	0.00682604	1.33792166		0.01
12	E_B8_GL	70	Coniferous	2P	0.01485776	2.34080204		0.35
			Deciduous	2P+k	0.00000000	8.86325487	20	0.02
13	E_B8_GH	311	Coniferous	2P+k	0.00010574	3.56313704	50	0.40
			Deciduous	2P+k	0.00000000	7.47541245	20	0.04
14	E_B9_XX	25	Coniferous	2P	0.01019692	2.17034432		0.22
			Deciduous	2P+k	0.00000000	7.61146461	20	0.08
15	E_UN_DM	49	Coniferous	2P	0.04715050	2.52863612		-0.03
			Deciduous	2P+k	0.00006381	3.95564735	30	0.30
16	E_UN_CX	173	Coniferous	2P	0.01853826	2.41001392		0.18
			Deciduous	2P+k	0.09960386	1.84046226	30	0.02
Total		1,454						

Table 4-5. Model form and model coefficients, baseline natural stand yield curves for coniferous UT3 and deciduous UT4.

Stratum Number	FMP Yield Curve	Number of Observations	Species Type	Model Form	Model Coefficients a	b	k	R^2
1	E_B1_XL	34	Coniferous	2P	0.01749499	2.21228791		0.13
			Deciduous	2P+k	0.00000384	4.28763316	40	0.44
2	E_B1_XH	104	Coniferous	2P	0.00962977	2.12700245		0.11
			Deciduous	2P+k	0.00005295	3.81900116	40	0.28
3	E_B2_XX	54	Coniferous	2P	0.01852322	2.26640933		0.06
			Deciduous	2P+k	0.00000000	7.47653105	20	0.15
4	E_B3_XX	34	Coniferous	2P	0.02019984	2.31389421		-0.02
			Deciduous	2P+k	0.00091227	3.21820837	30	-0.04
5	E_B4_XX	13	Coniferous	2P+k	0.00000000	7.36252620	20	0.39
			Deciduous	2P	0.03013422	2.29846008		0.21
6	E_B5_XX	44	Coniferous	2P+k	0.00009472	3.55520576	50	0.34
			Deciduous	2P+k	0.00000000	7.09303204	20	0.18
7	E_B7_MX	76	Coniferous	2P	0.01573144	2.36387606		0.30
			Deciduous	2P	0.01060670	1.32382001		0.00
8	E_B7_GL	35	Coniferous	2P	0.01623905	2.35457892		0.16
			Deciduous	2P	0.05004839	2.54047031		0.10
9	E_B7_GH	18	Coniferous	2P	0.01571637	2.39023393		0.48
			Deciduous	2P	0.03282526	2.15902409		0.00
10	E_B8_ML	69	Coniferous	2P	0.01320846	2.20961700		0.18
			Deciduous	2P	0.00360470	1.55670615		0.03
11	E_B8_MH	345	Coniferous	2P+k	0.00007454	3.53904892	50	0.29
			Deciduous	2P	0.00671342	1.33324121		0.01
12	E_B8_GL	70	Coniferous	2P	0.01485776	2.34080204		0.35
			Deciduous	2P+k	0.00000000	8.83792403	20	0.02
13	E_B8_GH	311	Coniferous	2P+k	0.00010574	3.56313704	50	0.40
			Deciduous	2P+k	0.00000000	7.47849893	20	0.04
14	E_B9_XX	25	Coniferous	2P	0.01019692	2.17034432		0.22
			Deciduous	2P+k	0.00000000	7.61016545	20	0.08
15	E_UN_DM	49	Coniferous	2P	0.04715050	2.52863612		-0.03
			Deciduous	2P+k	0.00006112	3.96156995	30	0.30
16	E_UN_CX	173	Coniferous	2P	0.01853826	2.41001392		0.18
			Deciduous	2P+k	0.09535128	1.84743556	30	0.02
Total		1,454						

4.2.2 Passive Landbase Yield Curve Development

Yield curves for the passive landbase were also developed. The passive landbase was split into two yield strata as shown in Table 1-1. Using the PGS PSPs from the passive landbase two yield curves were created for the defined yield strata. Yield curves for the passive landbase will be used in the TSA to obtain merchantable volumes by species and to model other forest values (e.g. wildlife habitat).

Table 4-6 presents the passive landbase yield curves developed for each utilization criteria (utilization 1 to utilization 4). Yield curves for the passive landbase using all 4 utilizations are presented in Appendix I.

Table 4-6. Model form and model coefficients, passive landbase baseline natural stand yield curves – utilization 1 to utilization 4.

FMP Yield Stratum	FMP Yield Curve	Number of Observations	Species Type	Model Form	Model Coefficients a	b	k	R^2
Coniferous and Deciduous UT 1								
26	E_PAS_D	63	Coniferous	2P	0.01684870	2.34557204		0.15
			Deciduous	2P+k	0.00243778	3.05909490	30	0.02
27	E_PAS_C	702	Coniferous	2P	0.01777996	2.23822001		0.12
			Deciduous	2P+k	0.00005932	3.17027056	30	0.00
Total		765						
Coniferous and Deciduous UT 2								
26	E_PAS_D	63	Coniferous	2P	0.01613651	2.32658937		0.15
			Deciduous	2P+k	0.00206990	3.09170838	30	0.02
27	E_PAS_C	702	Coniferous	2P	0.01718106	2.18719782		0.10
			Deciduous	2P+k	0.00005329	3.18741276	30	0.00
Total		765						
Coniferous and Deciduous UT3								
26	E_PAS_D	63	Coniferous	2P	0.01568090	2.31344408		0.15
			Deciduous	2P+k	0.00001688	4.09766982	30	0.04
27	E_PAS_C	702	Coniferous	2P	0.01691095	2.16586978		0.10
			Deciduous	2P+k	0.00007396	2.99116119	30	0.01
Total		765						
Coniferous UT3 and Deciduous UT4								
26	E_PAS_D	63	Coniferous	2P	0.01568090	2.31344408		0.15
			Deciduous	2P+k	0.00001391	4.13667666	30	0.04
27	E_PAS_C	702	Coniferous	2P	0.01691095	2.16586978		0.10
			Deciduous	2P+k	0.00007107	2.99401736	30	0.01
Total		765						

4.3 Managed Stand Yield Curves

4.3.1 Yield Curve Development

Baseline managed yield curves were developed using compiled 2006, 2007, and 2008 performance survey data and Growth and Yield Projection System (GYPSY) version 1.0. The performance survey data compilation was presented in section 3.2.2. Due to the distribution of data, managed yield curves using GYPSY were created only for FMP yield strata 21, 22, 23, and 24 (Table 3-5).

Model Used

GYPSY model version 1.0 released in December 2009 (SRD 2009) was used to create all projections using the compiled performance survey data. *GYPSY spatial without basal area* was used to create projections for all blocks. GYPSY uses four species groups to project any given stand into the future from total age 0 years to any total age defined by the user, using the input variables to localize the growth trajectories. The projection length was set to 200 years for these managed yield curves.

Input Variables

The variables compiled by species group as described in section 3.2.2: site index, total age, percent stocking, and density, were used as inputs for the GYPSY projections. The projections represent 1 year increments of merchantable and total volume, basal area, density, and merchantable density by species group for all of the blocks projected.

Yield Curves Creation

Merchantable volumes by species group, 15/15/10 for Aw (Table 3-10) and 15/15/11, 15/15/13 tree length and 15/15/13 cut to length for Pl, Sw, and Sb (Table 3-9), were summarized by coniferous and deciduous species types. The coniferous and deciduous projected merchantable volumes by individual blocks were averaged by age and FMP Yield Strata to obtain the FMP yield stratum yield curve. Managed yield curves are presented in Appendix I.

The merchantable volumes 15/15/13 obtained from GYPSY represent the tree length volumes with 3.66 m minimum merchantable length. To create the 15/15/13 cut to length managed yield curves, the GYPSY merchantable volumes at tree length 15/15/13 had to be adjusted to merchantable volumes 15/15/13 cut to length. An adjustment factor was developed by species using the PGS fire origin data. A linear regression was used to describe the relationship between the merchantable volume tree length and the merchantable volume cut to length by species.

The relationships by species group used to calculate merchantable volume 15/15/13 cut to length from the GYPSY projected merchantable volume 15/15/13 tree length are presented below:

MV_PL1513_CTL=-4.090955 + 0.926404*MV1513_PL

MV_SB1513_CTL=-0.721655 + 0.784748*MV1513_SB

MV_SW1513_CTL=-1.783105 + 0.951375*MV1513_SW

Where:

MV_PL1513_CTL = predicted merchantable volume 15/15/13 cut to length for pine

MV_SB1513_CTL = predicted merchantable volume 15/15/13 cut to length for black spruce

MV_SW1513_CTL = predicted merchantable volume 15/15/13 cut to length for white spruce

MV1513_PL = GYPSY projected 15/15/13 pine volume

MV1513_SB = GYPSY projected 15/15/13 black spruce volume

MV1513_SW = GYPSY projected 15/15/13 white spruce volume

These relationships were used to adjust the 15/15/13 tree length GYPSY yield curves and produce 15/15/13 cut to length managed yield curves.

4.4 Composite Yield Curves

4.4.1 Yield Curve Development

Composite yield curves provide an area-weighted estimate of volume over time across all natural stands within the HWP contributing landbase. These curves are useful to provide comparisons from one FMP to the next.

Composite yield curves were created for natural stands within the HWP contributing landbase using the base natural yield curves and utilization 1. Six area-weighted curves were developed for natural stands: four to represent each broad cover group (D, DC, CD, and C), one overall composite for the coniferous landbase (DC, CD and C combined), and one overall composite for the whole landbase (D, DC, CD and C combined).

Each natural stand yield curve was weighted by the proportion of the total area of natural stands within the contributing landbase. The total area of natural stands by FMP yield stratum used for area-weighting was obtained from the final landbase and is provided in Table 4-7. Composite yield curves were developed by averaging all area-weighted natural stand yield curves at each age. The composite yield curves are presented in Appendix II.

Table 4-7. Total area of natural stands by FMP yield stratum used in composite yield curves.

Landbase	Broad Cover Group	Stratum Number	Yield Curve	Natural Stands Area (ha)	Percent Area (%)
Deciduous	D	1	E_B1_XL	9,174	2.45
		2	E_B1_XH	30,931	8.26
Coniferous	DC	3	E_B2_XX	11,880	3.17
		4	E_B3_XX	9,983	2.67
	CD	5	E_B4_XX	5,141	1.37
		6	E_B5_XX	14,170	3.79
	C	7	E_B7_MX	28,336	7.57
		8	E_B7_GL	10,099	2.70
		9	E_B7_GH	5,713	1.53
		10	E_B8_ML	25,396	6.78
		11	E_B8_MH	121,277	32.40
		12	E_B8_GL	17,672	4.72
		13	E_B8_GH	79,758	21.31
		14	E_B9_XX	4,777	1.28
Total				374,307	100.0

5. Yield Curves for MPB FMP Timber Supply Analysis

This document has outlined the development of a number of yield curves. Table 5-1 lists the curves used to represent natural and managed stands in timber supply analysis. Managed stand yield curves were only developed for 21, 22, 23, and 24 FMP yield strata. The base natural yield curves from strata 1, 2, 3, 4, and 14 will be used to project the stands in the FMP yield strata 17, 18, 19, 20, and 25 respectively.

The utilization standards to be used in the MPB FMP are as follows (Utilization 1):

For coniferous species:

- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 11.0 cm top diameter inside bark
- minimum log length of 3.76 m.

For deciduous species (Aw & Pb):

- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 10.0 cm top diameter inside bark
- cut to length with a target length of 2.56 m and minimum log length of 1.78 m.

Table 5-1. Yield curves used in timber supply analysis by stand type and FMP yield stratum.

FMP Yield Stratum	Yield Curve Name	Comments
1	E_B1_XL	Base natural yield curve (PGS dataset)
2	E_B1_XH	Base natural yield curve (PGS dataset)
3	E_B2_XX	Base natural yield curve (PGS dataset)
4	E_B3_XX	Base natural yield curve (PGS dataset)
5	E_B4_XX	Base natural yield curve (PGS dataset)
6	E_B5_XX	Base natural yield curve (PGS dataset)
7	E_B7_MX	Base natural yield curve (PGS dataset)
8	E_B7_GL	Base natural yield curve (PGS dataset)
9	E_B7_GH	Base natural yield curve (PGS dataset)
10	E_B8_ML	Base natural yield curve (PGS dataset)
11	E_B8_MH	Base natural yield curve (PGS dataset)
12	E_B8_GL	Base natural yield curve (PGS dataset)
13	E_B8_GH	Base natural yield curve (PGS dataset)
14	E_B9_XX	Base natural yield curve (PGS dataset)
15	E_UN_DM	Base natural yield curve (PGS dataset)
16	E_UN_CX	Base natural yield curve (PGS dataset)
17	E_B1_XL	Base natural yield curve (PGS dataset, same as stratum 1)
18	E_B1_XH	Base natural yield curve (PGS dataset, same as stratum 2)
19	E_B2_XX	Base natural yield curve (PGS dataset, same as stratum 3)
20	E_B3_XX	Base natural yield curve (PGS dataset, same as stratum 4)
21	G_B4_XX	Base managed yield curve (Performance dataset)
22	G_B5_XX	Base managed yield curve (Performance dataset)
23	G_B7_XX	Base managed yield curve (Performance dataset)
24	G_B8_XX	Base managed yield curve (Performance dataset)
25	E_B9_XX	Base natural yield curve (PGS dataset, same as stratum 14)

5.1 Alternative Regeneration Standards – Target MAI

MAI targets were developed by strata and broad cover group using the newly developed FMP yield curves and including the rounded regeneration lag (see Section 6.3). Table 5-2 summarizes the target coniferous and deciduous mean annual increment for the regeneration strata to be used in the timber supply analysis. For FMP yield strata 18 the deciduous culmination age was used (strata from the deciduous landbase), while for FMP yield strata 19-25 the coniferous culmination age was used to create the targets (coniferous landbase).

Table 5-2. ARS MAI targets by FMP yield strata

FMP Yield Stratum	Yield Curve Name	Yield Stratum Description	Species of Primary Management	Culmination Stand Age	Coniferous MAI (15/15/11 util. std. - UT1)	Deciduous MAI (15/15/10 util. std. - UT1)
18	E_B1_XH	Pure deciduous - high crown closure	Deciduous	100	0.71	2.20
19	E_B2_XX	Deciduous leading pine mixedwood	Conifer	64	1.34	0.35
20	E_B3_XX	Deciduous leading spruce mixedwood	Conifer	69	1.41	1.39
21	G_B4_XX	Conifer leading spruce mixedwood	Conifer	105	2.39	0.46
22	G_B5_XX	Conifer leading pine mixedwood	Conifer	94	2.98	0.67
23	G_B7_XX	Pure conifer - white spruce leading	Conifer	103	2.52	0.54
24	G_B8_XX	Pure conifer - pine leading	Conifer	90	3.23	0.35
25	E_B9_XX	Pure conifer - black spruce leading	Conifer	105	1.11	0.11

Table 5-3 summarizes the MAI targets by broad cover group. A weighted yield curve was built for each broad cover group using the newly developed FMP strata yield curves weighted with the managed area within each stratum (see Table 1-1 for areas by stratum). FMP yield stratum 18 was included in broad cover group D, strata 19 and 20 were included in broad cover group DC,

strata 21 and 22 were included in broad cover group CD, while strata 23, 24, and 25 were included in broad cover group C.

Table 5-3. ARS MAI targets by broad cover group.

Broad Cover Group	Species of Primary Management	Culmination Stand Age	Coniferous MAI (15/15/11 util. std. - UT1)	Deciduous MAI (15/15/10 util. std. - UT1)
D	Deciduous	100	0.71	2.20
DC	Conifeorus	66	1.37	0.82
CD	Conifeorus	97	2.73	0.59
C	Conifeorus	92	3.11	0.38

6. Additional Growth and Yield Issues

Although this document's primary purpose is to describe the development of volume-age natural yield curves and of managed yield curves for the HWP 2009 Mountain Pine Beetle Forest Management Plan, there are a number of related growth and yield issues that are also included herein. These are: cull, piece size curves, and regeneration lag calculations.

6.1 Cull Deductions

Cull deductions are applied to yield curves to reflect losses to cull (trees or portions thereof that are merchantable but are removed because of defect). The new Alberta Forest Management Planning Standard (SRD 2006) requires that cull be applied as a percent reduction to yield curves, rather than as a reduction to the harvest level in timber supply analysis. This section describes the methods by which cull was derived.

6.1.1 Methods

Cull was separated into two components: a solid wood defect component and a rot component. A study from 1997, "Conifer Cull and Defect Study" (The Forestry Corp. 1997) was conducted on the current HWP FMA area with the objective of quantifying percent rot for the coniferous species. This study, that randomly selected stands and trees within stands to quantify percent rot, was used to determine percent rot. The mean percent rot across the coniferous species identified in this report was 0.31%. A total 5% will be deducted from merchantable conifer volumes to account for the solid wood defect component and rot. This percentage will be monitored annually until the 2012/2013 timber year. The results from the monitoring program will inform deduction levels for solid wood defects in the 2014 FMP.

A deciduous cull study was completed on the Hinton FMA in 1990. The mean percent rot for deciduous species was found to be 13.2% (Fortrends Consulting Inc, 1990).

6.1.2 Results

A total 5% coniferous cull and 13.2% deciduous cull will be deducted from the merchantable volume of the coniferous yield curves in the TSA model.

6.2 Piece Size Curves

Piece size curves were required to provide an estimate of how piece size (number of trees per cubic meter of gross merchantable tree volume) changes over time. Piece size curves were developed for FMP yield strata using only Utilization 1 for both coniferous and deciduous. The piece size curves for the managed stands in FMP yield strata 21 to 24 were developed using the GYPSY projections while the rest of the piece size curves were developed using the PGS fire origin data. Since the fire origin yield curves in strata 1, 2, 3, 4, and 14 were used to represent FMP yield strata 17, 18, 19, 20, and 24, the piece size curves for strata 17, 18, 19, 20, and 24 were the same as those for the strata 1, 2, 3, 4, and 14.

6.2.1 Methods for Piece Curves Using PGS Fire Origin Data

The PSP dataset used in yield curve development was used for piece size curve development. The plots that were eligible for empirical yield curve development were used in piece size development. Plot attributes were the same as previously defined, and volumes compiled for yield curve development were retained for use in this analysis.

For each plot, trees per m^3 were calculated, by dividing total number of merchantable trees in the plot by the gross merchantable plot volume. Some of the plots were removed from the dataset used to fit piece size curves:

- Plots with no volume were excluded, since piece size could not be calculated (dividing by zero).
- Plots with stand age smaller than 20 years were also excluded since it is rare for a stand younger than 20 years to generate merchantable volume at 15/11 or 15/10 specifications (utilization 1). Also, the low number of trees per m^3 negatively impact the curve fit.

An equation to predict trees per m^3 as a function of age was then fit directly using plot data:

$$PieceSize = a_0 + \frac{a_1}{Age}$$

Where: *PieceSize* = number of trees per m^3 of gross merchantable tree volume

Age = age at year of measurement

a_0, a_1 = coefficients

The final number of plots by FMP yield stratum was different for coniferous and deciduous curves, since there could be plots with coniferous volume and no deciduous volume, or vice versa. The number of plots used to develop piece size curves is summarized in Table 6-1.

Table 6-1. Number of plots used for fitting coniferous and deciduous piece size curves.

		Coniferous Curves				Deciduous Curves			
Yield Stratum	Initial Number of Observations	Observations With Zero Volumes	Observations With Stand Age <20	Outliers	Final Number of Observations	Observations With Zero Volumes	Observations With Stand Age <20	Outliers	Final Number of Observations
1	34	8			26	3			31
2	104	15	1		88	5	2		97
3	54	1	1		52	8	1		45
4	34	2		5	27			5	29
5	13	1			12	2			11
6	44		2		42	7			37
7	76	5	2		69	58	1		17
8	35	2			33	19			16
9	18	1			17	6			12
10	69	2	1		66	55			14
11	345	13	1		331	311			34
12	70	6	1		63	42			28
13	311	13	1		297	242			69
14	25				25	23			2
15	49	5	3		41	6			43
16	173	3	7		163	104	2		67
26	63	10			53	11	2		50
27	702	102	13		587	587	2		113
Total	2,219	189	33	5	1,992	1,489	10	5	715

6.2.2 Methods for Piece Curves Using GYPSY Projections

The yield curves for FMP yield strata 21 to 24 were developed using GYPSY version 1.0 released in December 2009. The model provides the number of merchantable trees at the user specified utilization criteria. The average merchantable density was calculated by FMP yield stratum and stand age. The piece size curves for FMP yield strata 21 to 24 represent the ratio between the FMP yield stratum average merchantable density and the average stratum merchantable volume at utilization 1 for both coniferous and deciduous species.

6.2.3 Results

Model coefficients for the piece size curves in natural stands (Section 6.2.1) are presented in Table 6.2. For FMP yield stratum 14 there are only 2 plots available, therefore there is no deciduous piece size curve. Piece size curves for the FMP yield strata are provided in Appendix III.

Table 6-2. Model coefficients for piece size curves.

Yield Stratum	Species Type	Model Coefficients	
		a_0	a_1
1	Coniferous	1.49957	168.84088
	Deciduous	-1.58885	461.29925
2	Coniferous	-1.68876	466.97305
	Deciduous	-1.82801	452.65931
3	Coniferous	-0.77412	348.79089
	Deciduous	-6.58736	874.60382
4	Coniferous	-0.11116	252.58429
	Deciduous	-1.73875	416.57435
5	Coniferous	1.29405	113.41908
	Deciduous	1.32157	216.06976
6	Coniferous	-3.61804	657.15361
	Deciduous	-0.27821	412.09486
7	Coniferous	2.24357	181.25913
	Deciduous	7.79098	157.14138
8	Coniferous	-1.28646	407.09350
	Deciduous	-7.28186	1135.24988
9	Coniferous	-0.10787	287.86144
	Deciduous	-4.25381	563.40469
10	Coniferous	3.02977	304.94409
	Deciduous	-3.32086	874.17927
11	Coniferous	1.37356	521.22481
	Deciduous	0.39520	398.23221
12	Coniferous	1.85482	214.19594
	Deciduous	-7.51522	1005.36556
13	Coniferous	0.06156	455.05628
	Deciduous	-0.98982	521.67181
14	Coniferous	4.86670	232.07293
	Deciduous	n/a	n/a
15	Coniferous	0.99683	166.65927
	Deciduous	2.28834	123.49487
16	Coniferous	3.24391	71.92641
	Deciduous	0.96257	152.91482
26	Coniferous	2.02981	146.01896
	Deciduous	-0.23186	313.70563
27	Coniferous	6.91756	67.05222
	Deciduous	3.37515	293.97554

6.3 Regeneration Lag

Regeneration lag (regen lag) is the time in years following harvesting that is required for the harvested area to become stocked with desirable tree species. Regeneration lag was calculated using the performance survey data from 2006, 2007, and 2008 by FMP Yield Stratum.

Regeneration lag will be applied during timber supply modeling as a shift to all yield curves representing managed stands used in the 2009 MPB FMP.

- The regeneration lag by opening was calculated as the difference between the block age and the oldest species group's mean total age;
- The FMP yield stratum regeneration lag was calculated as the average block regeneration lag from all the blocks within a particular FMP Yield Stratum.

The regeneration lag was calculated for all FMP Yield Strata that had at least one surveyed block. Regeneration lag and the number of blocks used to calculate the regeneration lag are presented by FMP yield strata in Table 6-3.

Table 6-3. Number of blocks and regeneration lag by FMP yield stratum.

FMP Yield Stratum	Number of Blocks	Non-rounded Regeneration Lag	Rounded Regeneration Lag
17	2	1.57	2
18			
19	3	1.55	2
20	4	2.37	2
21	10	1.72	2
22	16	2.19	2
23	103	2.35	2
24	450	2.04	2
25	1	2.00	2
Passive	6	-	-
Unassigned	7	-	-
Total	602	-	-

7. References

Alberta Forestry, Lands and Wildlife. 1991. Alberta Vegetation Inventory Standards Manual Version 2.1. Land Information Services Division, Resource Information Branch. Edmonton, AB.

Alberta Sustainable Resources Development. 2006. Alberta Forest Management Planning Standard, Version 4.1. Edmonton, Alberta.

Fortrends Consulting Inc. 1990. Results from a study of defect in aspen trees. Victoria, British Columbia.

Huang, S. 1994a. Ecologically-Based Individual Tree Height-Diameter Models For Major Alberta Tree Species. Report #2. Alberta Environmental Protection, Land and Forest Services. Forest Management Division. Publication T/291. Edmonton, AB.

Huang, S. 1994b. Ecologically-Based Individual Tree Volume Estimation For Major Alberta Tree Species: Methods Of Formulation And Statistical Foundations. Report #1. Alberta Environmental Protection, Land and Forest Services. Forest Management Division. Publication T/288. Edmonton, AB.

Huang, S., Meng, S.X., and Y. Yang. 2009. A Growth and Yield Projection System (GYPSY) for Natural and Post-harvest Stands in Alberta. Technical Report Pub. No.: T/216. Forest Management Branch. Alberta Sustainable Resource Development. Edmonton, AB.

Huang, S., Yang, Y., Meng, S.X., Vanderschaaf, C.L. 2009. Estimating Individual Tree Height of Aspen in Boreal Mixedwood Forests. Technical Report. Forest Management Branch, Alberta Sustainable Resource Development.

Husch, B., C.I. Miller and T.W. Beers. 1982. Forest Mensuration. John Wiley & Sons, New York.

HWP 2009. 2009 Mountain Pine Beetle Forest Management Plan – Technical Report #1 – Landbase Classification.

Kozak, A. 1988. A Variable-Exponent Taper Equation. Can. J. For. Res. 18: 1363-1368.

MCH Forestry Ltd. 2004. Weldwood of Canada Limited, Hinton Division, Permanent Growth Sample Manual.

The Forestry Corp. 1997. Conifer Cull and Defect Study. Prepared for Weldwood of Canada Ltd., Hinton Division.

Appendix I Yield Curves

- Baseline Yield Curves – Coniferous UT1 and Deciduous UT1 (these will be used in the MPB FMP Timber Supply)
- Baseline Yield Curves – Coniferous UT2 and Deciduous UT2
- Baseline Yield Curves – Coniferous UT3 and Deciduous UT3
- Baseline Yield Curves – Coniferous UT3 and Deciduous UT4

- **Baseline Yield Curves – Coniferous UT1 and Deciduous UT1**

Coniferous UT1 - all yield curves except strata 21-24:

- Species – live PL, SW, SE, SB, FB, FA & FD
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 11.0 cm top diameter inside bark
- tree length; minimum log length of 3.76 m.

Coniferous UT1 - strata 21-24:

- Species – live PL, SW, SE, SB, FB, FA & FD
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 11.0 cm top diameter inside bark
- tree length; minimum log length of 3.66 m.

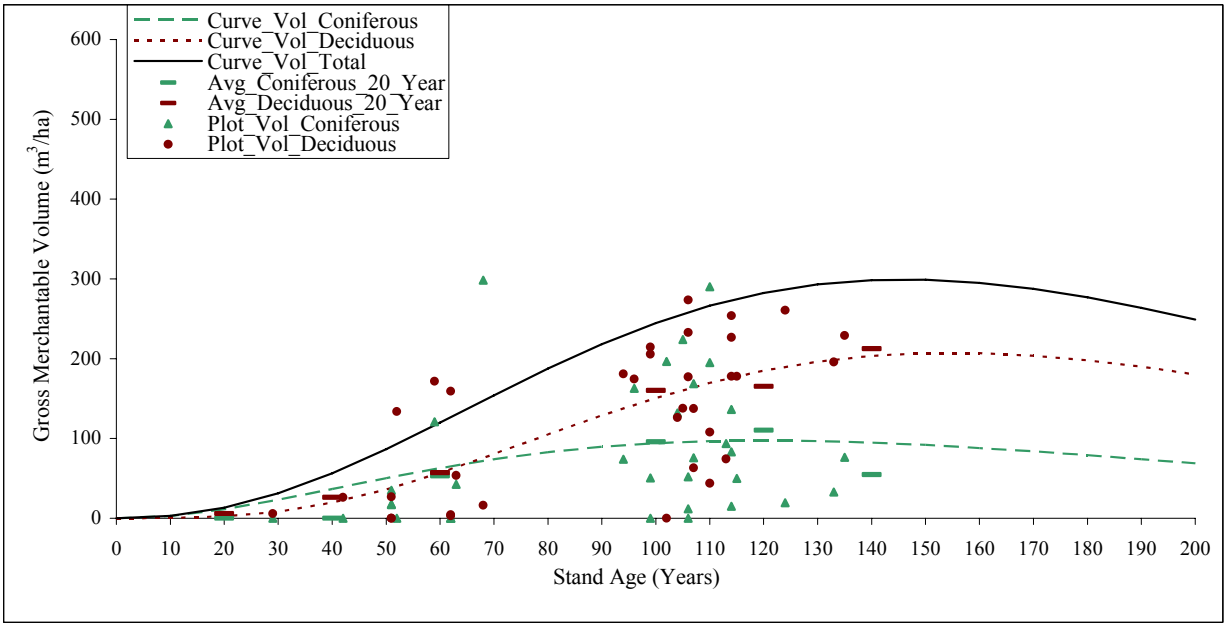
Deciduous UT1 – all yield curves except strata 21-24:

- Species – live AW & PB
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 10.0 cm top diameter inside bark
- cut to length; target length of 2.56 m and minimum log length of 1.78 m.

Deciduous UT1 –strata 21-24:

- Species – live AW & PB
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 10.0 cm top diameter inside bark
- tree length; minimum log length of 3.66 m.

STRATUM NUMBER = 1 / E_B1_XL (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

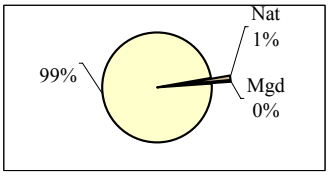
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.879E-02
Eqn: 2P	b	2.2577704
	k	N/A
Deciduous	a	3.393E-05
Eqn: 2P+K	b	3.8665567
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,174
Mgd. Stand Area (ha):	2,078

Stratum as a % of the managed landbase:

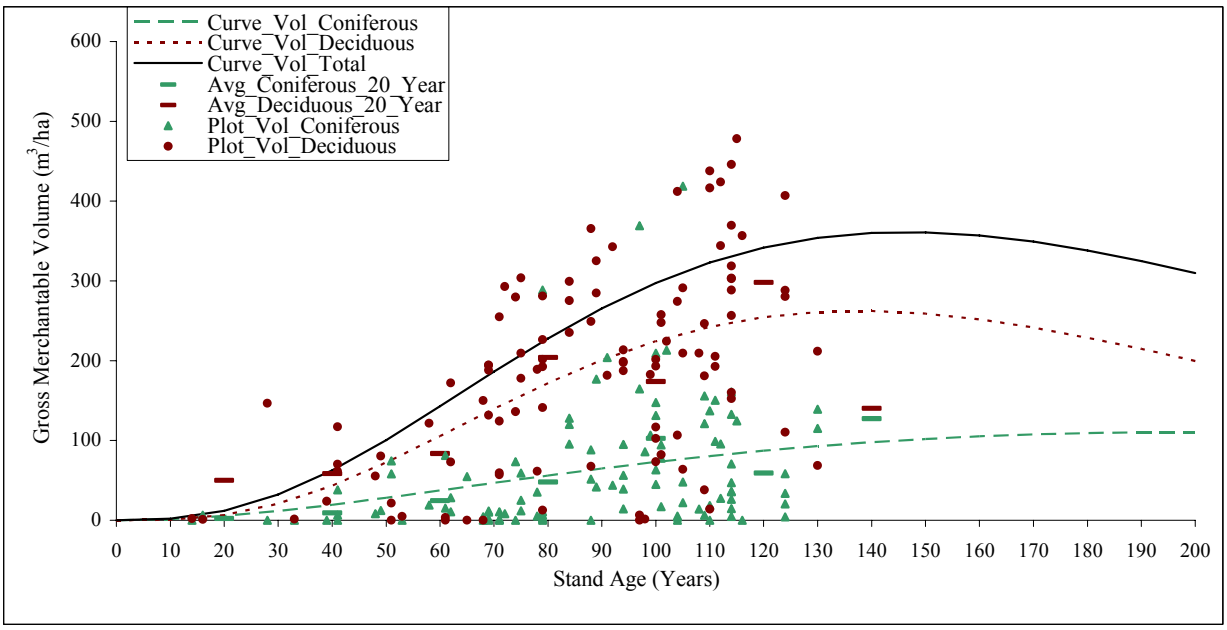


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.8	0.2	3.0	0.282	0.019	0.301
20	0	11.2	2.2	13.4	0.559	0.110	0.669
30	1	23.1	8.2	31.4	0.771	0.275	1.046
40	1	36.7	19.5	56.2	0.917	0.488	1.406
50	4	50.3	36.0	86.4	1.007	0.721	1.727
60	5	62.9	56.8	119.8	1.049	0.947	1.996
70	1	73.9	80.3	154.2	1.055	1.147	2.203
80	0	82.8	104.8	187.6	1.035	1.310	2.345
90	1	89.5	128.7	218.2	0.994	1.430	2.424
100	5	94.1	150.6	244.7	0.941	1.506	2.447
110	12	96.7	169.6	266.3	0.879	1.542	2.421
120	2	97.5	184.9	282.4	0.813	1.541	2.353
130	1	96.8	196.2	293.0	0.745	1.509	2.254
140	1	94.9	203.5	298.4	0.678	1.454	2.131
150	0	91.9	207.0	298.8	0.612	1.380	1.992
160	0	88.1	206.9	294.9	0.550	1.293	1.843
170	0	83.7	203.7	287.4	0.492	1.198	1.690
180	0	78.9	197.9	276.8	0.438	1.099	1.538
190	0	73.9	189.9	263.8	0.389	1.000	1.388
200	0	68.7	180.4	249.1	0.344	0.902	1.245

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 2 / E_B1_XH (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

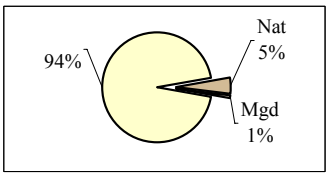
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.077E-02
Eqn: 2P	b	2.1496183
	k	N/A
Deciduous	a	3.648E-04
Eqn: 2P+K	b	3.4372256
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	104
Nat. Stand Area (ha):	30,931
Mgd. Stand Area (ha):	4,534

Stratum as a % of the managed landbase:

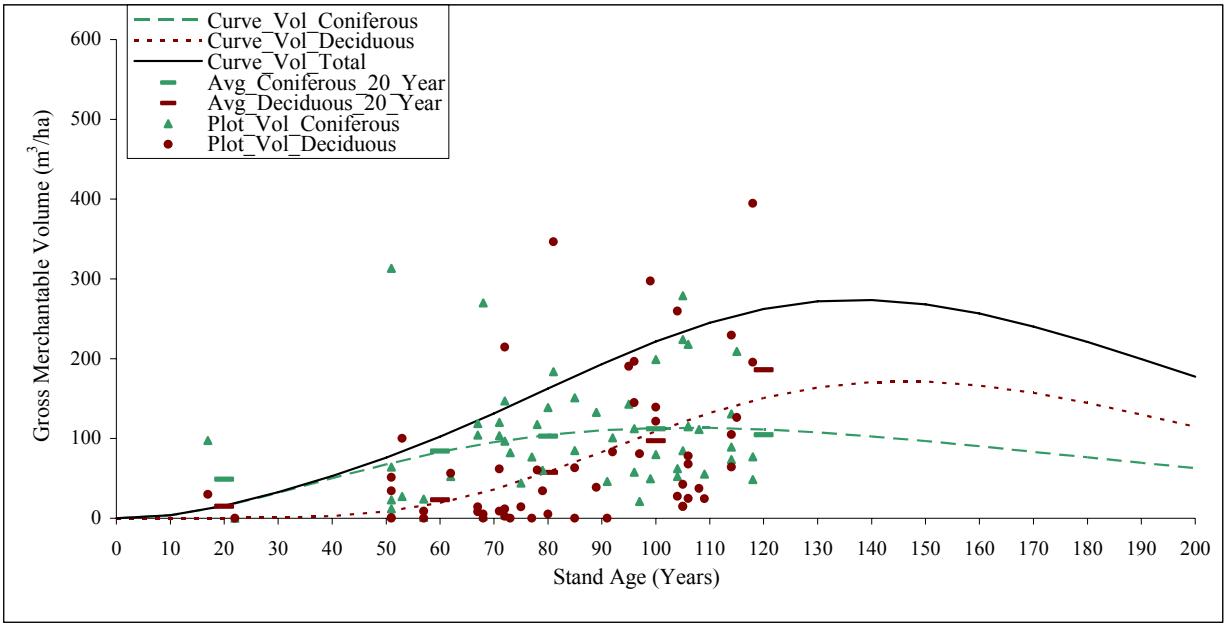


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	1.4	0.8	2.1	0.136	0.078	0.214
20	1	5.4	6.6	12.0	0.272	0.328	0.600
30	2	11.7	20.6	32.3	0.389	0.686	1.075
40	4	19.4	43.1	62.5	0.486	1.077	1.564
50	5	28.2	72.3	100.5	0.564	1.445	2.010
60	5	37.5	105.3	142.8	0.625	1.756	2.380
70	14	46.9	139.3	186.2	0.670	1.991	2.660
80	14	56.1	171.7	227.8	0.701	2.147	2.848
90	11	64.9	200.5	265.4	0.721	2.228	2.949
100	16	73.1	224.3	297.4	0.731	2.243	2.974
110	23	80.5	242.4	322.9	0.732	2.204	2.936
120	6	87.2	254.6	341.8	0.726	2.121	2.848
130	2	93.0	261.1	354.0	0.715	2.008	2.723
140	0	97.9	262.3	360.2	0.699	1.874	2.573
150	0	102.0	258.9	360.9	0.680	1.726	2.406
160	0	105.2	251.8	356.9	0.657	1.573	2.231
170	0	107.6	241.5	349.1	0.633	1.421	2.053
180	0	109.2	228.9	338.1	0.607	1.272	1.878
190	0	110.2	214.7	324.8	0.580	1.130	1.710
200	0	110.4	199.4	309.9	0.552	0.997	1.549

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 3 / E_B2_XX (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

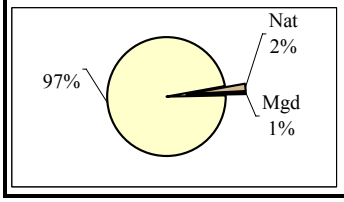
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	2.206E-02
Eqn: 2P	b	2.3340203
	k	N/A
Deciduous	a	4.174E-11
Eqn: 2P+K	b	7.2930995
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	54
Nat. Stand Area (ha):	11,880
Mgd. Stand Area (ha):	4,135

Stratum as a % of the managed landbase:

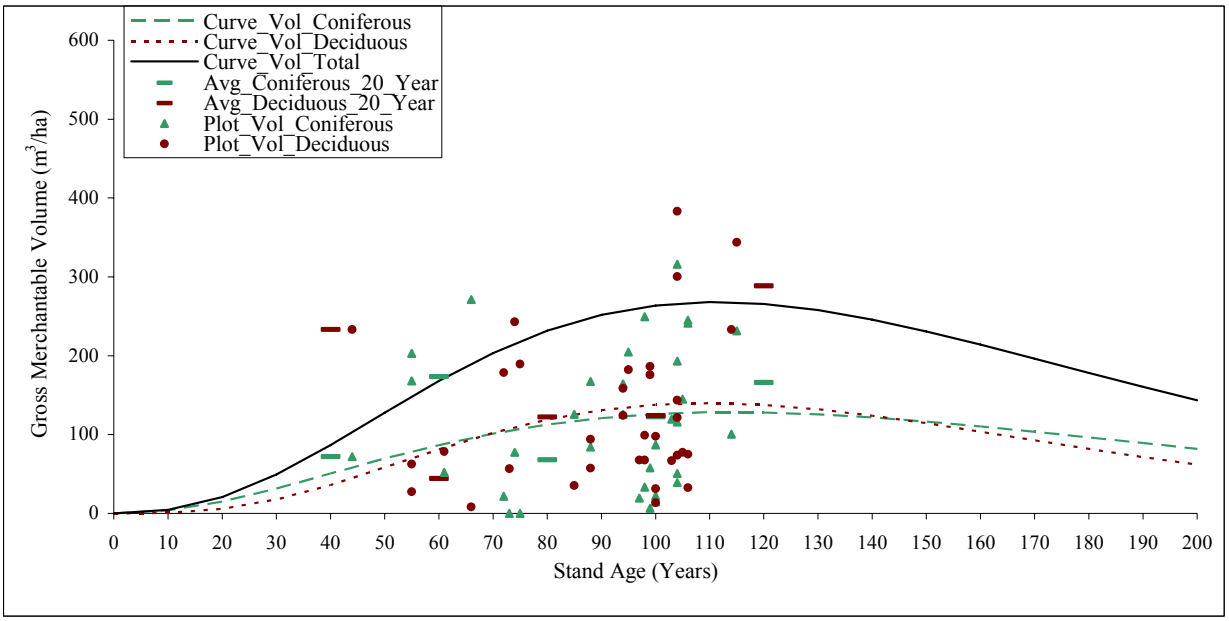


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.8	0.0	3.8	0.382	0.000	0.382
20	2	15.4	0.0	15.5	0.772	0.002	0.774
30	0	31.9	0.6	32.5	1.063	0.018	1.082
40	0	50.1	2.7	52.8	1.252	0.068	1.320
50	5	67.6	8.4	76.0	1.352	0.169	1.521
60	3	83.0	19.3	102.3	1.383	0.322	1.705
70	10	95.4	36.1	131.4	1.363	0.515	1.878
80	6	104.5	57.9	162.4	1.306	0.724	2.030
90	5	110.3	82.9	193.2	1.226	0.922	2.147
100	9	113.1	108.5	221.6	1.131	1.085	2.216
110	11	113.3	131.8	245.2	1.030	1.199	2.229
120	3	111.4	150.8	262.2	0.928	1.257	2.185
130	0	107.7	164.0	271.7	0.828	1.262	2.090
140	0	102.6	170.8	273.4	0.733	1.220	1.953
150	0	96.7	171.3	268.0	0.645	1.142	1.787
160	0	90.2	166.4	256.6	0.564	1.040	1.603
170	0	83.3	157.0	240.3	0.490	0.924	1.414
180	0	76.4	144.5	220.9	0.424	0.803	1.227
190	0	69.5	130.0	199.5	0.366	0.684	1.050
200	0	62.8	114.6	177.4	0.314	0.573	0.887

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 4 / E_B3_XX (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

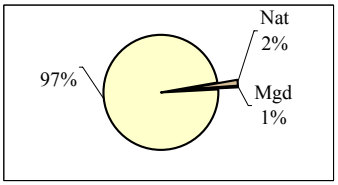
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	2.053E-02
Eqn: 2P	b	2.3397295
	k	N/A
Deciduous	a	1.963E-04
Eqn: 2P+K	b	3.6470434
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,983
Mgd. Stand Area (ha):	3,293

Stratum as a % of the managed landbase:

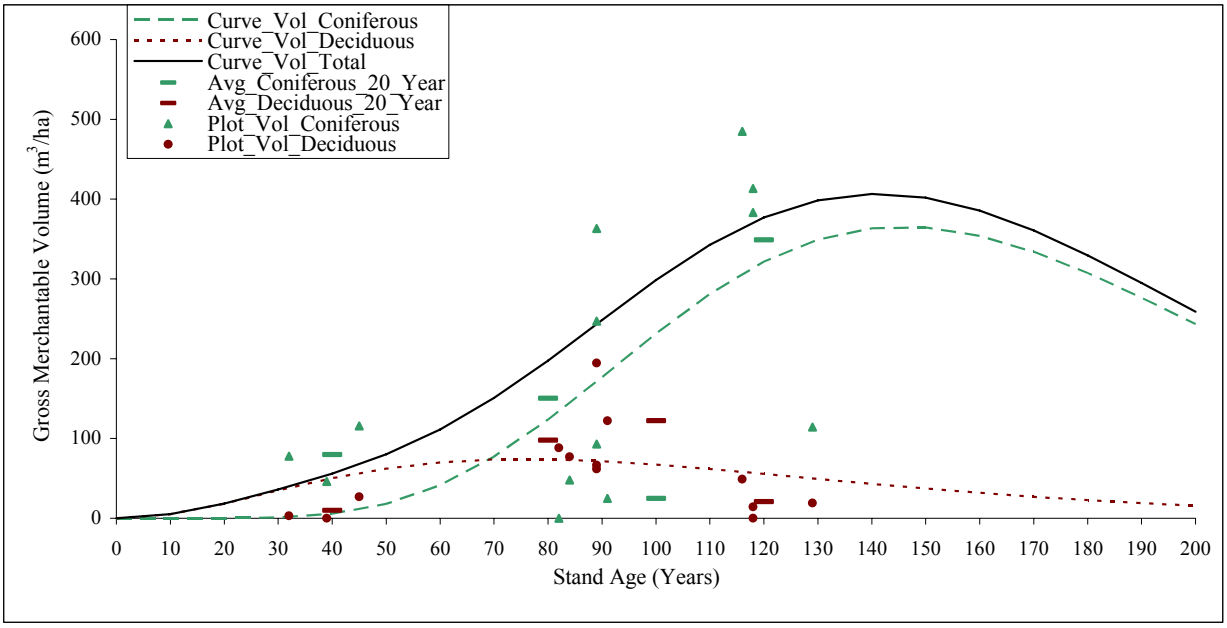


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.7	0.6	4.3	0.366	0.062	0.428
20	0	15.1	5.6	20.7	0.753	0.280	1.034
30	0	31.7	17.6	49.3	1.056	0.587	1.643
40	1	50.6	36.0	86.6	1.265	0.901	2.166
50	0	69.5	58.3	127.7	1.389	1.165	2.554
60	3	86.7	81.2	167.8	1.444	1.353	2.797
70	4	101.2	102.0	203.3	1.446	1.458	2.904
80	1	112.7	119.0	231.7	1.409	1.487	2.896
90	5	120.9	131.0	251.9	1.343	1.456	2.799
100	15	126.0	137.8	263.8	1.260	1.378	2.638
110	4	128.2	139.8	268.1	1.166	1.271	2.437
120	1	128.0	137.6	265.6	1.067	1.147	2.214
130	0	125.7	132.0	257.8	0.967	1.016	1.983
140	0	121.8	124.0	245.7	0.870	0.885	1.755
150	0	116.6	114.2	230.8	0.777	0.762	1.539
160	0	110.4	103.6	214.0	0.690	0.647	1.337
170	0	103.6	92.6	196.2	0.610	0.545	1.154
180	0	96.5	81.7	178.2	0.536	0.454	0.990
190	0	89.2	71.3	160.5	0.469	0.375	0.845
200	0	81.9	61.6	143.5	0.409	0.308	0.717

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 5 / E_B4_XX (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

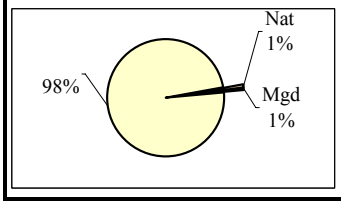
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	9.133E-11
Eqn: 2P+K	b	7.2875137
	k	20
Deciduous	a	3.082E-02
Eqn: 2P	b	2.3388437
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	13
Nat. Stand Area (ha):	5,141
Mgd. Stand Area (ha):	4,098

Stratum as a % of the managed landbase:

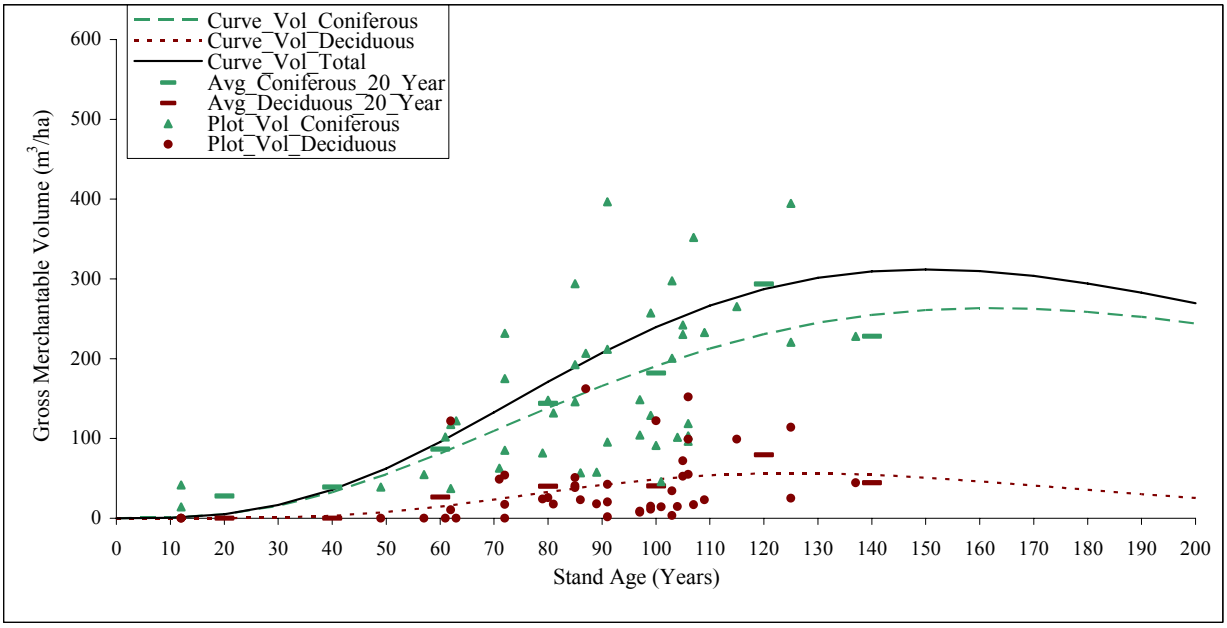


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	4.9	4.9	0.000	0.494	0.494
20	0	0.1	18.4	18.5	0.005	0.918	0.923
30	1	1.2	34.8	36.0	0.039	1.161	1.201
40	1	5.8	50.2	56.0	0.146	1.254	1.400
50	1	18.0	62.1	80.1	0.361	1.242	1.603
60	0	41.3	69.9	111.2	0.688	1.165	1.854
70	0	77.0	73.7	150.7	1.101	1.052	2.153
80	2	123.7	74.0	197.6	1.546	0.924	2.470
90	4	176.9	71.6	248.5	1.966	0.795	2.761
100	0	231.3	67.3	298.6	2.313	0.673	2.986
110	0	281.0	61.8	342.7	2.554	0.562	3.116
120	3	321.3	55.6	376.9	2.677	0.464	3.141
130	1	349.2	49.3	398.5	2.686	0.379	3.065
140	0	363.5	43.1	406.5	2.596	0.308	2.904
150	0	364.5	37.2	401.7	2.430	0.248	2.678
160	0	353.8	31.8	385.6	2.211	0.199	2.410
170	0	333.8	26.9	360.7	1.964	0.158	2.122
180	0	307.1	22.6	329.7	1.706	0.126	1.832
190	0	276.2	18.8	295.1	1.454	0.099	1.553
200	0	243.5	15.6	259.1	1.217	0.078	1.295

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 6 / E_B5_XX (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

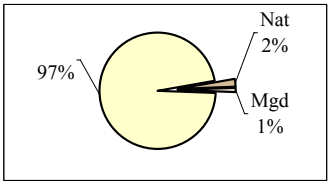
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	4.636E-04
Eqn: 2P+K	b	3.2413681
	k	50
Deciduous	a	2.155E-09
Eqn: 2P+K	b	6.2637973
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	44
Nat. Stand Area (ha):	14,170
Mgd. Stand Area (ha):	6,888

Stratum as a % of the managed landbase:

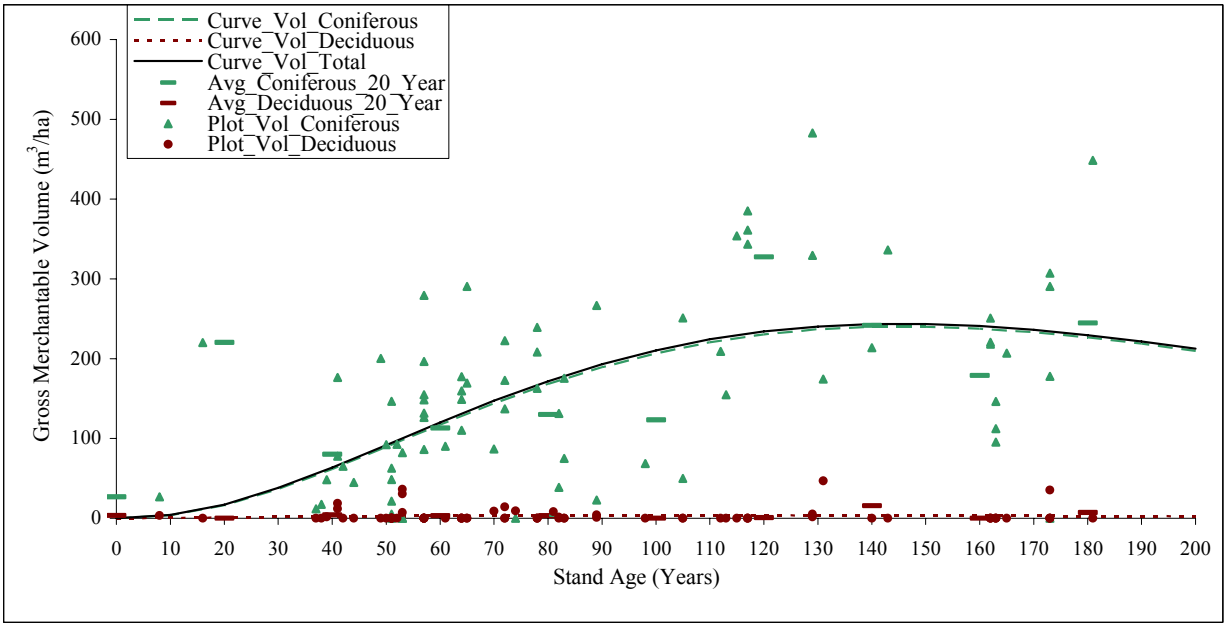


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	2	0.7	0.0	0.7	0.066	0.000	0.066
20	0	5.1	0.1	5.2	0.256	0.006	0.262
30	0	15.6	0.9	16.5	0.520	0.029	0.549
40	0	32.5	3.2	35.6	0.812	0.079	0.891
50	1	54.8	7.8	62.6	1.096	0.155	1.251
60	5	81.0	14.7	95.8	1.351	0.246	1.596
70	4	109.3	23.5	132.8	1.562	0.335	1.897
80	3	138.0	32.9	170.9	1.725	0.411	2.136
90	9	165.5	41.7	207.2	1.839	0.463	2.302
100	9	190.7	48.9	239.6	1.907	0.489	2.396
110	7	212.6	53.9	266.5	1.933	0.490	2.423
120	1	230.8	56.4	287.2	1.923	0.470	2.393
130	2	244.9	56.5	301.4	1.884	0.434	2.319
140	1	255.0	54.5	309.5	1.821	0.389	2.211
150	0	261.1	50.9	312.0	1.741	0.339	2.080
160	0	263.5	46.3	309.8	1.647	0.289	1.936
170	0	262.6	41.0	303.6	1.545	0.241	1.786
180	0	258.7	35.6	294.3	1.437	0.198	1.635
190	0	252.4	30.3	282.7	1.329	0.159	1.488
200	0	244.0	25.3	269.4	1.220	0.127	1.347

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 7 / E_B7_MX (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

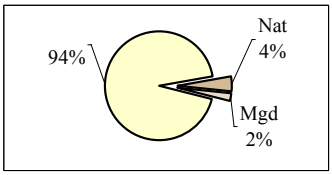
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.655E-02
Eqn: 2P	b	2.4077368
	k	N/A
Deciduous	a	1.437E-02
Eqn: 2P	b	1.5158573
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	76
Nat. Stand Area (ha):	28,336
Mgd. Stand Area (ha):	15,336

Stratum as a % of the managed landbase:

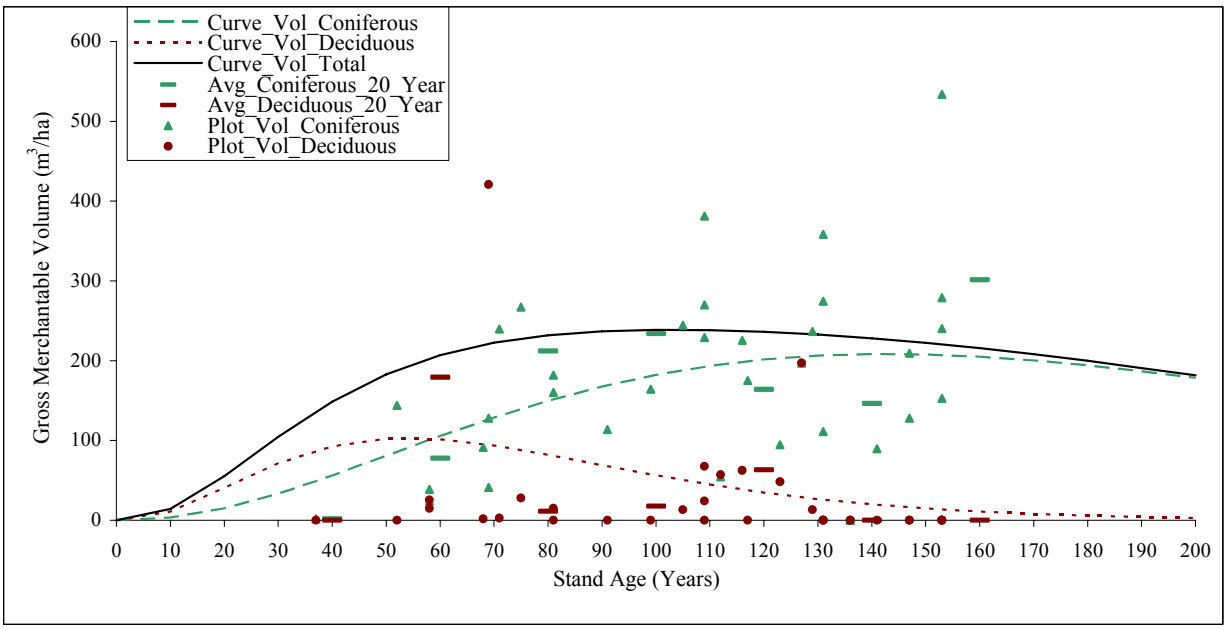


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	3.6	0.4	4.0	0.359	0.041	0.399
20	1	16.1	1.0	17.1	0.806	0.051	0.857
30	0	36.3	1.6	37.9	1.209	0.054	1.263
40	7	61.5	2.2	63.6	1.537	0.054	1.591
50	12	89.1	2.6	91.8	1.783	0.053	1.836
60	12	117.2	3.0	120.2	1.953	0.050	2.003
70	7	143.9	3.3	147.2	2.056	0.047	2.103
80	8	168.3	3.5	171.7	2.103	0.044	2.147
90	2	189.4	3.6	193.0	2.104	0.040	2.144
100	1	206.8	3.7	210.5	2.068	0.037	2.105
110	4	220.5	3.7	224.2	2.005	0.033	2.038
120	4	230.4	3.6	234.1	1.920	0.030	1.950
130	3	236.8	3.6	240.3	1.821	0.027	1.849
140	2	239.9	3.4	243.3	1.713	0.025	1.738
150	0	240.0	3.3	243.4	1.600	0.022	1.622
160	6	237.6	3.2	240.8	1.485	0.020	1.505
170	5	233.1	3.0	236.1	1.371	0.018	1.389
180	1	226.7	2.8	229.5	1.259	0.016	1.275
190	0	218.8	2.7	221.5	1.152	0.014	1.166
200	0	209.8	2.5	212.3	1.049	0.012	1.062

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 8 / E_B7_GL (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

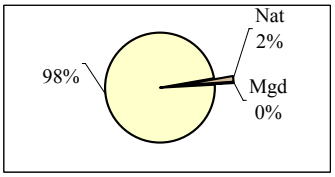
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.672E-02
Eqn: 2P	b	2.3819093
	k	N/A
Total	a	4.754E-02
Eqn: 2P	b	2.5688960
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	35
Nat. Stand Area (ha):	10,099
Mgd. Stand Area (ha):	1,667

Stratum as a % of the managed landbase:

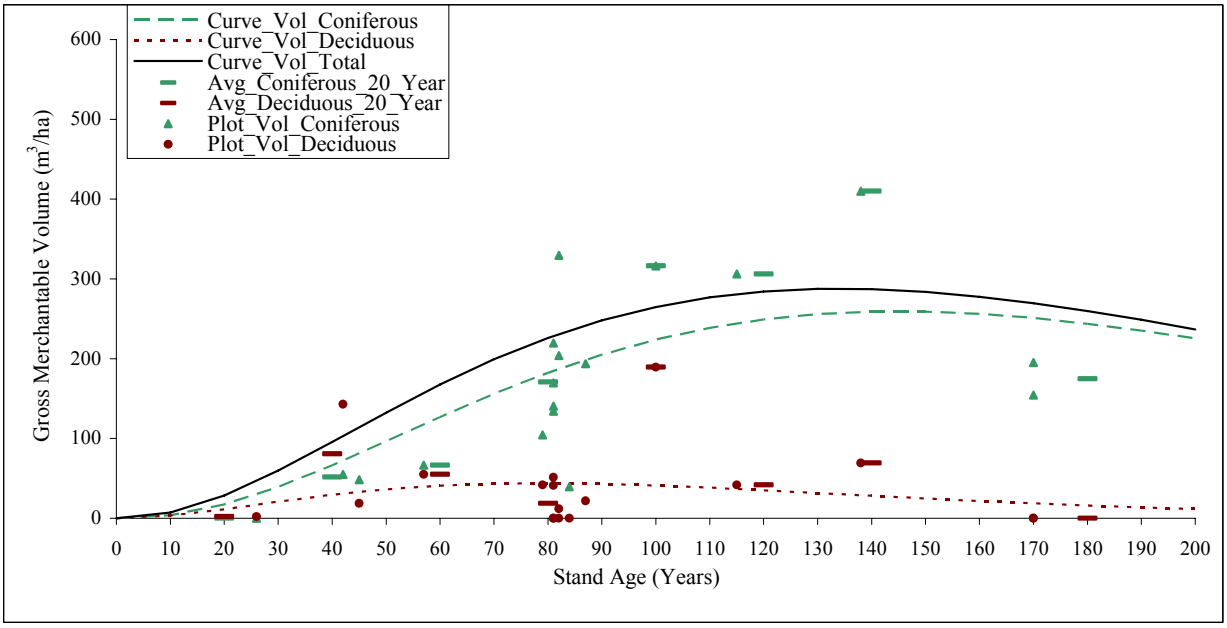


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.4	11.0	14.4	0.341	1.095	1.436
20	0	15.0	40.4	55.4	0.751	2.020	2.771
30	0	33.4	71.2	104.6	1.113	2.372	3.485
40	1	56.1	92.6	148.7	1.402	2.316	3.718
50	1	80.7	102.2	182.9	1.614	2.043	3.657
60	2	105.4	101.4	206.9	1.757	1.691	3.448
70	4	128.8	93.7	222.5	1.839	1.339	3.178
80	3	149.7	82.1	231.8	1.872	1.026	2.898
90	1	167.7	69.1	236.8	1.863	0.767	2.631
100	1	182.3	56.3	238.6	1.823	0.563	2.386
110	5	193.6	44.7	238.3	1.760	0.406	2.166
120	3	201.5	34.7	236.2	1.679	0.289	1.969
130	5	206.3	26.5	232.8	1.587	0.204	1.791
140	3	208.2	19.9	228.2	1.487	0.142	1.630
150	6	207.6	14.8	222.4	1.384	0.099	1.483
160	0	204.8	10.9	215.7	1.280	0.068	1.348
170	0	200.2	7.9	208.1	1.178	0.046	1.224
180	0	194.1	5.7	199.8	1.078	0.032	1.110
190	0	186.8	4.1	190.8	0.983	0.021	1.004
200	0	178.6	2.9	181.4	0.893	0.014	0.907

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 9 / E_B7_GH (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

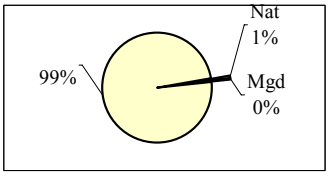
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.676E-02
Eqn: 2P	b	2.4267829
	k	N/A
Deciduous	a	2.788E-02
Eqn: 2P	b	2.1890716
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	18
Nat. Stand Area (ha):	5,713
Mgd. Stand Area (ha):	1,153

Stratum as a % of the managed landbase:

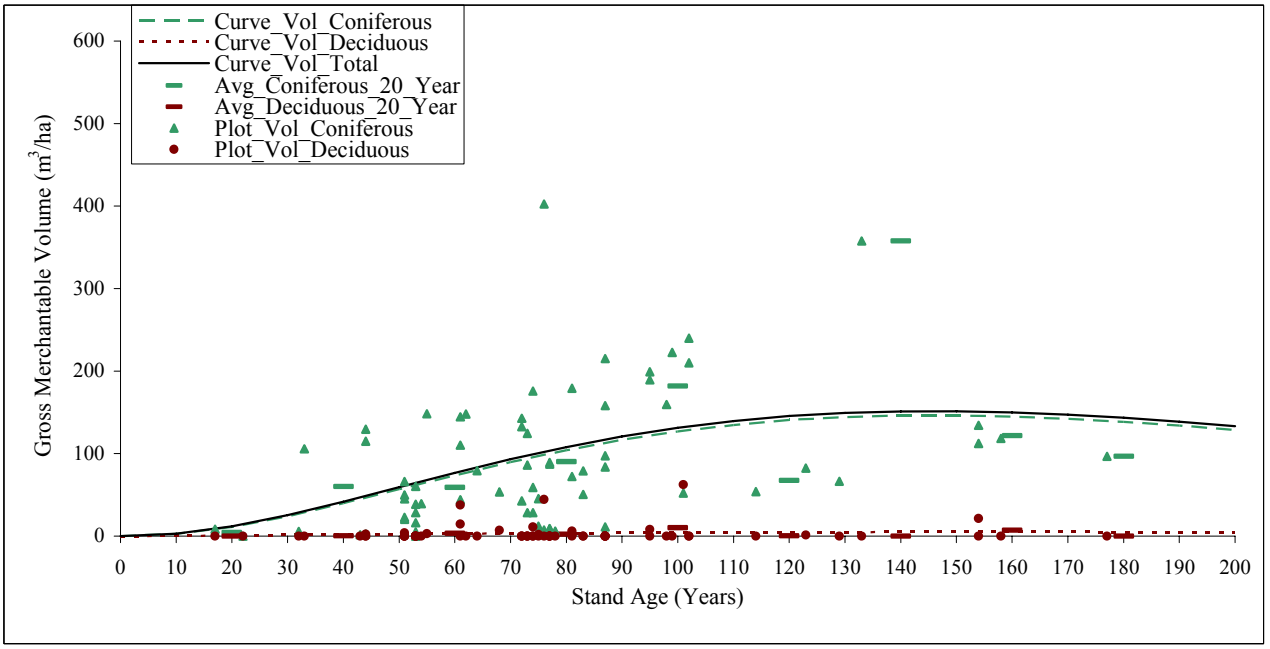


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.8	3.3	7.0	0.379	0.326	0.705
20	0	17.2	11.3	28.5	0.861	0.563	1.424
30	1	39.0	20.7	59.6	1.299	0.689	1.988
40	1	66.2	29.4	95.6	1.655	0.734	2.390
50	1	96.2	36.2	132.5	1.925	0.725	2.649
60	1	126.7	40.9	167.6	2.111	0.681	2.793
70	0	155.7	43.3	199.1	2.225	0.619	2.844
80	8	182.1	43.9	226.0	2.276	0.549	2.825
90	1	205.0	43.0	248.0	2.277	0.478	2.755
100	1	223.8	41.0	264.8	2.238	0.410	2.648
110	0	238.6	38.2	276.8	2.169	0.347	2.516
120	1	249.2	35.0	284.2	2.076	0.292	2.368
130	0	255.9	31.5	287.4	1.968	0.243	2.211
140	1	259.0	28.1	287.1	1.850	0.201	2.051
150	0	259.0	24.7	283.7	1.727	0.165	1.891
160	0	256.2	21.5	277.7	1.601	0.135	1.736
170	2	251.0	18.6	269.6	1.476	0.109	1.586
180	0	243.8	16.0	259.8	1.355	0.089	1.443
190	0	235.1	13.6	248.7	1.237	0.072	1.309
200	0	225.2	11.5	236.7	1.126	0.058	1.183

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =10 / E_B8_ML (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

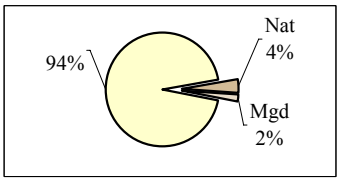
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.576E-02
Eqn: 2P	b	2.2951994
	k	N/A
Deciduous	a	9.924E-03
Eqn: 2P	b	1.5376287
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	69
Nat. Stand Area (ha):	25,396
Mgd. Stand Area (ha):	12,695

Stratum as a % of the managed landbase:

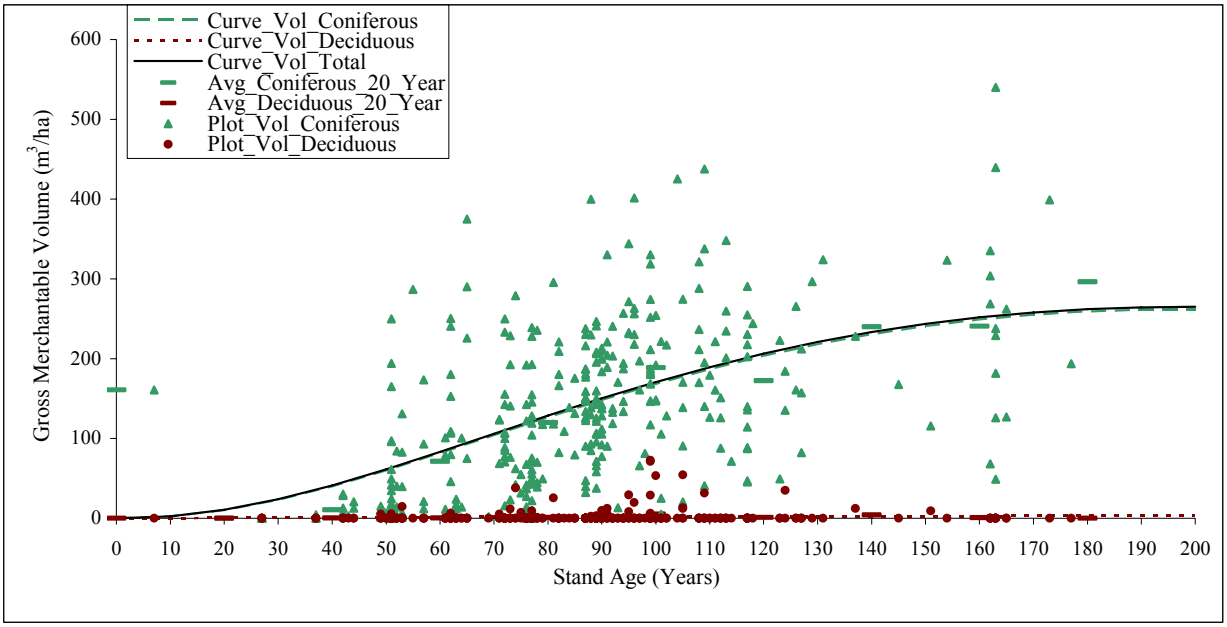


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.7	0.3	3.0	0.266	0.031	0.297
20	2	11.1	0.8	12.0	0.557	0.041	0.598
30	2	24.1	1.4	25.5	0.804	0.046	0.850
40	4	39.9	1.9	41.8	0.997	0.048	1.046
50	12	56.9	2.5	59.3	1.137	0.049	1.187
60	6	73.8	3.0	76.8	1.230	0.049	1.280
70	10	89.8	3.4	93.2	1.283	0.049	1.332
80	13	104.2	3.8	108.0	1.303	0.047	1.350
90	5	116.6	4.1	120.8	1.296	0.046	1.342
100	7	126.9	4.4	131.3	1.269	0.044	1.313
110	1	134.9	4.6	139.5	1.226	0.042	1.268
120	1	140.7	4.7	145.4	1.172	0.040	1.212
130	2	144.4	4.9	149.3	1.111	0.037	1.148
140	0	146.2	4.9	151.1	1.044	0.035	1.080
150	2	146.3	5.0	151.3	0.975	0.033	1.009
160	1	144.9	5.0	149.9	0.906	0.031	0.937
170	0	142.3	4.9	147.2	0.837	0.029	0.866
180	1	138.5	4.9	143.4	0.770	0.027	0.797
190	0	134.0	4.8	138.8	0.705	0.025	0.730
200	0	128.7	4.7	133.4	0.644	0.024	0.667

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =11 / E_B8_MH (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

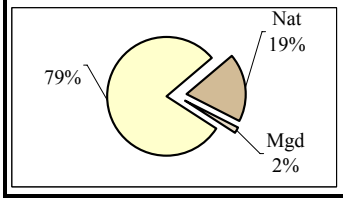
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.176E-02
Eqn: 2P	b	2.3333551
	k	N/A
Deciduous	a	6.854E-03
Eqn: 2P	b	1.4051975
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	345
Nat. Stand Area (ha):	121,277
Mgd. Stand Area (ha):	10,565

Stratum as a % of the managed landbase:

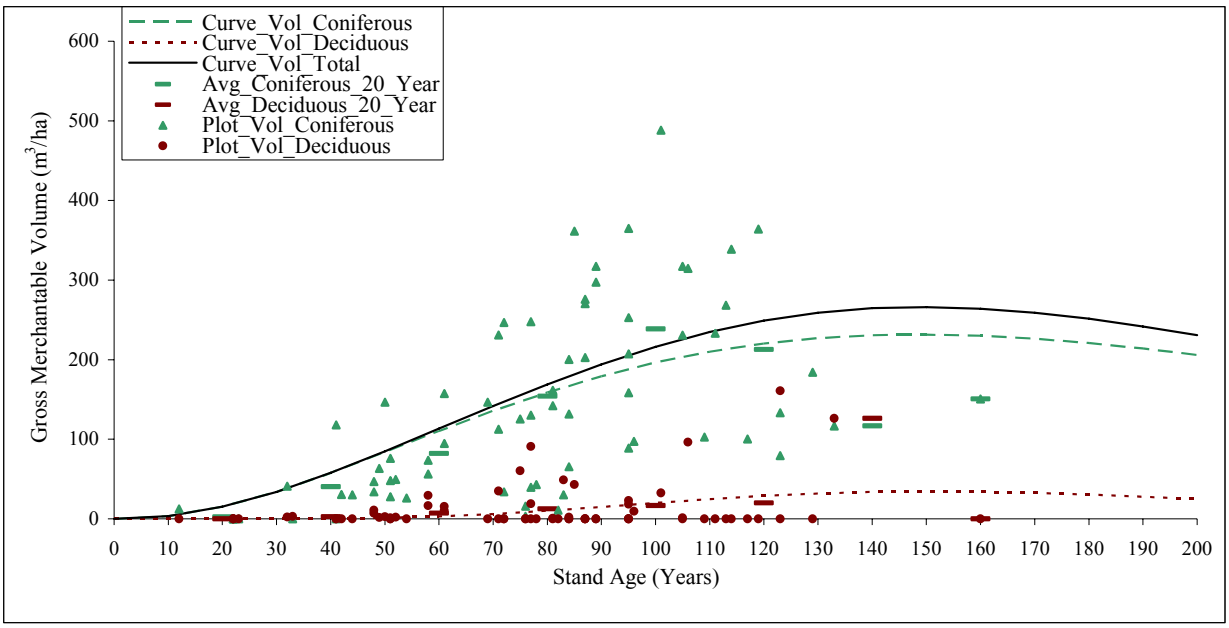


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	2.3	0.2	2.4	0.225	0.016	0.241
20	0	10.1	0.4	10.5	0.505	0.020	0.525
30	4	23.1	0.7	23.8	0.770	0.022	0.792
40	10	40.2	0.9	41.1	1.005	0.023	1.028
50	38	60.2	1.2	61.3	1.203	0.024	1.227
60	27	81.8	1.4	83.3	1.364	0.024	1.388
70	28	104.3	1.7	105.9	1.490	0.024	1.513
80	50	126.6	1.9	128.5	1.582	0.023	1.606
90	79	148.1	2.1	150.2	1.646	0.023	1.669
100	38	168.4	2.2	170.7	1.684	0.022	1.707
110	27	187.0	2.4	189.4	1.700	0.022	1.722
120	17	203.7	2.5	206.2	1.698	0.021	1.719
130	7	218.3	2.6	221.0	1.679	0.020	1.700
140	1	230.8	2.7	233.5	1.648	0.019	1.668
150	3	241.0	2.8	243.8	1.607	0.019	1.625
160	11	249.1	2.9	252.0	1.557	0.018	1.575
170	3	255.1	2.9	258.0	1.501	0.017	1.518
180	1	259.2	2.9	262.1	1.440	0.016	1.456
190	0	261.4	3.0	264.4	1.376	0.016	1.392
200	0	262.0	3.0	265.0	1.310	0.015	1.325

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =12 / E_B8_GL (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

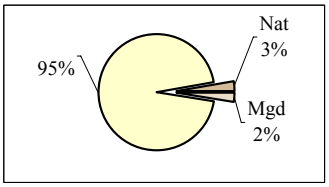
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.611E-02
Eqn: 2P	b	2.3928762
	k	N/A
Deciduous	a	2.596E-12
Eqn: 2P+K	b	7.5281171
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	70
Nat. Stand Area (ha):	17,672
Mgd. Stand Area (ha):	16,136

Stratum as a % of the managed landbase:

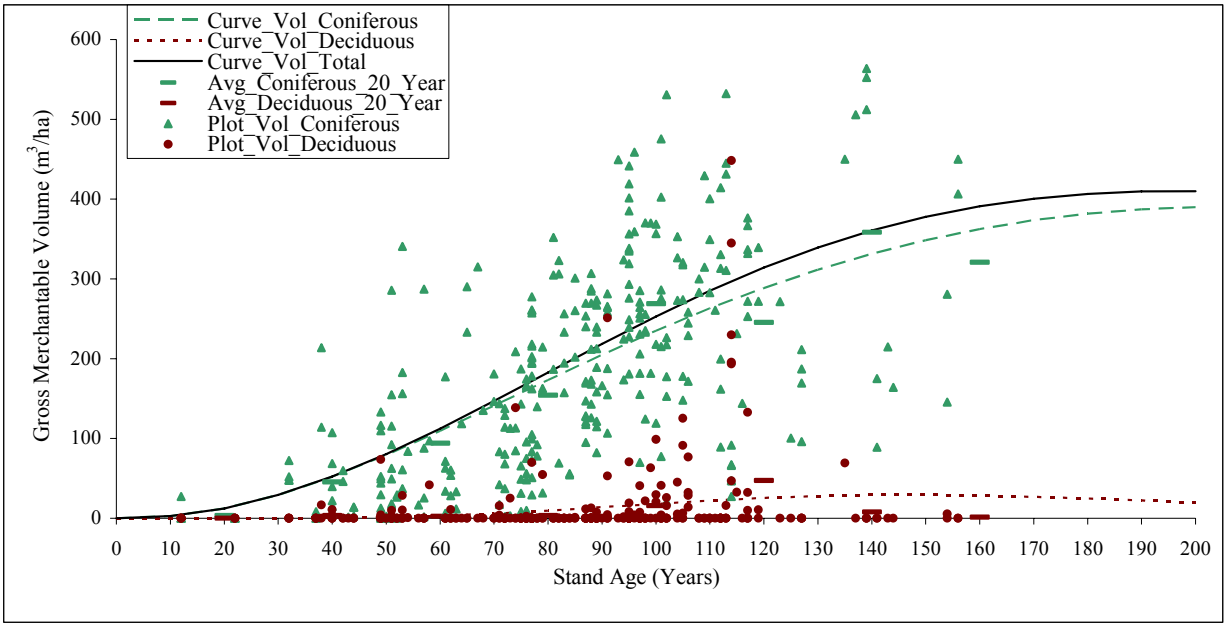


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	3.4	0.0	3.4	0.339	0.000	0.339
20	4	15.2	0.0	15.2	0.758	0.000	0.758
30	2	34.0	0.1	34.1	1.134	0.003	1.137
40	4	57.6	0.4	58.1	1.441	0.010	1.451
50	9	83.7	1.3	85.0	1.674	0.026	1.700
60	4	110.2	3.1	113.3	1.837	0.052	1.889
70	5	135.7	6.1	141.7	1.938	0.087	2.025
80	14	158.9	10.1	169.0	1.987	0.126	2.113
90	6	179.3	14.8	194.2	1.992	0.165	2.157
100	7	196.4	19.9	216.3	1.964	0.199	2.163
110	7	210.0	24.7	234.7	1.909	0.225	2.134
120	4	220.1	28.9	249.0	1.834	0.241	2.075
130	2	226.9	32.0	258.9	1.746	0.246	1.992
140	0	230.6	33.9	264.5	1.647	0.242	1.890
150	0	231.5	34.6	266.1	1.544	0.231	1.774
160	1	230.0	34.1	264.1	1.437	0.213	1.651
170	0	226.3	32.6	259.0	1.331	0.192	1.523
180	0	220.9	30.4	251.3	1.227	0.169	1.396
190	0	214.0	27.7	241.7	1.126	0.146	1.272
200	0	205.9	24.8	230.7	1.030	0.124	1.153

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =13 / E_B8_GH (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

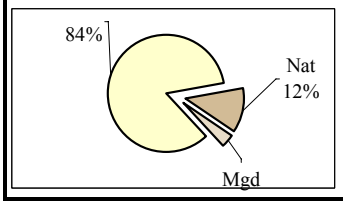
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.159E-02
Eqn: 2P	b	2.4049350
	k	N/A
Deciduous	a	5.556E-12
Eqn: 2P+K	b	7.3427909
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	311
Nat. Stand Area (ha):	79,758
Mgd. Stand Area (ha):	23,832

Stratum as a % of the managed landbase:

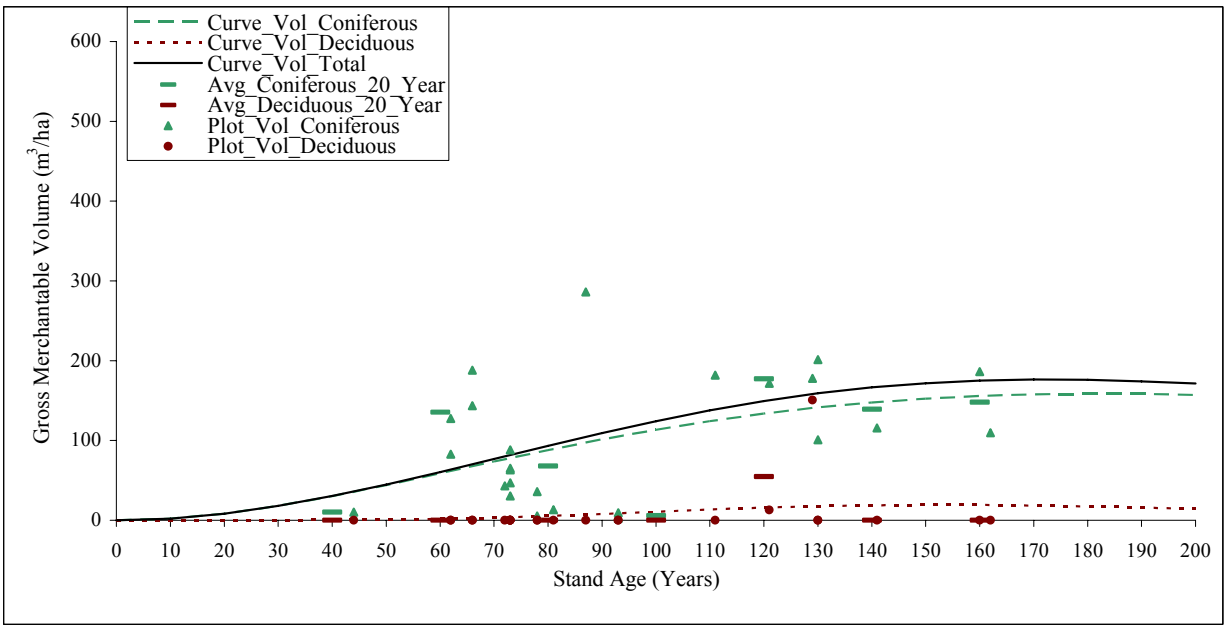


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	4	2.6	0.0	2.6	0.262	0.000	0.262
20	4	12.4	0.0	12.4	0.618	0.000	0.619
30	4	29.2	0.1	29.3	0.974	0.003	0.977
40	18	52.0	0.4	52.4	1.299	0.011	1.310
50	30	79.1	1.4	80.5	1.583	0.027	1.610
60	18	109.3	3.2	112.4	1.821	0.053	1.873
70	22	141.0	5.9	146.9	2.014	0.085	2.098
80	51	173.1	9.6	182.7	2.163	0.120	2.283
90	45	204.6	13.8	218.4	2.273	0.153	2.427
100	53	234.7	18.1	252.9	2.347	0.181	2.529
110	33	262.9	22.2	285.1	2.390	0.201	2.592
120	11	288.6	25.5	314.1	2.405	0.212	2.617
130	5	311.6	27.8	339.4	2.397	0.214	2.611
140	9	331.6	29.1	360.7	2.369	0.208	2.576
150	2	348.6	29.2	377.9	2.324	0.195	2.519
160	2	362.6	28.5	391.1	2.266	0.178	2.444
170	0	373.6	27.0	400.6	2.198	0.159	2.356
180	0	381.7	24.9	406.6	2.121	0.138	2.259
190	0	387.2	22.5	409.6	2.038	0.118	2.156
200	0	390.0	19.9	409.9	1.950	0.099	2.049

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =14 / E_B9_XX (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

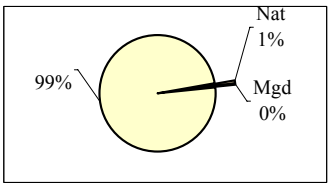
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.234E-02
Eqn: 2P	b	2.2498088
	k	N/A
Deciduous	a	8.785E-13
Eqn: 2P+K	b	7.6282462
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	25
Nat. Stand Area (ha):	4,777
Mgd. Stand Area (ha):	2,615

Stratum as a % of the managed landbase:

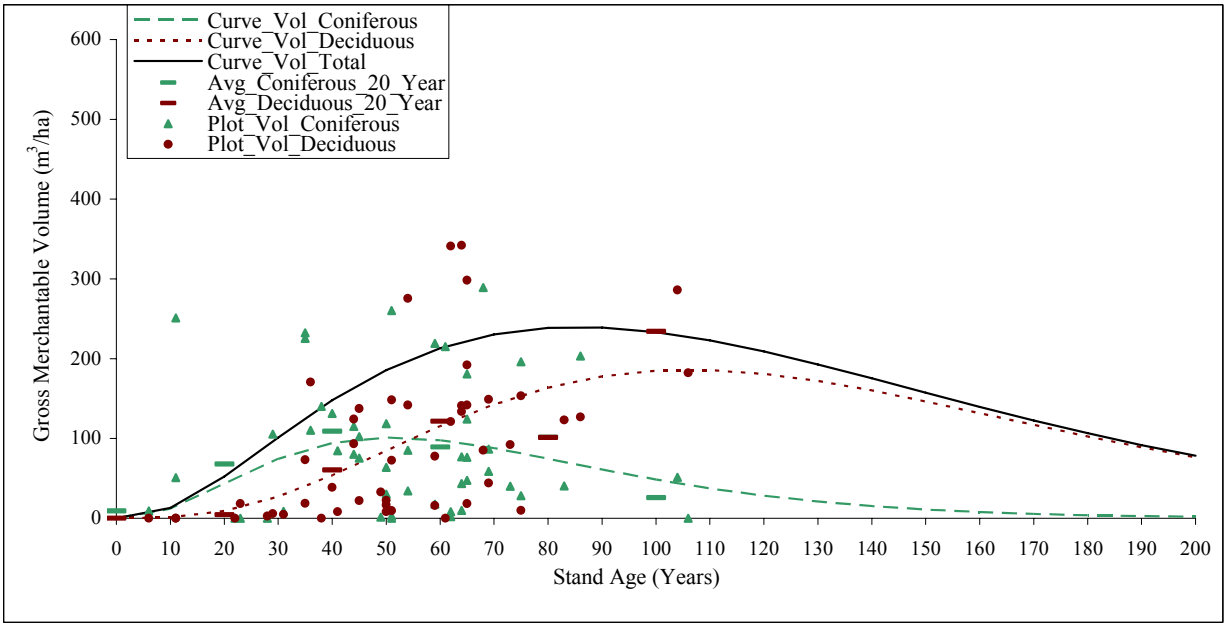


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	1.9	0.0	1.9	0.194	0.000	0.194
20	0	8.2	0.0	8.2	0.408	0.000	0.408
30	0	17.9	0.0	18.0	0.598	0.001	0.599
40	1	30.3	0.2	30.5	0.757	0.005	0.762
50	0	44.2	0.7	44.9	0.885	0.013	0.898
60	2	58.9	1.6	60.5	0.982	0.027	1.009
70	8	73.7	3.2	76.8	1.052	0.045	1.097
80	3	87.9	5.3	93.2	1.099	0.066	1.165
90	3	101.3	7.9	109.2	1.126	0.088	1.213
100	0	113.5	10.7	124.2	1.135	0.107	1.242
110	1	124.3	13.4	137.7	1.130	0.122	1.252
120	1	133.6	15.8	149.4	1.114	0.132	1.245
130	3	141.4	17.6	159.1	1.088	0.136	1.224
140	1	147.7	18.8	166.5	1.055	0.135	1.189
150	0	152.4	19.3	171.8	1.016	0.129	1.145
160	2	155.8	19.2	175.0	0.974	0.120	1.094
170	0	157.8	18.5	176.3	0.928	0.109	1.037
180	0	158.6	17.3	176.0	0.881	0.096	0.978
190	0	158.4	15.9	174.2	0.833	0.084	0.917
200	0	157.1	14.2	171.3	0.785	0.071	0.857

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =15 / E_UN_DM (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

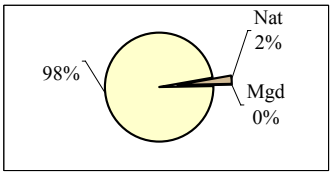
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	5.066E-02
Eqn: 2P	b	2.5900961
	k	N/A
Deciduous	a	4.436E-04
Eqn: 2P+K	b	3.5338200
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	49
Nat. Stand Area (ha):	15,843
Mgd. Stand Area (ha):	0

Stratum as a % of the managed landbase:

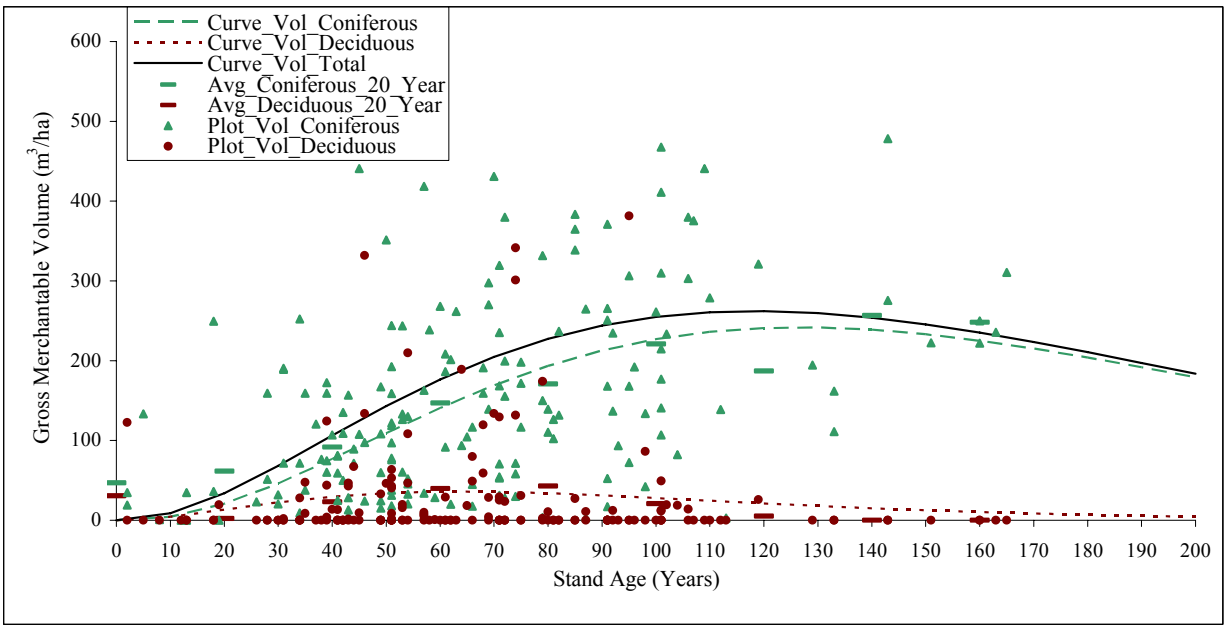


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	3	11.9	1.1	13.0	1.188	0.109	1.296
20	2	43.1	9.0	52.1	2.155	0.451	2.606
30	3	74.2	27.1	101.3	2.474	0.902	3.376
40	8	94.2	53.6	147.8	2.355	1.340	3.696
50	11	101.2	84.5	185.7	2.024	1.691	3.714
60	8	97.8	115.4	213.1	1.629	1.923	3.552
70	8	87.8	142.5	230.3	1.254	2.036	3.290
80	3	74.8	163.7	238.5	0.935	2.046	2.981
90	1	61.1	177.8	239.0	0.679	1.976	2.655
100	1	48.4	184.9	233.3	0.484	1.849	2.333
110	1	37.3	185.5	222.9	0.339	1.687	2.026
120	0	28.2	180.8	209.0	0.235	1.507	1.742
130	0	20.9	171.9	192.8	0.161	1.322	1.483
140	0	15.2	160.1	175.3	0.109	1.143	1.252
150	0	11.0	146.4	157.3	0.073	0.976	1.049
160	0	7.8	131.7	139.6	0.049	0.823	0.872
170	0	5.5	116.9	122.5	0.032	0.688	0.720
180	0	3.9	102.5	106.4	0.021	0.570	0.591
190	0	2.7	88.9	91.6	0.014	0.468	0.482
200	0	1.8	76.4	78.2	0.009	0.382	0.391

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =16 / E_UN_CX (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

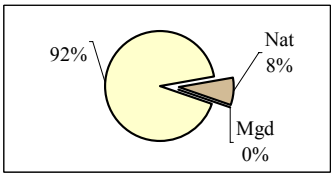
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.938E-02
Eqn: 2P	b	2.4551832
	k	N/A
Total	a	4.557E-02
Eqn: 2P+K	b	2.1172968
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	173
Nat. Stand Area (ha):	51,955
Mgd. Stand Area (ha):	0

Stratum as a % of the managed landbase:

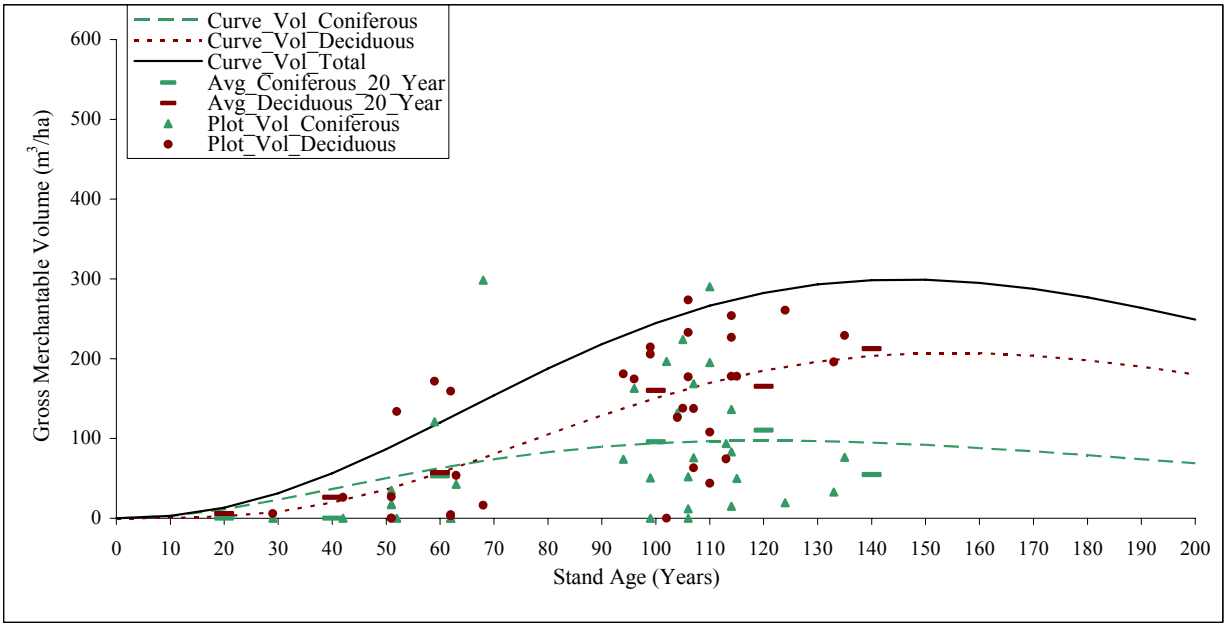


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	2	0.0	0.0	0.0	0.000	0.000	0.000
10	5	4.6	4.3	8.8	0.455	0.428	0.883
20	3	20.6	13.3	33.9	1.029	0.665	1.694
30	13	45.9	22.5	68.4	1.529	0.750	2.278
40	22	76.6	29.6	106.2	1.914	0.741	2.655
50	30	109.1	34.0	143.1	2.182	0.681	2.863
60	14	140.6	35.9	176.5	2.344	0.598	2.942
70	24	169.1	35.6	204.8	2.416	0.509	2.925
80	12	193.4	33.9	227.3	2.417	0.424	2.841
90	14	212.7	31.2	243.9	2.364	0.346	2.710
100	16	227.0	27.9	254.9	2.270	0.279	2.549
110	7	236.3	24.5	260.8	2.148	0.222	2.371
120	1	241.0	21.1	262.1	2.009	0.176	2.184
130	3	241.7	17.9	259.6	1.859	0.138	1.997
140	2	238.8	15.0	253.8	1.706	0.107	1.813
150	1	233.1	12.4	245.5	1.554	0.083	1.637
160	3	225.0	10.2	235.2	1.406	0.064	1.470
170	1	215.1	8.3	223.4	1.265	0.049	1.314
180	0	203.9	6.7	210.6	1.133	0.037	1.170
190	0	191.8	5.4	197.2	1.009	0.028	1.038
200	0	179.2	4.3	183.5	0.896	0.022	0.918

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 17 / E_B1_XL (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

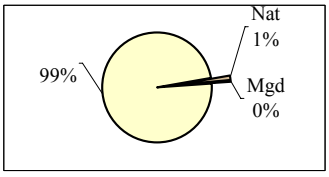
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.879E-02
Eqn: 2P	b	2.2577704
	k	N/A
Deciduous	a	3.393E-05
Eqn: 2P+K	b	3.8665567
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,174
Mgd. Stand Area (ha):	2,078

Stratum as a % of the managed landbase:

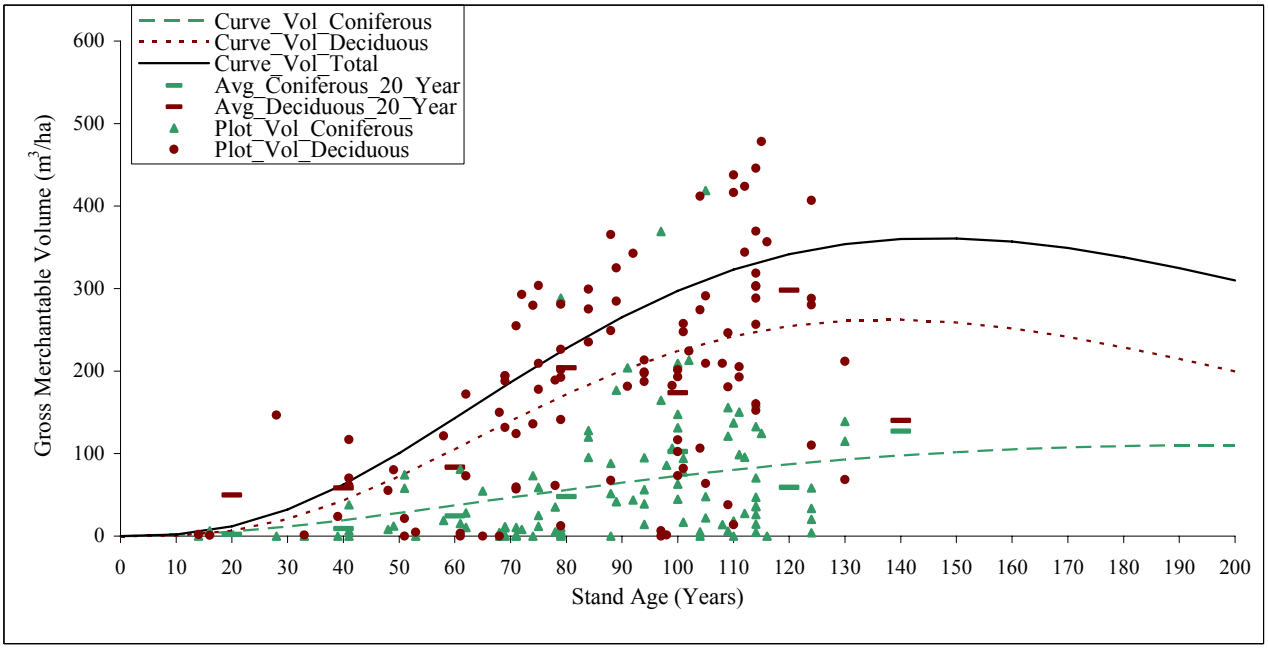


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.8	0.2	3.0	0.282	0.019	0.301
20	0	11.2	2.2	13.4	0.559	0.110	0.669
30	1	23.1	8.2	31.4	0.771	0.275	1.046
40	1	36.7	19.5	56.2	0.917	0.488	1.406
50	4	50.3	36.0	86.4	1.007	0.721	1.727
60	5	62.9	56.8	119.8	1.049	0.947	1.996
70	1	73.9	80.3	154.2	1.055	1.147	2.203
80	0	82.8	104.8	187.6	1.035	1.310	2.345
90	1	89.5	128.7	218.2	0.994	1.430	2.424
100	5	94.1	150.6	244.7	0.941	1.506	2.447
110	12	96.7	169.6	266.3	0.879	1.542	2.421
120	2	97.5	184.9	282.4	0.813	1.541	2.353
130	1	96.8	196.2	293.0	0.745	1.509	2.254
140	1	94.9	203.5	298.4	0.678	1.454	2.131
150	0	91.9	207.0	298.8	0.612	1.380	1.992
160	0	88.1	206.9	294.9	0.550	1.293	1.843
170	0	83.7	203.7	287.4	0.492	1.198	1.690
180	0	78.9	197.9	276.8	0.438	1.099	1.538
190	0	73.9	189.9	263.8	0.389	1.000	1.388
200	0	68.7	180.4	249.1	0.344	0.902	1.245

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 18 / E_B1_XH (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

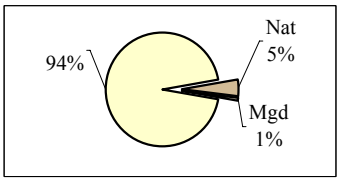
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.077E-02
Eqn: 2P	b	2.1496183
	k	N/A
Deciduous	a	3.648E-04
Eqn: 2P+K	b	3.4372256
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	104
Nat. Stand Area (ha):	30,931
Mgd. Stand Area (ha):	4,534

Stratum as a % of the managed landbase:

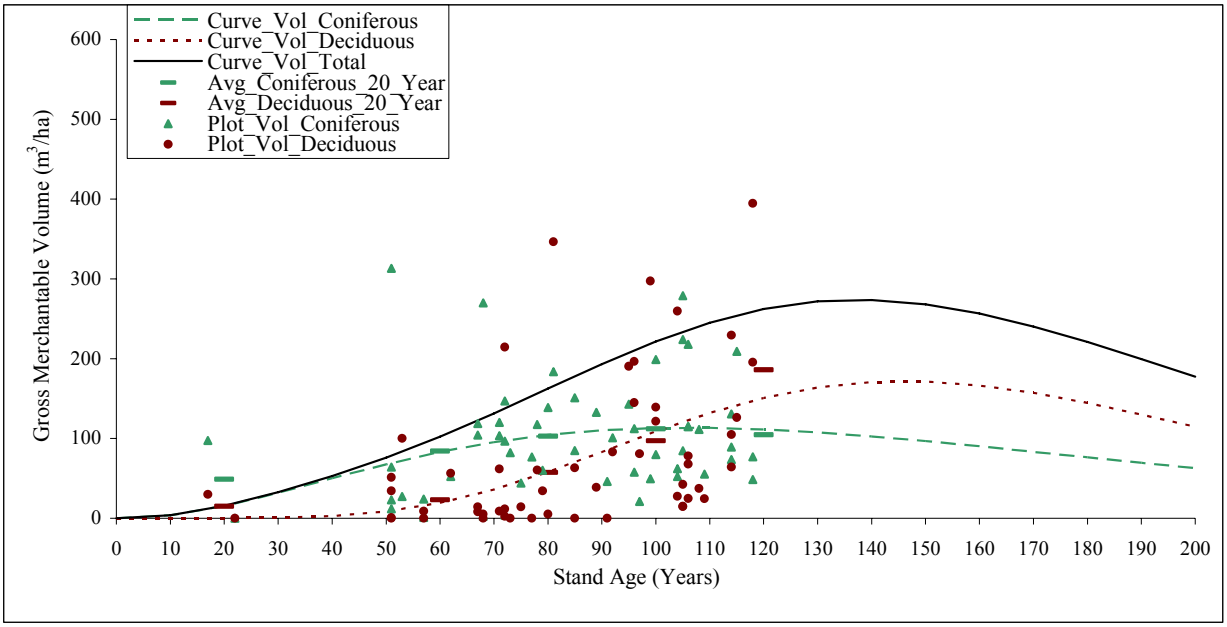


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	1.4	0.8	2.1	0.136	0.078	0.214
20	1	5.4	6.6	12.0	0.272	0.328	0.600
30	2	11.7	20.6	32.3	0.389	0.686	1.075
40	4	19.4	43.1	62.5	0.486	1.077	1.564
50	5	28.2	72.3	100.5	0.564	1.445	2.010
60	5	37.5	105.3	142.8	0.625	1.756	2.380
70	14	46.9	139.3	186.2	0.670	1.991	2.660
80	14	56.1	171.7	227.8	0.701	2.147	2.848
90	11	64.9	200.5	265.4	0.721	2.228	2.949
100	16	73.1	224.3	297.4	0.731	2.243	2.974
110	23	80.5	242.4	322.9	0.732	2.204	2.936
120	6	87.2	254.6	341.8	0.726	2.121	2.848
130	2	93.0	261.1	354.0	0.715	2.008	2.723
140	0	97.9	262.3	360.2	0.699	1.874	2.573
150	0	102.0	258.9	360.9	0.680	1.726	2.406
160	0	105.2	251.8	356.9	0.657	1.573	2.231
170	0	107.6	241.5	349.1	0.633	1.421	2.053
180	0	109.2	228.9	338.1	0.607	1.272	1.878
190	0	110.2	214.7	324.8	0.580	1.130	1.710
200	0	110.4	199.4	309.9	0.552	0.997	1.549

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 19 / E_B2_XX (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

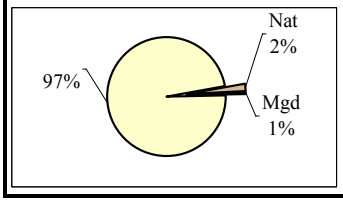
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	2.206E-02
Eqn: 2P	b	2.3340203
	k	N/A
Deciduous	a	4.174E-11
Eqn: 2P+K	b	7.2930995
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	54
Nat. Stand Area (ha):	11,880
Mgd. Stand Area (ha):	4,135

Stratum as a % of the managed landbase:

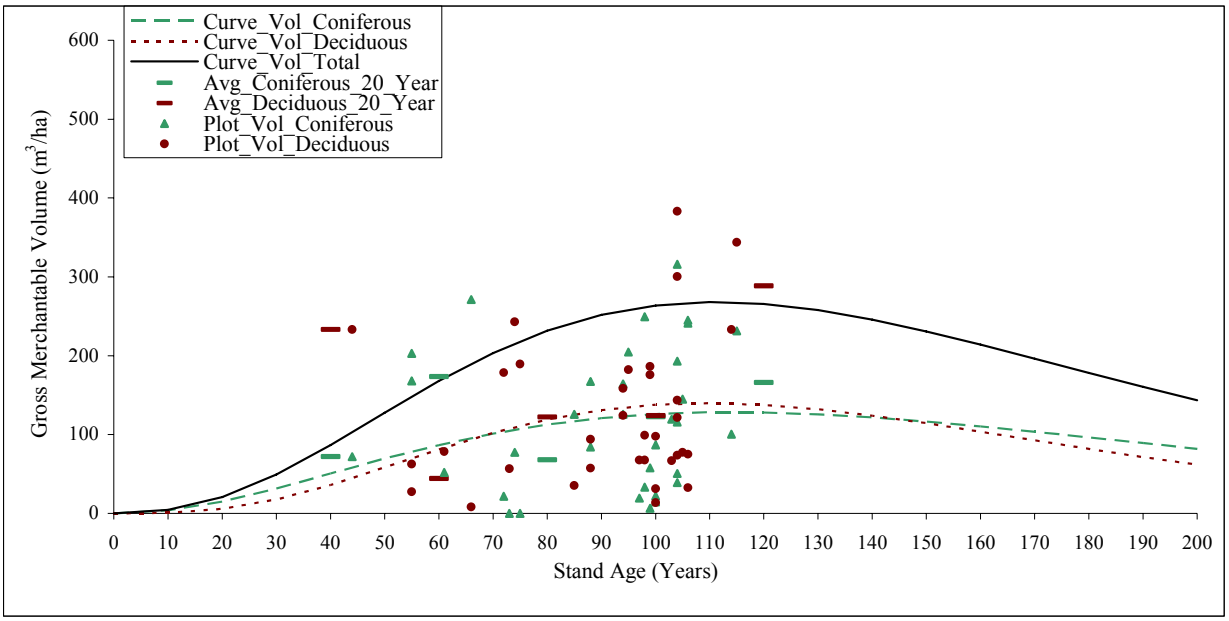


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.8	0.0	3.8	0.382	0.000	0.382
20	2	15.4	0.0	15.5	0.772	0.002	0.774
30	0	31.9	0.6	32.5	1.063	0.018	1.082
40	0	50.1	2.7	52.8	1.252	0.068	1.320
50	5	67.6	8.4	76.0	1.352	0.169	1.521
60	3	83.0	19.3	102.3	1.383	0.322	1.705
70	10	95.4	36.1	131.4	1.363	0.515	1.878
80	6	104.5	57.9	162.4	1.306	0.724	2.030
90	5	110.3	82.9	193.2	1.226	0.922	2.147
100	9	113.1	108.5	221.6	1.131	1.085	2.216
110	11	113.3	131.8	245.2	1.030	1.199	2.229
120	3	111.4	150.8	262.2	0.928	1.257	2.185
130	0	107.7	164.0	271.7	0.828	1.262	2.090
140	0	102.6	170.8	273.4	0.733	1.220	1.953
150	0	96.7	171.3	268.0	0.645	1.142	1.787
160	0	90.2	166.4	256.6	0.564	1.040	1.603
170	0	83.3	157.0	240.3	0.490	0.924	1.414
180	0	76.4	144.5	220.9	0.424	0.803	1.227
190	0	69.5	130.0	199.5	0.366	0.684	1.050
200	0	62.8	114.6	177.4	0.314	0.573	0.887

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 20 / E_B3_XX (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

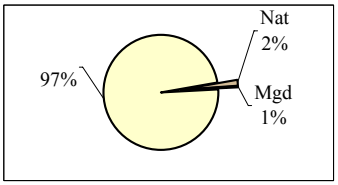
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	2.053E-02
Eqn: 2P	b	2.3397295
	k	N/A
Deciduous	a	1.963E-04
Eqn: 2P+K	b	3.6470434
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,983
Mgd. Stand Area (ha):	3,293

Stratum as a % of the managed landbase:

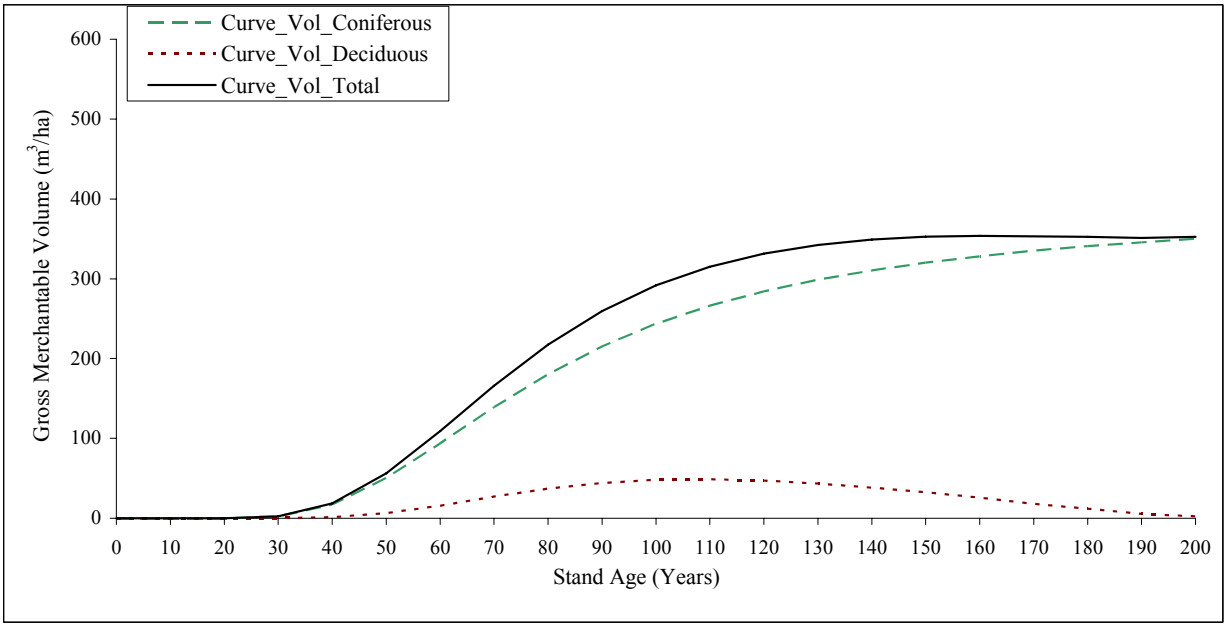


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.7	0.6	4.3	0.366	0.062	0.428
20	0	15.1	5.6	20.7	0.753	0.280	1.034
30	0	31.7	17.6	49.3	1.056	0.587	1.643
40	1	50.6	36.0	86.6	1.265	0.901	2.166
50	0	69.5	58.3	127.7	1.389	1.165	2.554
60	3	86.7	81.2	167.8	1.444	1.353	2.797
70	4	101.2	102.0	203.3	1.446	1.458	2.904
80	1	112.7	119.0	231.7	1.409	1.487	2.896
90	5	120.9	131.0	251.9	1.343	1.456	2.799
100	15	126.0	137.8	263.8	1.260	1.378	2.638
110	4	128.2	139.8	268.1	1.166	1.271	2.437
120	1	128.0	137.6	265.6	1.067	1.147	2.214
130	0	125.7	132.0	257.8	0.967	1.016	1.983
140	0	121.8	124.0	245.7	0.870	0.885	1.755
150	0	116.6	114.2	230.8	0.777	0.762	1.539
160	0	110.4	103.6	214.0	0.690	0.647	1.337
170	0	103.6	92.6	196.2	0.610	0.545	1.154
180	0	96.5	81.7	178.2	0.536	0.454	0.990
190	0	89.2	71.3	160.5	0.469	0.375	0.845
200	0	81.9	61.6	143.5	0.409	0.308	0.717

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 21 / G_B4_XX (Con-UT1/Dec-UT1)



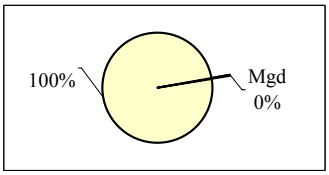
Average GYPSY Projections

Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m³/ha) Conifer	Deciduous	Total	Mean Annual Increment (m³/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.0	0.0	0.0	0.002	0.000	0.002
30	0	2.3	0.1	2.4	0.076	0.005	0.081
40	0	17.1	1.5	18.5	0.427	0.037	0.463
50	0	50.1	6.3	56.4	1.001	0.126	1.127
60	0	93.7	15.6	109.4	1.562	0.260	1.823
70	0	138.9	27.0	165.9	1.985	0.386	2.370
80	0	180.1	37.1	217.2	2.252	0.464	2.716
90	0	215.1	44.2	259.3	2.390	0.492	2.882
100	0	243.6	48.0	291.6	2.436	0.480	2.916
110	0	266.3	48.8	315.1	2.421	0.444	2.865
120	0	284.4	47.1	331.4	2.370	0.392	2.762
130	0	298.8	43.5	342.3	2.298	0.334	2.633
140	0	310.5	38.5	349.0	2.218	0.275	2.493
150	0	320.1	32.5	352.6	2.134	0.217	2.351
160	0	328.1	25.6	353.8	2.051	0.160	2.211
170	0	334.9	18.1	353.0	1.970	0.106	2.077
180	0	340.7	11.7	352.5	1.893	0.065	1.958
190	0	345.7	5.5	351.2	1.819	0.029	1.848
200	0	350.0	2.3	352.3	1.750	0.011	1.761

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.66
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	10
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	2,315

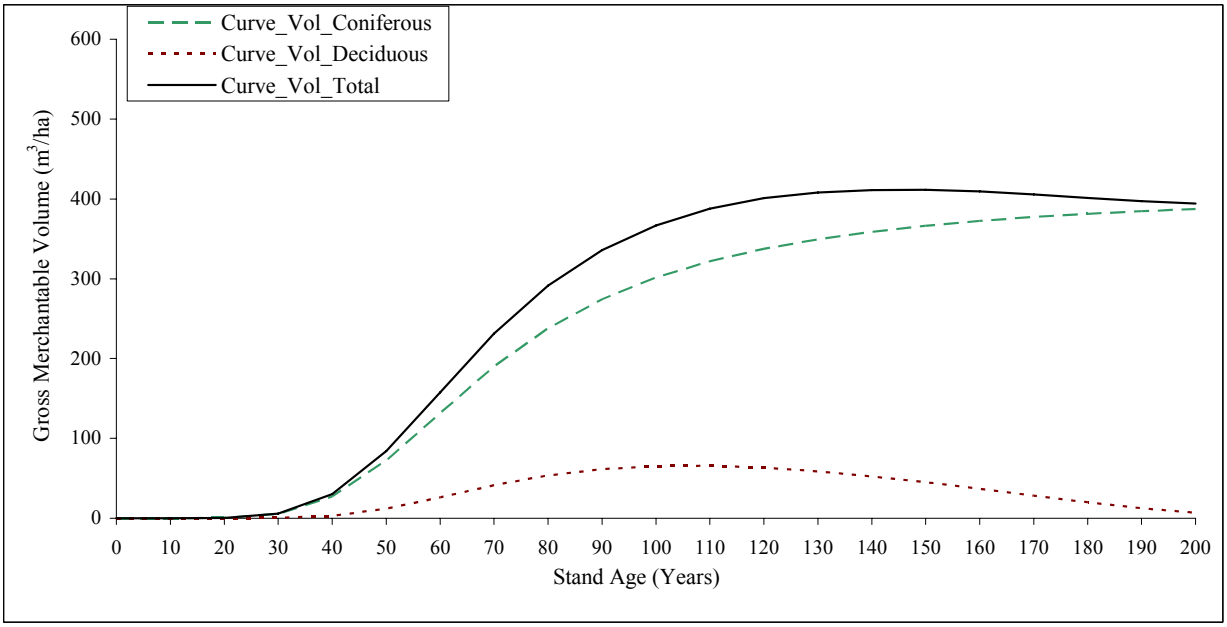
Stratum as a % of the managed landbase:



1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 22 / G_B5_XX (Con-UT1/Dec-UT1)

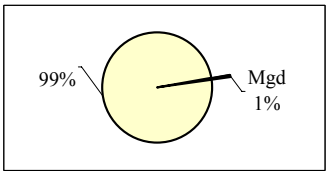


Average GYPSY Projections

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.66
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	16
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	3,424

Stratum as a % of the managed landbase:

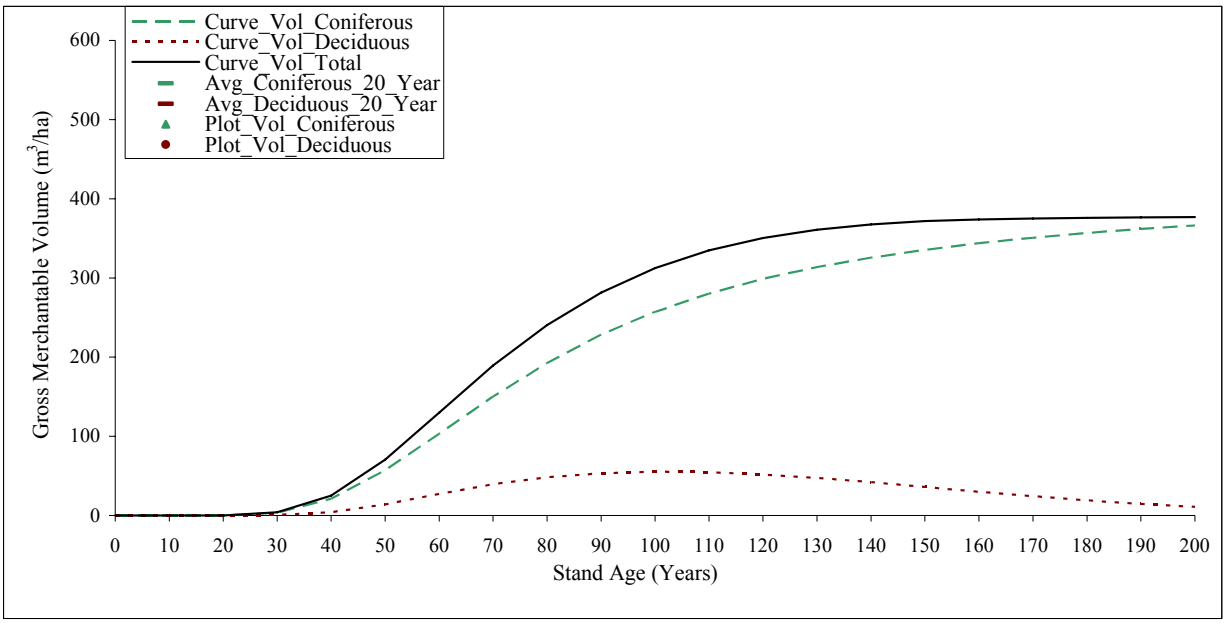


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m³/ha)			Mean Annual Increment (m³/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.3	0.0	0.3	0.015	0.000	0.015
30	0	5.3	0.3	5.6	0.178	0.010	0.188
40	0	27.2	3.0	30.2	0.680	0.075	0.755
50	0	72.2	11.7	84.0	1.445	0.234	1.679
60	0	131.6	26.1	157.7	2.193	0.435	2.628
70	0	189.9	41.4	231.3	2.713	0.592	3.304
80	0	237.8	53.6	291.4	2.973	0.670	3.643
90	0	274.2	61.5	335.7	3.047	0.683	3.730
100	0	301.4	65.3	366.7	3.014	0.653	3.667
110	0	321.8	65.7	387.5	2.925	0.598	3.523
120	0	337.3	63.4	400.8	2.811	0.528	3.340
130	0	349.4	58.8	408.2	2.688	0.452	3.140
140	0	358.8	52.4	411.2	2.563	0.374	2.937
150	0	366.3	45.0	411.3	2.442	0.300	2.742
160	0	372.4	37.0	409.4	2.328	0.231	2.559
170	0	377.3	28.3	405.6	2.220	0.166	2.386
180	0	381.4	20.0	401.3	2.119	0.111	2.230
190	0	384.7	12.6	397.3	2.025	0.066	2.091
200	0	387.5	6.7	394.2	1.937	0.033	1.971

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 23 / G_B7_XX (Con-UT1/Dec-UT1)



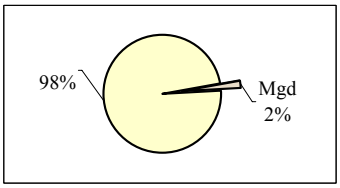
Average GYPSY Projections

Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.1	0.0	0.1	0.004	0.001	0.005
30	0	3.4	0.5	3.9	0.113	0.018	0.131
40	0	21.0	4.2	25.2	0.525	0.105	0.630
50	0	56.9	13.8	70.7	1.138	0.276	1.414
60	0	103.0	27.0	130.0	1.716	0.451	2.167
70	0	150.0	39.3	189.3	2.144	0.561	2.705
80	0	192.5	48.2	240.6	2.406	0.602	3.008
90	0	228.1	53.3	281.4	2.535	0.592	3.127
100	0	257.1	55.2	312.3	2.571	0.552	3.123
110	0	280.2	54.5	334.7	2.547	0.495	3.043
120	0	298.7	51.7	350.4	2.489	0.431	2.920
130	0	313.6	47.4	360.9	2.412	0.364	2.777
140	0	325.6	41.9	367.6	2.326	0.300	2.626
150	0	335.6	36.0	371.6	2.237	0.240	2.477
160	0	343.8	30.0	373.8	2.149	0.187	2.337
170	0	350.8	24.3	375.1	2.064	0.143	2.206
180	0	356.7	19.1	375.8	1.982	0.106	2.088
190	0	361.8	14.6	376.4	1.904	0.077	1.981
200	0	366.2	10.8	376.9	1.831	0.054	1.885

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.66
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	103
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	12,336

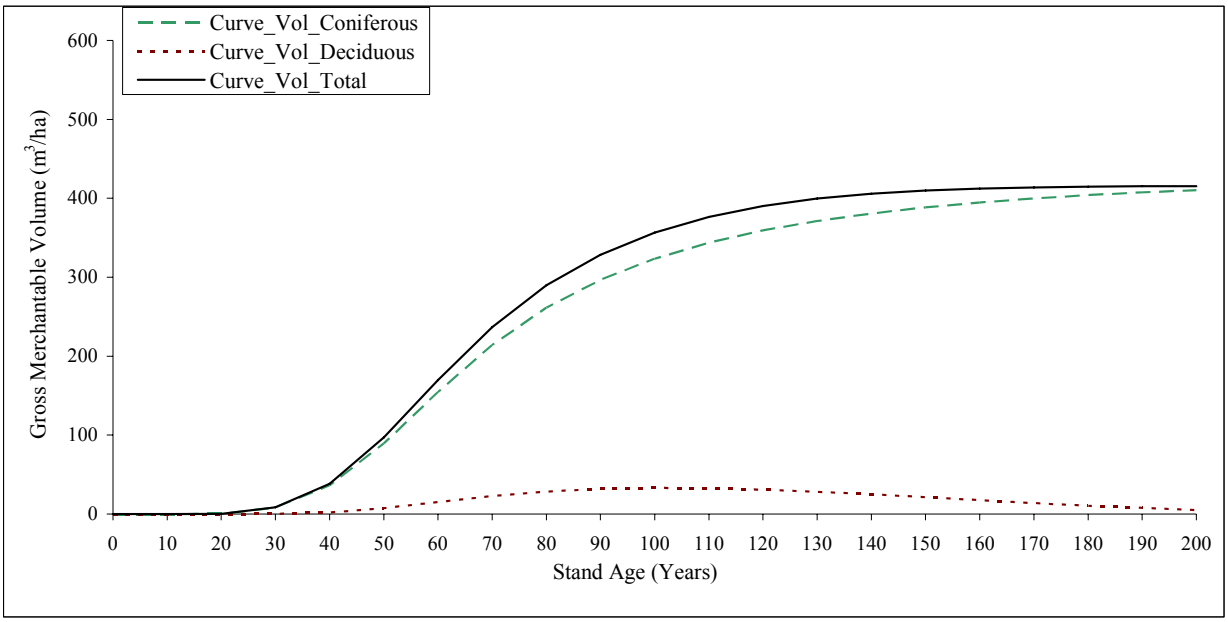
Stratum as a % of the managed landbase:



1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 24 / G_B8_XX (Con-UT1/Dec-UT1)



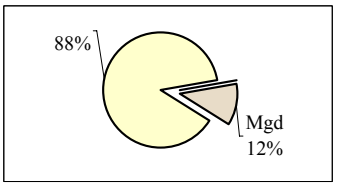
Average GYPSY Projections

Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.5	0.0	0.5	0.024	0.000	0.025
30	0	8.2	0.3	8.5	0.272	0.009	0.282
40	0	36.3	2.2	38.5	0.908	0.054	0.962
50	0	89.5	7.4	96.9	1.791	0.148	1.939
60	0	154.5	15.2	169.7	2.575	0.253	2.828
70	0	214.0	22.8	236.8	3.057	0.326	3.383
80	0	261.2	28.5	289.7	3.265	0.357	3.621
90	0	296.8	31.9	328.7	3.297	0.354	3.652
100	0	323.5	33.2	356.6	3.235	0.332	3.566
110	0	343.7	32.7	376.4	3.125	0.297	3.422
120	0	359.2	31.0	390.2	2.994	0.258	3.252
130	0	371.3	28.3	399.6	2.856	0.218	3.074
140	0	380.9	25.0	405.9	2.721	0.178	2.899
150	0	388.6	21.2	409.8	2.590	0.142	2.732
160	0	394.8	17.5	412.3	2.467	0.109	2.577
170	0	399.9	13.9	413.8	2.352	0.082	2.434
180	0	404.1	10.7	414.8	2.245	0.059	2.304
190	0	407.5	7.7	415.2	2.145	0.041	2.185
200	0	410.4	5.1	415.5	2.052	0.026	2.078

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.66
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	450
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	76,615

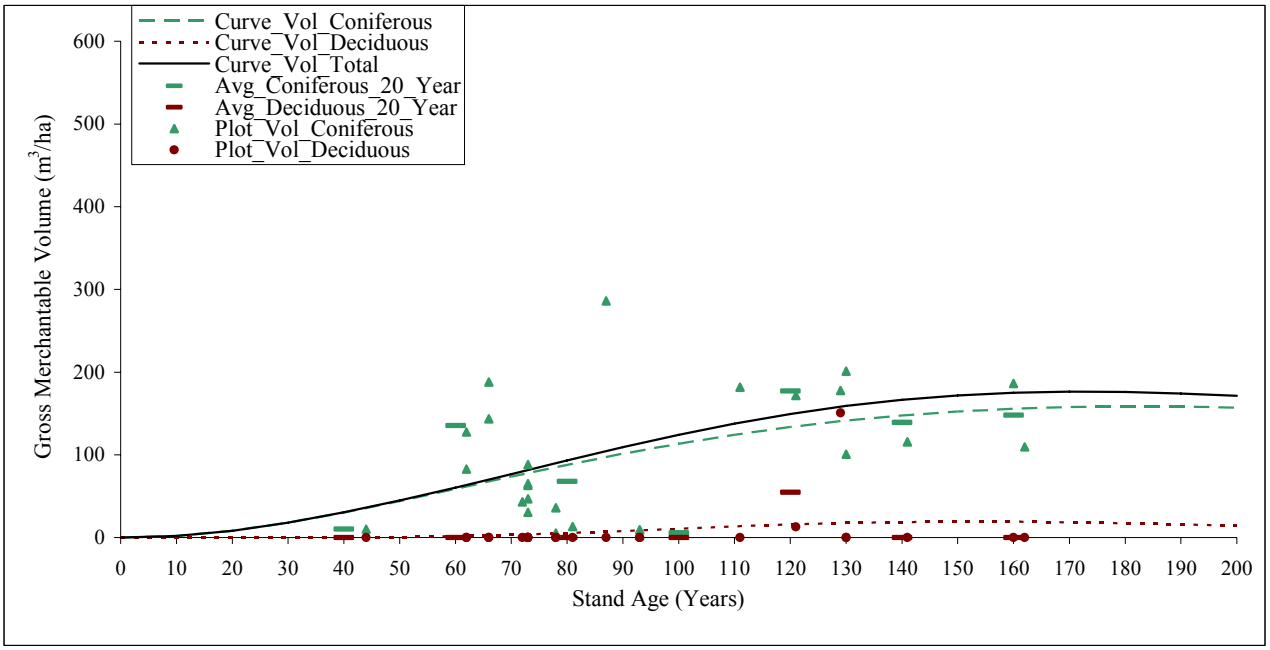
Stratum as a % of the managed landbase:



1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =25 / E_B9_XX (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

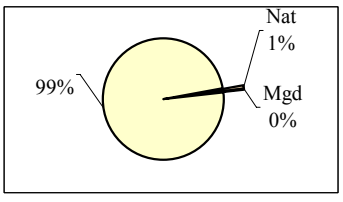
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.234E-02
Eqn: 2P	b	2.2498088
	k	N/A
Deciduous	a	8.785E-13
Eqn: 2P+K	b	7.6282462
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	25
Nat. Stand Area (ha):	4,777
Mgd. Stand Area (ha):	2,615

Stratum as a % of the managed landbase:

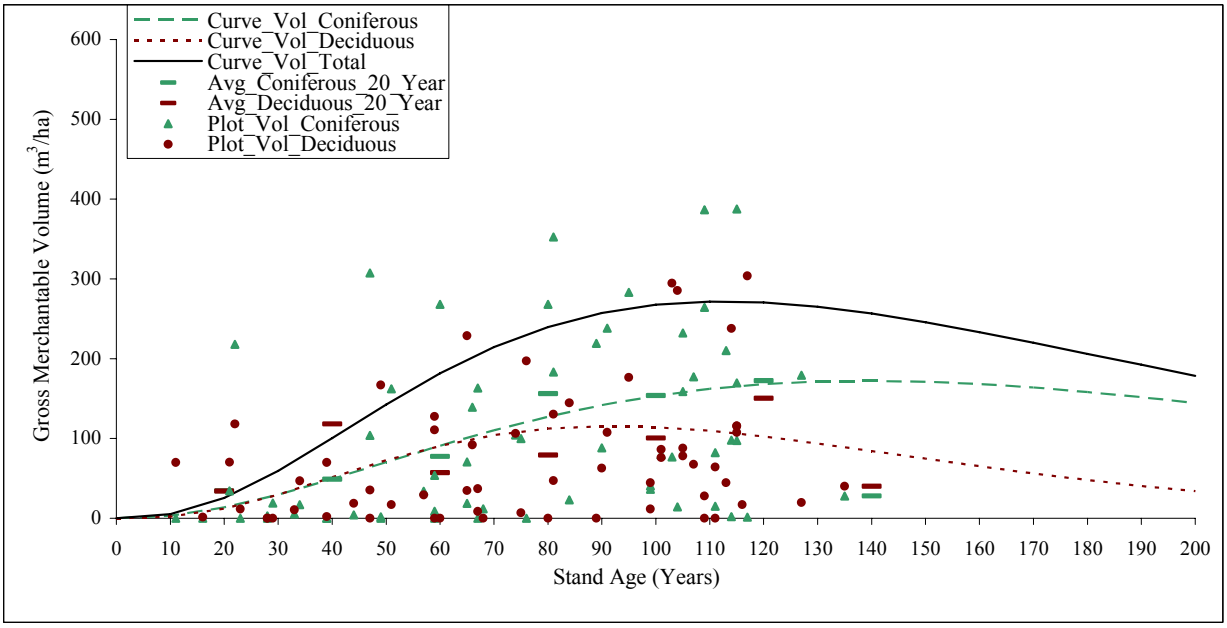


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	1.9	0.0	1.9	0.194	0.000	0.194
20	0	8.2	0.0	8.2	0.408	0.000	0.408
30	0	17.9	0.0	18.0	0.598	0.001	0.599
40	1	30.3	0.2	30.5	0.757	0.005	0.762
50	0	44.2	0.7	44.9	0.885	0.013	0.898
60	2	58.9	1.6	60.5	0.982	0.027	1.009
70	8	73.7	3.2	76.8	1.052	0.045	1.097
80	3	87.9	5.3	93.2	1.099	0.066	1.165
90	3	101.3	7.9	109.2	1.126	0.088	1.213
100	0	113.5	10.7	124.2	1.135	0.107	1.242
110	1	124.3	13.4	137.7	1.130	0.122	1.252
120	1	133.6	15.8	149.4	1.114	0.132	1.245
130	3	141.4	17.6	159.1	1.088	0.136	1.224
140	1	147.7	18.8	166.5	1.055	0.135	1.189
150	0	152.4	19.3	171.8	1.016	0.129	1.145
160	2	155.8	19.2	175.0	0.974	0.120	1.094
170	0	157.8	18.5	176.3	0.928	0.109	1.037
180	0	158.6	17.3	176.0	0.881	0.096	0.978
190	0	158.4	15.9	174.2	0.833	0.084	0.917
200	0	157.1	14.2	171.3	0.785	0.071	0.857

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =26 / E_PAS_D (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

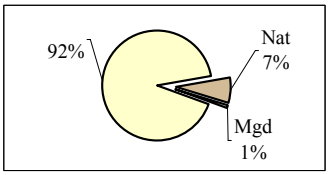
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.685E-02
Eqn: 2P	b	2.3455720
	k	N/A
Deciduous	a	2.438E-03
Eqn: 2P+K	b	3.0590949
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	63
Nat. Stand Area (ha):	22,426
Mgd. Stand Area (ha):	2,660

Stratum as a % of the passive landbase:

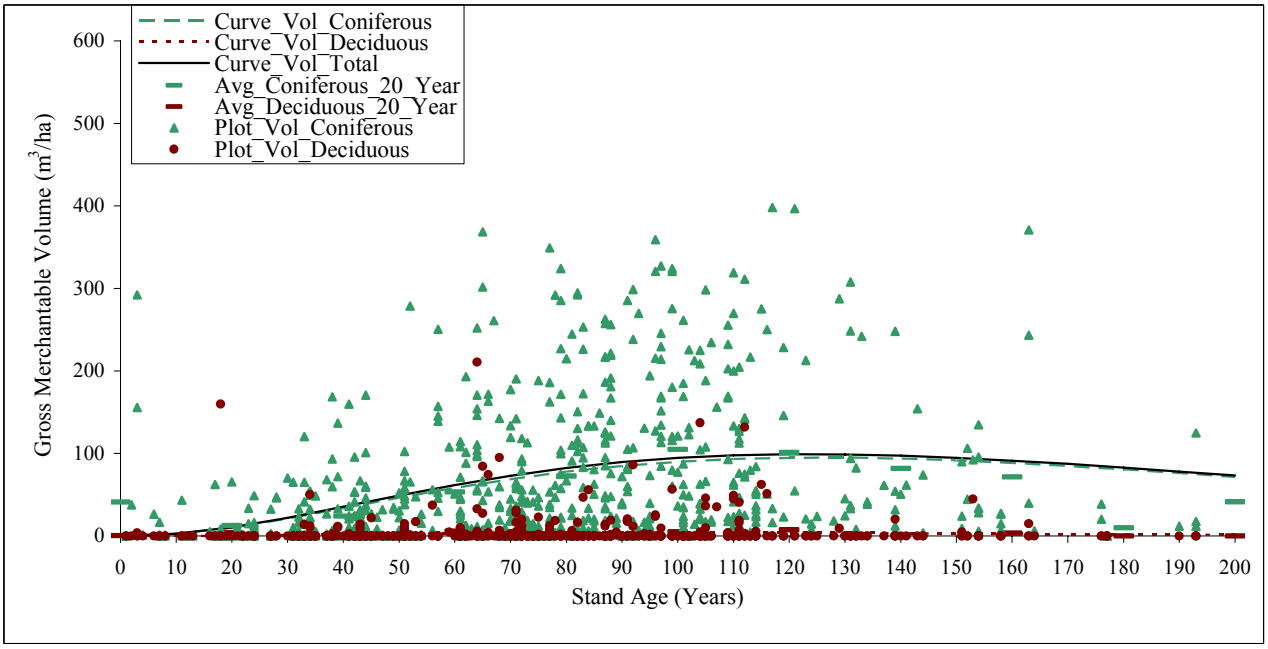


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	3.2	2.0	5.2	0.315	0.200	0.516
20	4	13.5	12.0	25.5	0.677	0.598	1.275
30	5	29.6	29.6	59.2	0.988	0.987	1.974
40	3	49.2	51.1	100.3	1.229	1.279	2.508
50	5	70.1	72.5	142.6	1.402	1.450	2.853
60	5	90.8	90.8	181.6	1.514	1.513	3.027
70	7	110.2	104.2	214.4	1.574	1.489	3.063
80	6	127.4	112.4	239.7	1.592	1.404	2.996
90	3	141.8	115.4	257.3	1.576	1.283	2.859
100	7	153.5	114.2	267.6	1.535	1.142	2.676
110	10	162.1	109.5	271.6	1.474	0.995	2.469
120	5	168.0	102.4	270.4	1.400	0.853	2.253
130	1	171.3	93.7	265.0	1.318	0.721	2.038
140	1	172.2	84.2	256.4	1.230	0.602	1.832
150	0	171.1	74.5	245.6	1.140	0.497	1.637
160	0	168.2	65.1	233.2	1.051	0.407	1.458
170	0	163.8	56.1	219.9	0.964	0.330	1.294
180	0	158.3	47.9	206.2	0.879	0.266	1.145
190	0	151.8	40.5	192.3	0.799	0.213	1.012
200	0	144.7	33.9	178.6	0.723	0.170	0.893

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =27 / E_PAS_C (Con-UT1/Dec-UT1)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

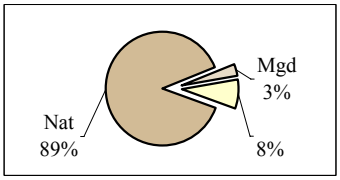
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.778E-02
Eqn: 2P	b	2.2382200
	k	N/A
Deciduous	a	5.932E-05
Eqn: 2P+K	b	3.1702706
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	11.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	702
Nat. Stand Area (ha):	267,931
Mgd. Stand Area (ha):	10,345

Stratum as a % of the passive landbase:



Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	7	0.0	0.0	0.0	0.000	0.000	0.000
10	10	2.6	0.1	2.6	0.258	0.006	0.264
20	26	10.2	0.4	10.6	0.509	0.020	0.529
30	50	21.1	1.1	22.2	0.704	0.035	0.739
40	67	33.6	1.9	35.5	0.841	0.047	0.888
50	51	46.4	2.7	49.1	0.928	0.055	0.983
60	56	58.4	3.5	61.9	0.974	0.058	1.032
70	92	69.0	4.1	73.1	0.986	0.058	1.044
80	77	77.9	4.5	82.4	0.974	0.056	1.030
90	67	84.9	4.6	89.6	0.944	0.051	0.995
100	66	90.0	4.6	94.6	0.900	0.046	0.946
110	61	93.2	4.5	97.7	0.848	0.041	0.889
120	15	94.8	4.2	99.1	0.790	0.035	0.826
130	16	95.0	3.9	98.9	0.731	0.030	0.761
140	11	93.8	3.6	97.4	0.670	0.025	0.696
150	12	91.7	3.2	94.8	0.611	0.021	0.632
160	8	88.7	2.8	91.4	0.554	0.017	0.572
170	0	85.0	2.4	87.4	0.500	0.014	0.514
180	6	80.9	2.1	83.0	0.449	0.012	0.461
190	4	76.4	1.8	78.2	0.402	0.009	0.411
200	0	71.7	1.5	73.2	0.359	0.007	0.366

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

- **Baseline Yield Curves – Coniferous UT2 and Deciduous UT2**

Coniferous UT2 – all yield curves except strata 21-24:

- Species – live PL, SW, SE, SB, FB, FA & FD
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 13.0 cm top diameter inside bark
- tree length; minimum log length of 3.76 m.

Coniferous UT2 – strata 21-24:

- Species – live PL, SW, SE, SB, FB, FA & FD
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 13.0 cm top diameter inside bark
- tree length; minimum log length of 3.66 m.

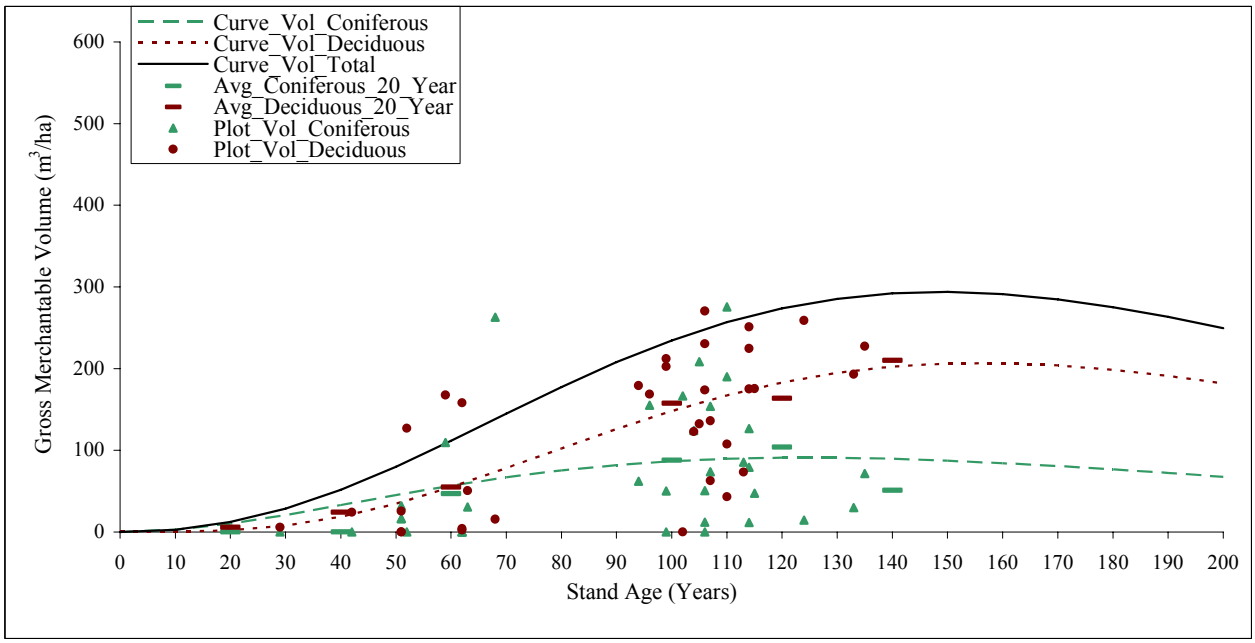
Deciduous UT2 – all yield curves except strata 21-24:

- Species – live AW & PB
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 10.0 cm top diameter inside bark
- cut to length; target length of 2.56 m and minimum log length also of 2.56 m.

Deciduous UT1 – strata 21-24:

- Species – live AW & PB
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 10.0 cm top diameter inside bark
- tree length; minimum log length 3.66 m.

STRATUM NUMBER = 1 / E_B1_XL (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

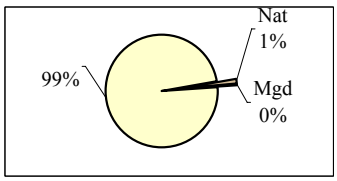
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.793E-02
Eqn: 2P	b	2.2312606
	k	N/A
Deciduous	a	2.822E-05
Eqn: 2P+K	b	3.9027911
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,174
Mgd. Stand Area (ha):	2,078

Stratum as a % of the managed landbase:

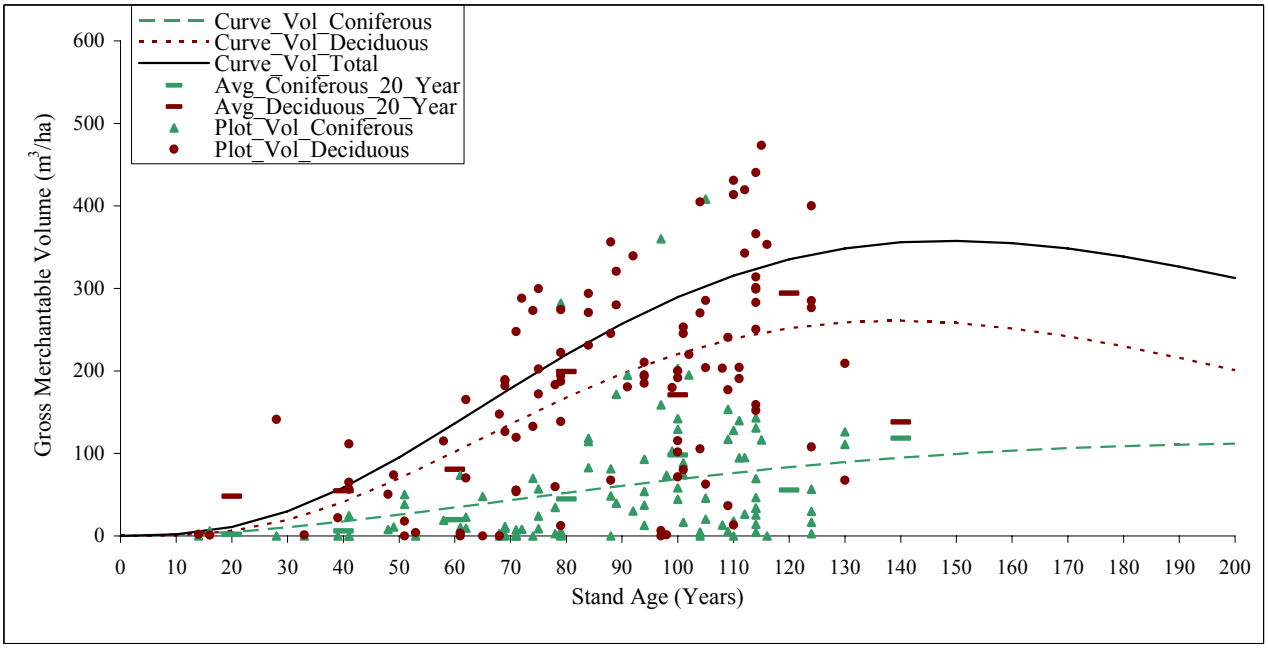


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.6	0.2	2.7	0.255	0.018	0.273
20	0	10.0	2.0	12.1	0.501	0.102	0.603
30	1	20.7	7.8	28.4	0.690	0.259	0.948
40	1	32.9	18.6	51.4	0.822	0.464	1.286
50	4	45.2	34.5	79.7	0.904	0.691	1.595
60	5	56.7	54.8	111.5	0.946	0.913	1.859
70	1	66.9	77.9	144.8	0.956	1.113	2.069
80	0	75.3	102.2	177.5	0.942	1.277	2.219
90	1	81.9	126.0	207.9	0.910	1.400	2.310
100	5	86.6	148.0	234.6	0.866	1.480	2.346
110	12	89.5	167.2	256.8	0.814	1.520	2.334
120	2	90.9	182.9	273.8	0.757	1.524	2.282
130	1	90.8	194.7	285.5	0.699	1.498	2.196
140	1	89.6	202.5	292.0	0.640	1.446	2.086
150	0	87.3	206.4	293.7	0.582	1.376	1.958
160	0	84.3	206.8	291.1	0.527	1.293	1.819
170	0	80.7	204.1	284.7	0.474	1.200	1.675
180	0	76.6	198.6	275.2	0.426	1.104	1.529
190	0	72.2	191.0	263.3	0.380	1.006	1.386
200	0	67.7	181.8	249.5	0.339	0.909	1.247

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 2 / E_B1_XH (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

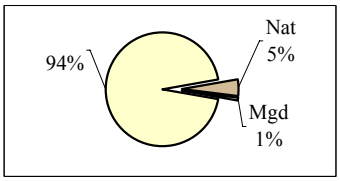
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	9.966E-03
Eqn: 2P	b	2.1363237
	k	N/A
Deciduous	a	3.070E-04
Eqn: 2P+K	b	3.4710979
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	104
Nat. Stand Area (ha):	30,931
Mgd. Stand Area (ha):	4,534

Stratum as a % of the managed landbase:

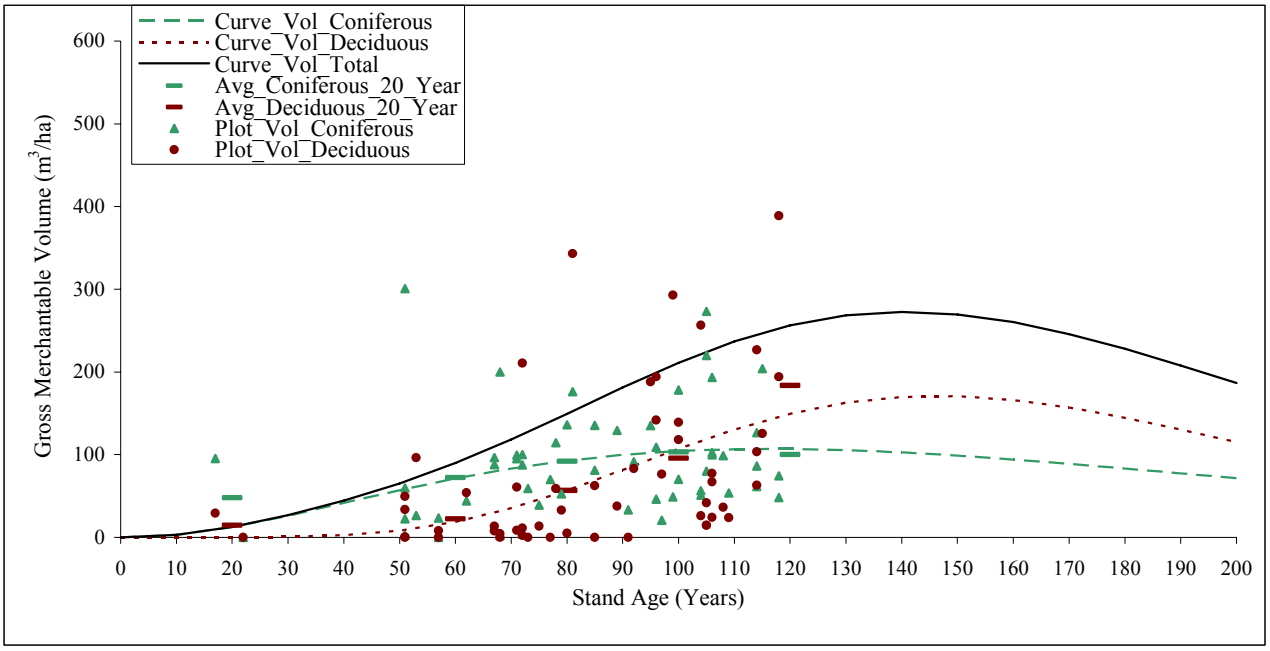


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	1.2	0.7	1.9	0.123	0.071	0.194
20	1	4.9	6.1	11.0	0.246	0.305	0.551
30	2	10.6	19.4	30.0	0.352	0.648	1.000
40	4	17.7	41.1	58.8	0.442	1.027	1.470
50	5	25.8	69.4	95.2	0.516	1.389	1.905
60	5	34.5	101.8	136.3	0.575	1.697	2.272
70	14	43.4	135.4	178.8	0.620	1.934	2.554
80	14	52.2	167.6	219.8	0.653	2.095	2.748
90	11	60.8	196.5	257.3	0.676	2.183	2.859
100	16	68.9	220.6	289.5	0.689	2.206	2.895
110	23	76.5	239.2	315.6	0.695	2.174	2.869
120	6	83.4	251.9	335.3	0.695	2.099	2.794
130	2	89.5	259.0	348.6	0.689	1.993	2.681
140	0	94.9	260.9	355.8	0.678	1.864	2.542
150	0	99.6	258.2	357.8	0.664	1.721	2.385
160	0	103.5	251.6	355.0	0.647	1.572	2.219
170	0	106.6	241.8	348.4	0.627	1.422	2.049
180	0	109.0	229.6	338.7	0.606	1.276	1.881
190	0	110.7	215.8	326.5	0.583	1.136	1.719
200	0	111.9	200.8	312.6	0.559	1.004	1.563

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 3 / E_B2_XX (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

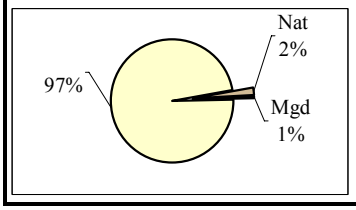
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.966E-02
Eqn: 2P	b	2.2894027
	k	N/A
Deciduous	a	3.616E-11
Eqn: 2P+K	b	7.3210378
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	54
Nat. Stand Area (ha):	11,880
Mgd. Stand Area (ha):	4,135

Stratum as a % of the managed landbase:

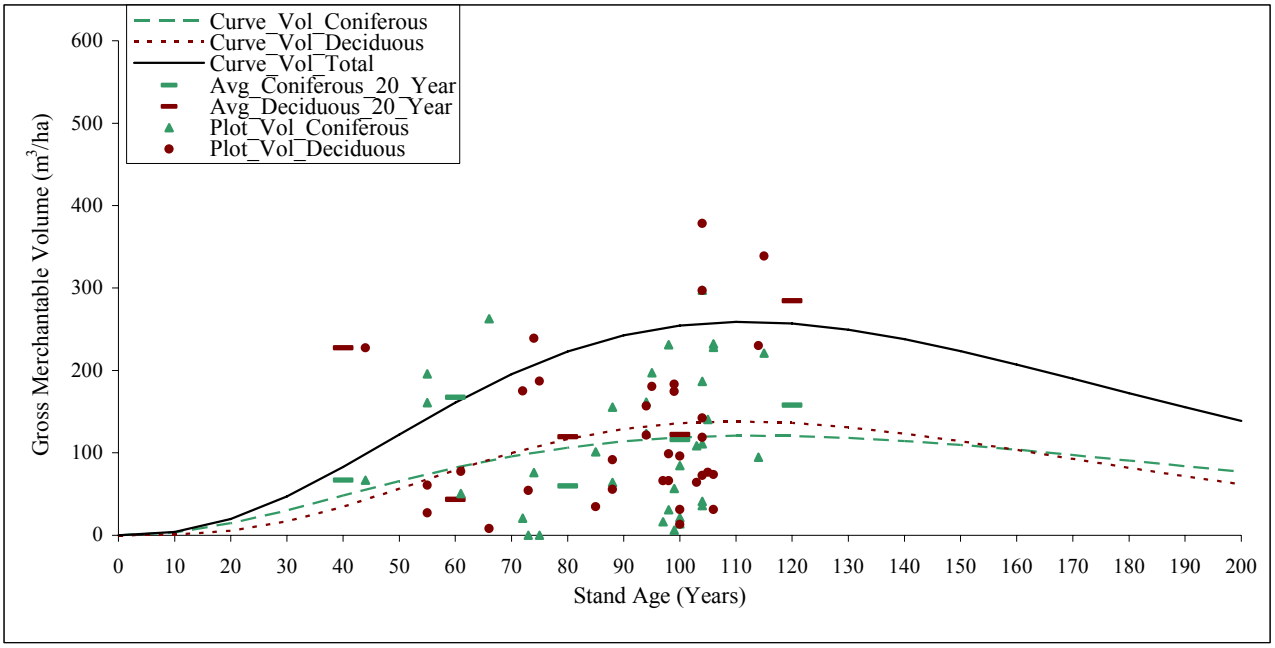


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.1	0.0	3.1	0.314	0.000	0.315
20	2	12.6	0.0	12.7	0.631	0.002	0.634
30	0	26.3	0.5	26.8	0.875	0.018	0.893
40	0	41.7	2.6	44.3	1.042	0.066	1.107
50	5	57.1	8.1	65.2	1.141	0.163	1.304
60	3	71.2	18.8	89.9	1.186	0.313	1.499
70	10	83.2	35.2	118.4	1.189	0.502	1.691
80	6	92.8	56.7	149.5	1.160	0.709	1.869
90	5	99.8	81.5	181.3	1.109	0.905	2.014
100	9	104.4	106.9	211.2	1.044	1.069	2.112
110	11	106.7	130.2	236.9	0.970	1.184	2.153
120	3	106.9	149.3	256.3	0.891	1.244	2.136
130	0	105.5	162.8	268.3	0.812	1.252	2.064
140	0	102.7	169.8	272.5	0.734	1.213	1.947
150	0	98.8	170.7	269.5	0.659	1.138	1.797
160	0	94.1	166.1	260.2	0.588	1.038	1.626
170	0	88.8	157.0	245.8	0.523	0.923	1.446
180	0	83.2	144.7	227.9	0.462	0.804	1.266
190	0	77.3	130.4	207.7	0.407	0.686	1.093
200	0	71.5	115.1	186.6	0.357	0.576	0.933

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 4 / E_B3_XX (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

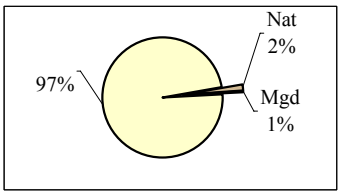
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	2.046E-02
Eqn: 2P	b	2.3259435
	k	N/A
Deciduous	a	1.717E-04
Eqn: 2P+K	b	3.6731387
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,983
Mgd. Stand Area (ha):	3,293

Stratum as a % of the managed landbase:

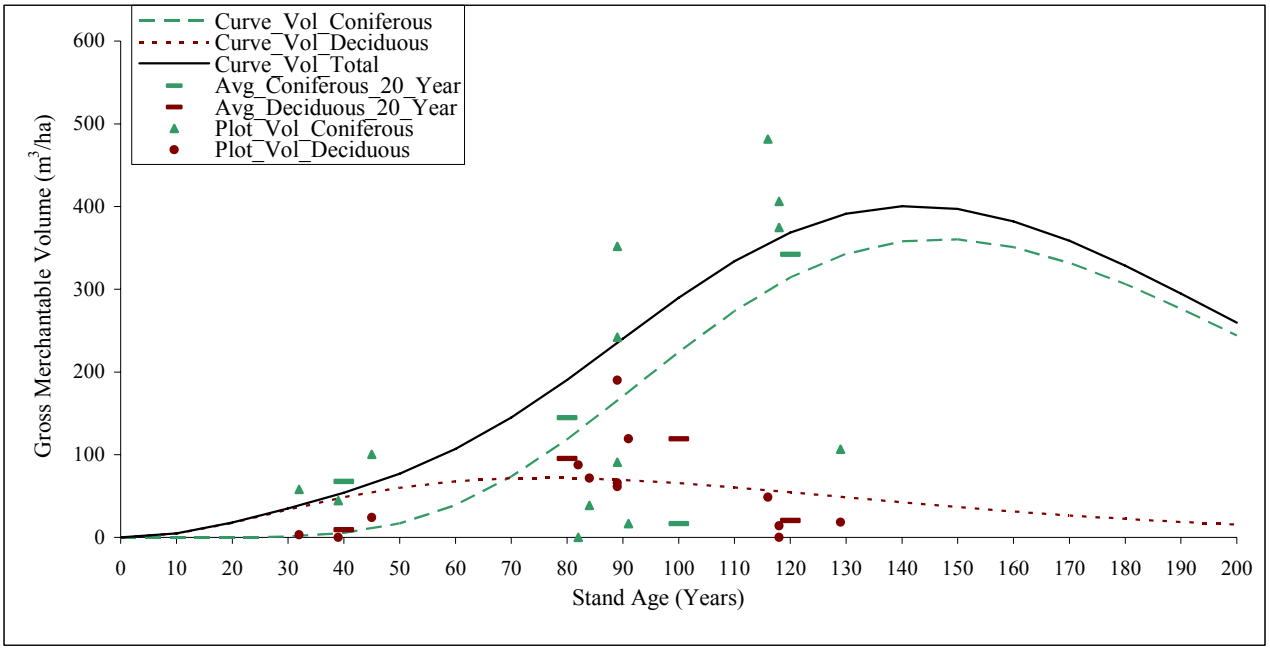


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.5	0.6	4.1	0.353	0.058	0.411
20	0	14.4	5.3	19.7	0.722	0.265	0.986
30	0	30.2	16.8	47.0	1.007	0.561	1.568
40	1	48.1	34.7	82.8	1.201	0.867	2.069
50	0	65.8	56.4	122.2	1.316	1.129	2.445
60	3	82.0	79.0	161.0	1.366	1.316	2.683
70	4	95.6	99.7	195.3	1.366	1.424	2.790
80	1	106.3	116.7	223.0	1.329	1.458	2.787
90	5	114.0	128.8	242.8	1.266	1.432	2.698
100	15	118.7	135.9	254.6	1.187	1.359	2.546
110	4	120.7	138.2	259.0	1.097	1.257	2.354
120	1	120.4	136.4	256.8	1.004	1.136	2.140
130	0	118.3	131.1	249.4	0.910	1.008	1.918
140	0	114.5	123.3	237.8	0.818	0.881	1.699
150	0	109.6	113.9	223.4	0.730	0.759	1.490
160	0	103.8	103.4	207.2	0.649	0.646	1.295
170	0	97.4	92.6	189.9	0.573	0.545	1.117
180	0	90.6	81.8	172.5	0.504	0.455	0.958
190	0	83.8	71.5	155.3	0.441	0.376	0.817
200	0	76.9	61.9	138.8	0.385	0.309	0.694

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 5 / E_B4_XX (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

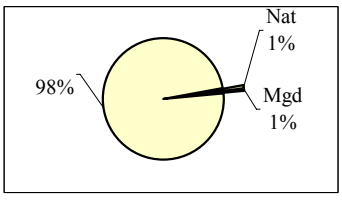
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	7.067E-11
Eqn: 2P+K	b	7.3363630
	k	20
Deciduous	a	3.056E-02
Eqn: 2P	b	2.3296582
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	13
Nat. Stand Area (ha):	5,141
Mgd. Stand Area (ha):	4,098

Stratum as a % of the managed landbase:

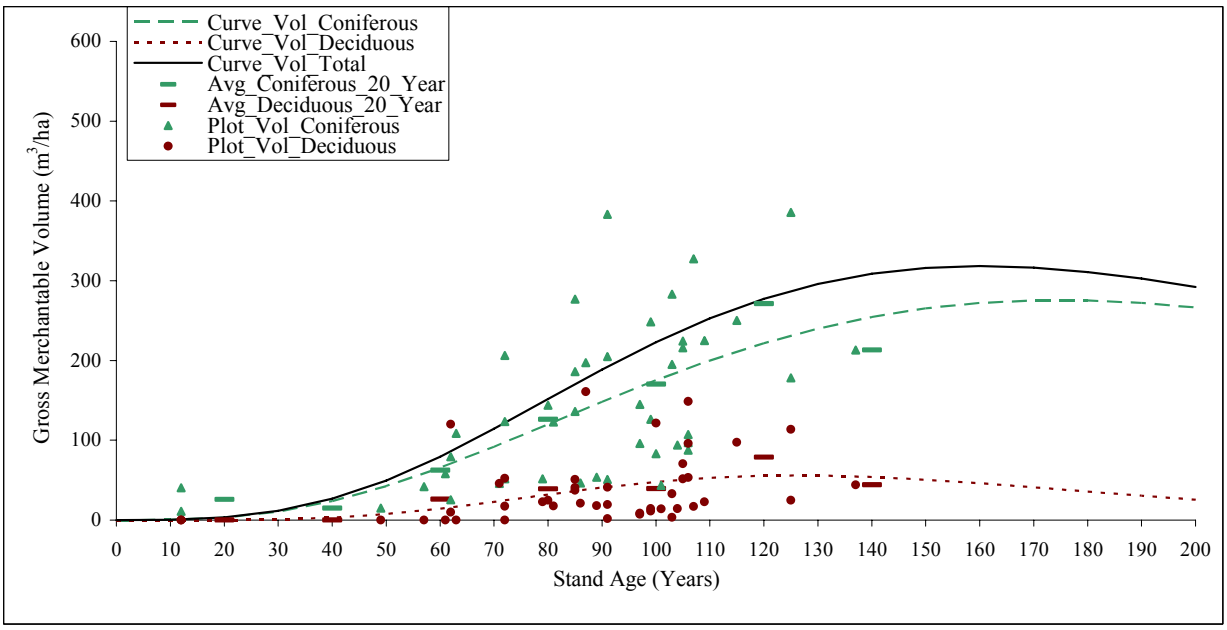


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	4.8	4.8	0.000	0.481	0.481
20	0	0.1	17.8	17.9	0.005	0.890	0.895
30	1	1.1	33.7	34.8	0.036	1.125	1.161
40	1	5.4	48.6	54.0	0.135	1.215	1.350
50	1	16.9	60.2	77.1	0.338	1.204	1.542
60	0	39.0	67.8	106.9	0.651	1.130	1.781
70	0	73.4	71.5	144.9	1.048	1.022	2.070
80	2	118.5	71.9	190.5	1.482	0.899	2.381
90	4	170.6	69.7	240.3	1.896	0.775	2.670
100	0	224.1	65.7	289.8	2.241	0.657	2.898
110	0	273.6	60.4	333.9	2.487	0.549	3.036
120	3	314.1	54.5	368.6	2.618	0.454	3.072
130	1	342.8	48.4	391.1	2.637	0.372	3.009
140	0	358.1	42.3	400.4	2.558	0.302	2.860
150	0	360.3	36.6	396.9	2.402	0.244	2.646
160	0	350.9	31.4	382.2	2.193	0.196	2.389
170	0	332.0	26.6	358.6	1.953	0.157	2.110
180	0	306.3	22.4	328.7	1.702	0.124	1.826
190	0	276.2	18.7	294.9	1.454	0.099	1.552
200	0	244.1	15.5	259.6	1.220	0.078	1.298

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 6 / E_B5_XX (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

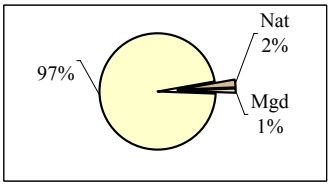
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.338E-04
Eqn: 2P+K	b	3.4925276
	k	50
Deciduous	a	1.763E-09
Eqn: 2P+K	b	6.3030581
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	44
Nat. Stand Area (ha):	14,170
Mgd. Stand Area (ha):	6,888

Stratum as a % of the managed landbase:

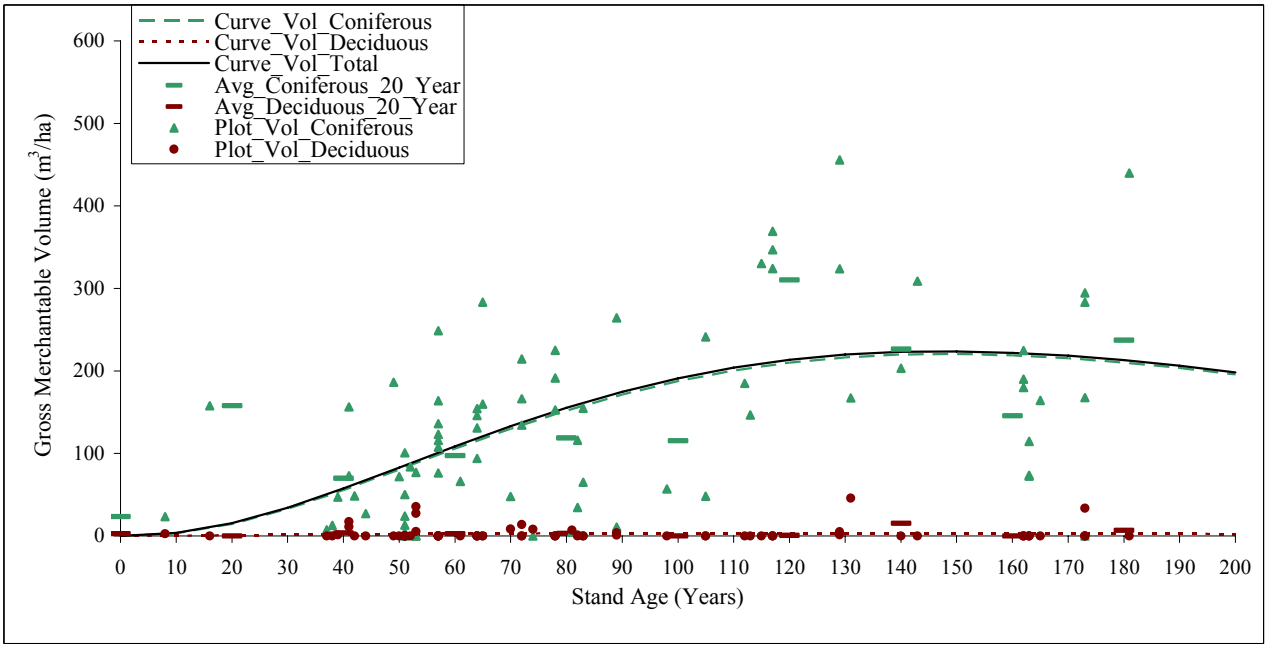


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	2	0.3	0.0	0.3	0.034	0.000	0.034
20	0	3.1	0.1	3.2	0.157	0.005	0.162
30	0	10.6	0.8	11.4	0.353	0.027	0.380
40	0	23.7	3.0	26.7	0.592	0.075	0.667
50	1	42.3	7.4	49.7	0.845	0.148	0.993
60	5	65.4	14.2	79.6	1.090	0.236	1.326
70	4	91.7	22.7	114.4	1.311	0.324	1.635
80	3	119.7	31.9	151.7	1.497	0.399	1.896
90	9	147.9	40.7	188.6	1.644	0.452	2.096
100	9	175.0	48.0	222.9	1.750	0.480	2.229
110	7	199.8	53.0	252.9	1.817	0.482	2.299
120	1	221.7	55.7	277.4	1.848	0.464	2.312
130	2	240.1	55.9	296.0	1.847	0.430	2.277
140	1	254.6	54.1	308.7	1.819	0.387	2.205
150	0	265.3	50.7	316.0	1.768	0.338	2.106
160	0	272.1	46.2	318.3	1.701	0.289	1.989
170	0	275.3	41.1	316.4	1.619	0.241	1.861
180	0	275.2	35.7	310.9	1.529	0.198	1.727
190	0	272.1	30.4	302.6	1.432	0.160	1.593
200	0	266.5	25.5	292.0	1.333	0.128	1.460

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 7 / E_B7_MX (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

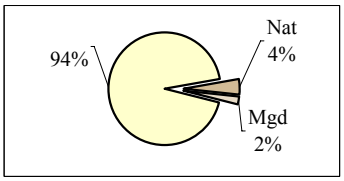
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.609E-02
Eqn: 2P	b	2.3828079
	k	N/A
Deciduous	a	1.365E-02
Eqn: 2P	b	1.5003052
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	76
Nat. Stand Area (ha):	28,336
Mgd. Stand Area (ha):	15,336

Stratum as a % of the managed landbase:

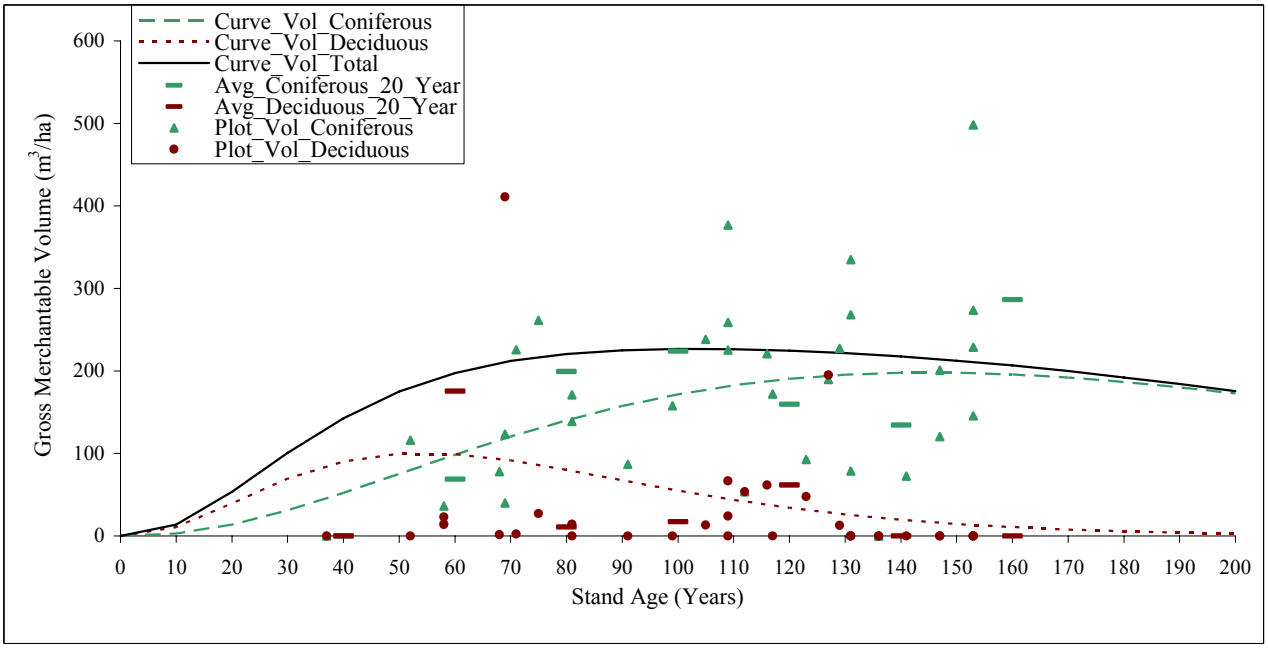


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	3.3	0.4	3.7	0.331	0.038	0.368
20	1	14.7	0.9	15.6	0.734	0.047	0.781
30	0	32.9	1.5	34.3	1.095	0.050	1.145
40	7	55.5	2.0	57.5	1.388	0.050	1.438
50	12	80.4	2.4	82.9	1.609	0.049	1.658
60	12	105.8	2.8	108.6	1.763	0.047	1.809
70	7	130.0	3.1	133.1	1.857	0.044	1.901
80	8	152.1	3.3	155.4	1.902	0.041	1.943
90	2	171.5	3.4	174.9	1.905	0.038	1.943
100	1	187.7	3.5	191.1	1.877	0.035	1.911
110	4	200.5	3.5	204.0	1.823	0.032	1.855
120	4	210.0	3.5	213.5	1.750	0.029	1.779
130	3	216.4	3.4	219.8	1.664	0.026	1.691
140	2	219.8	3.4	223.1	1.570	0.024	1.594
150	0	220.6	3.2	223.8	1.470	0.022	1.492
160	6	219.0	3.1	222.1	1.369	0.019	1.388
170	5	215.4	3.0	218.4	1.267	0.018	1.285
180	1	210.2	2.8	213.0	1.168	0.016	1.183
190	0	203.5	2.7	206.2	1.071	0.014	1.085
200	0	195.8	2.5	198.3	0.979	0.013	0.992

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 8 / E_B7_GL (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

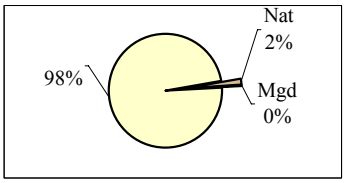
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.633E-02
Eqn: 2P	b	2.3653428
	k	N/A
Total	a	4.735E-02
Eqn: 2P	b	2.5612070
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	35
Nat. Stand Area (ha):	10,099
Mgd. Stand Area (ha):	1,667

Stratum as a % of the managed landbase:

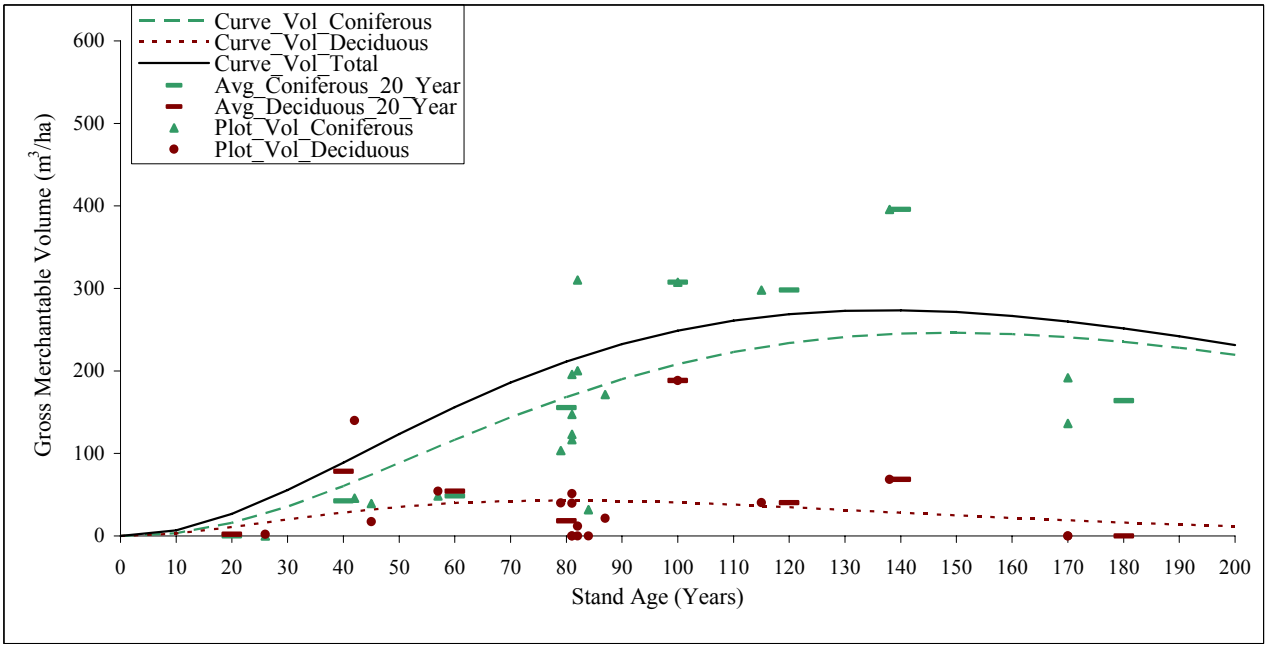


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.2	10.7	14.0	0.322	1.074	1.395
20	0	14.1	39.5	53.5	0.704	1.973	2.677
30	0	31.2	69.4	100.6	1.040	2.315	3.355
40	1	52.3	90.4	142.7	1.308	2.259	3.567
50	1	75.3	99.7	175.0	1.507	1.993	3.500
60	2	98.5	99.0	197.5	1.642	1.650	3.292
70	4	120.5	91.5	212.0	1.721	1.307	3.028
80	3	140.3	80.2	220.6	1.754	1.003	2.757
90	1	157.5	67.6	225.0	1.750	0.751	2.500
100	1	171.6	55.1	226.7	1.716	0.551	2.267
110	5	182.6	43.8	226.4	1.660	0.398	2.058
120	3	190.5	34.1	224.6	1.588	0.284	1.872
130	5	195.5	26.1	221.6	1.504	0.201	1.705
140	3	197.9	19.6	217.5	1.414	0.140	1.554
150	6	197.9	14.6	212.5	1.319	0.097	1.416
160	0	195.8	10.7	206.5	1.224	0.067	1.291
170	0	191.9	7.8	199.7	1.129	0.046	1.175
180	0	186.6	5.6	192.2	1.037	0.031	1.068
190	0	180.1	4.0	184.1	0.948	0.021	0.969
200	0	172.7	2.9	175.6	0.864	0.014	0.878

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 9 / E_B7_GH (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

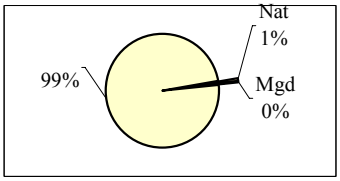
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.616E-02
Eqn: 2P	b	2.4060371
	k	N/A
Deciduous	a	2.740E-02
Eqn: 2P	b	2.1803221
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	18
Nat. Stand Area (ha):	5,713
Mgd. Stand Area (ha):	1,153

Stratum as a % of the managed landbase:

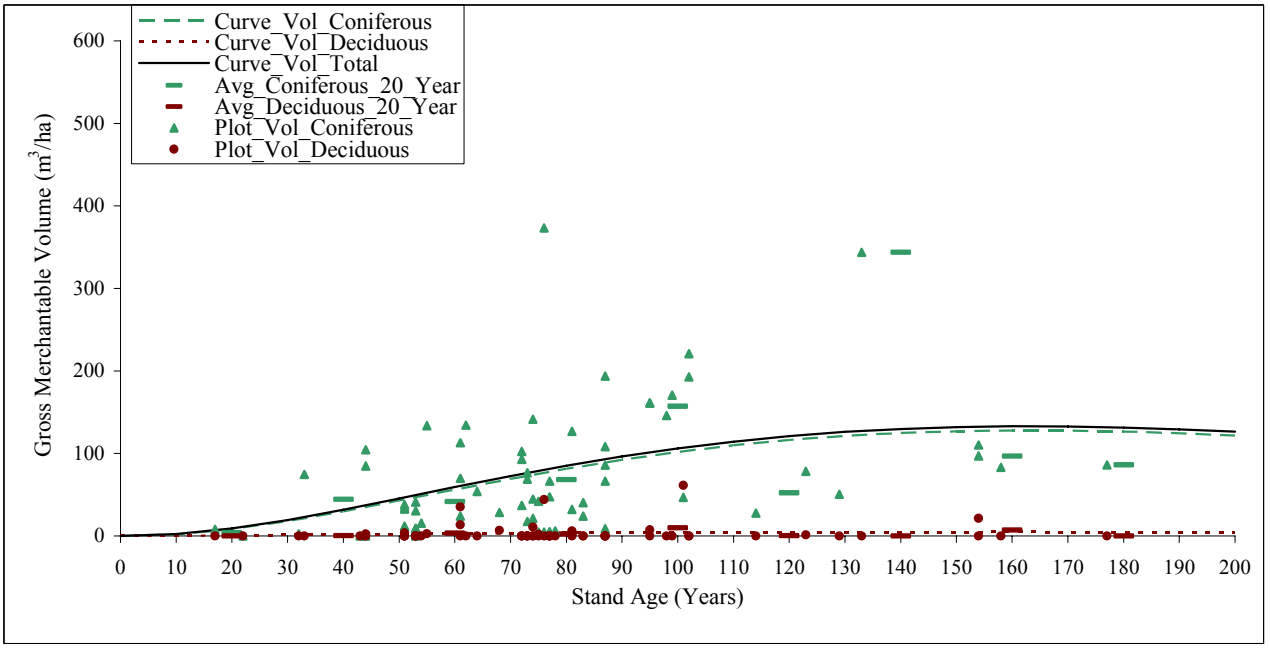


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.5	3.2	6.7	0.350	0.316	0.666
20	0	15.8	10.9	26.7	0.789	0.544	1.333
30	1	35.6	20.0	55.6	1.188	0.667	1.855
40	1	60.6	28.5	89.1	1.514	0.712	2.227
50	1	88.2	35.2	123.4	1.763	0.705	2.468
60	1	116.3	39.9	156.2	1.939	0.665	2.603
70	0	143.4	42.4	185.8	2.049	0.606	2.655
80	8	168.2	43.2	211.4	2.103	0.540	2.642
90	1	190.0	42.4	232.5	2.111	0.471	2.583
100	1	208.3	40.6	248.9	2.083	0.406	2.489
110	0	222.9	38.0	260.9	2.027	0.345	2.372
120	1	233.8	34.9	268.8	1.949	0.291	2.240
130	0	241.2	31.6	272.8	1.855	0.243	2.099
140	1	245.3	28.3	273.5	1.752	0.202	1.954
150	0	246.4	25.0	271.3	1.642	0.166	1.809
160	0	244.8	21.9	266.7	1.530	0.137	1.667
170	2	241.0	19.0	260.0	1.418	0.112	1.529
180	0	235.3	16.3	251.6	1.307	0.091	1.398
190	0	228.0	14.0	242.0	1.200	0.074	1.274
200	0	219.5	11.9	231.3	1.097	0.059	1.157

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =10 / E_B8_ML (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

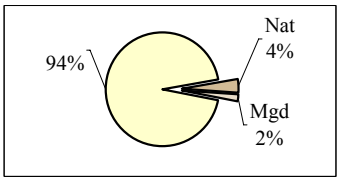
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.371E-02
Eqn: 2P	b	2.2333993
	k	N/A
Deciduous	a	9.552E-03
Eqn: 2P	b	1.5318684
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	69
Nat. Stand Area (ha):	25,396
Mgd. Stand Area (ha):	12,695

Stratum as a % of the managed landbase:

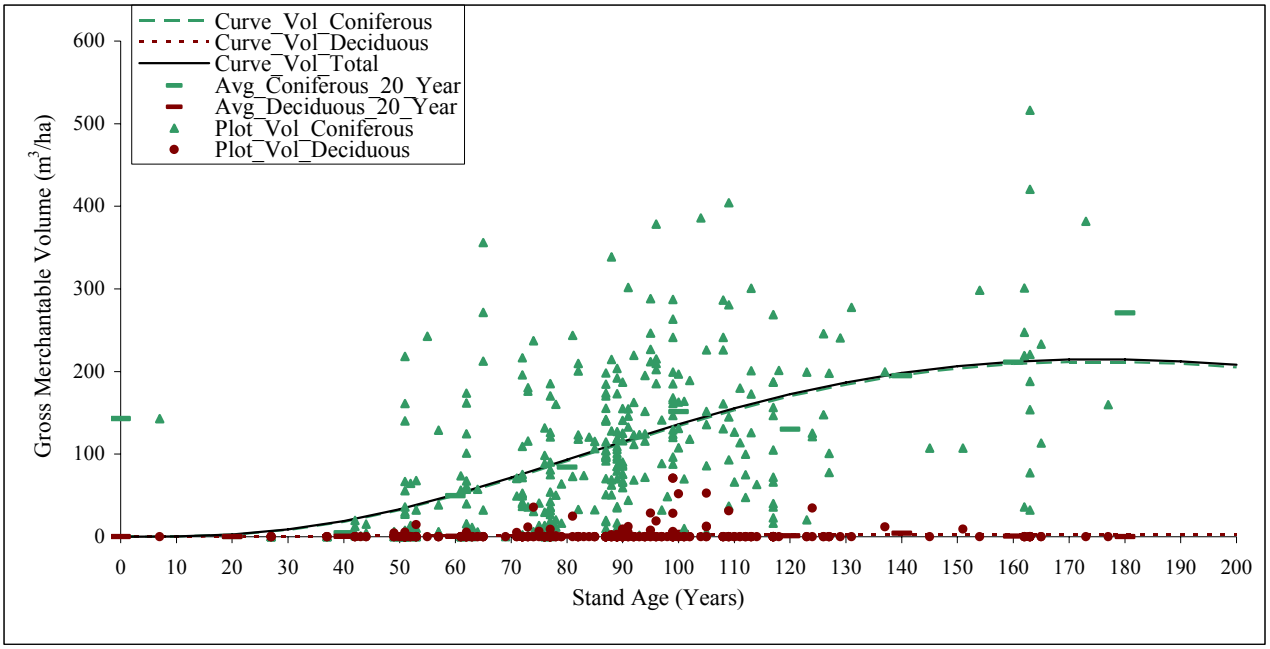


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.0	0.3	2.3	0.205	0.030	0.234
20	2	8.4	0.8	9.2	0.419	0.039	0.458
30	2	18.1	1.3	19.4	0.603	0.044	0.647
40	4	30.0	1.9	31.8	0.750	0.046	0.796
50	12	43.0	2.4	45.4	0.861	0.047	0.908
60	6	56.4	2.9	59.2	0.940	0.048	0.987
70	10	69.4	3.3	72.6	0.991	0.047	1.038
80	13	81.5	3.7	85.1	1.019	0.046	1.064
90	5	92.4	4.0	96.4	1.027	0.044	1.071
100	7	102.0	4.3	106.2	1.020	0.043	1.062
110	1	110.0	4.5	114.5	1.000	0.041	1.041
120	1	116.5	4.6	121.1	0.970	0.039	1.009
130	2	121.4	4.8	126.2	0.934	0.037	0.971
140	0	124.9	4.9	129.8	0.892	0.035	0.927
150	2	127.1	4.9	132.0	0.847	0.033	0.880
160	1	127.9	4.9	132.9	0.800	0.031	0.830
170	0	127.7	4.9	132.6	0.751	0.029	0.780
180	1	126.5	4.9	131.4	0.703	0.027	0.730
190	0	124.5	4.8	129.3	0.655	0.025	0.680
200	0	121.7	4.7	126.4	0.609	0.024	0.632

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =11 / E_B8_MH (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

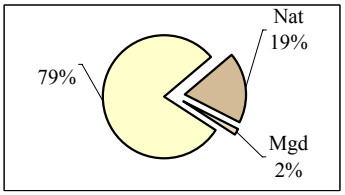
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	9.895E-05
Eqn: 2P+K	b	3.5000074
	k	50
Deciduous	a	6.709E-03
Eqn: 2P	b	1.4007661
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	345
Nat. Stand Area (ha):	121,277
Mgd. Stand Area (ha):	10,565

Stratum as a % of the managed landbase:

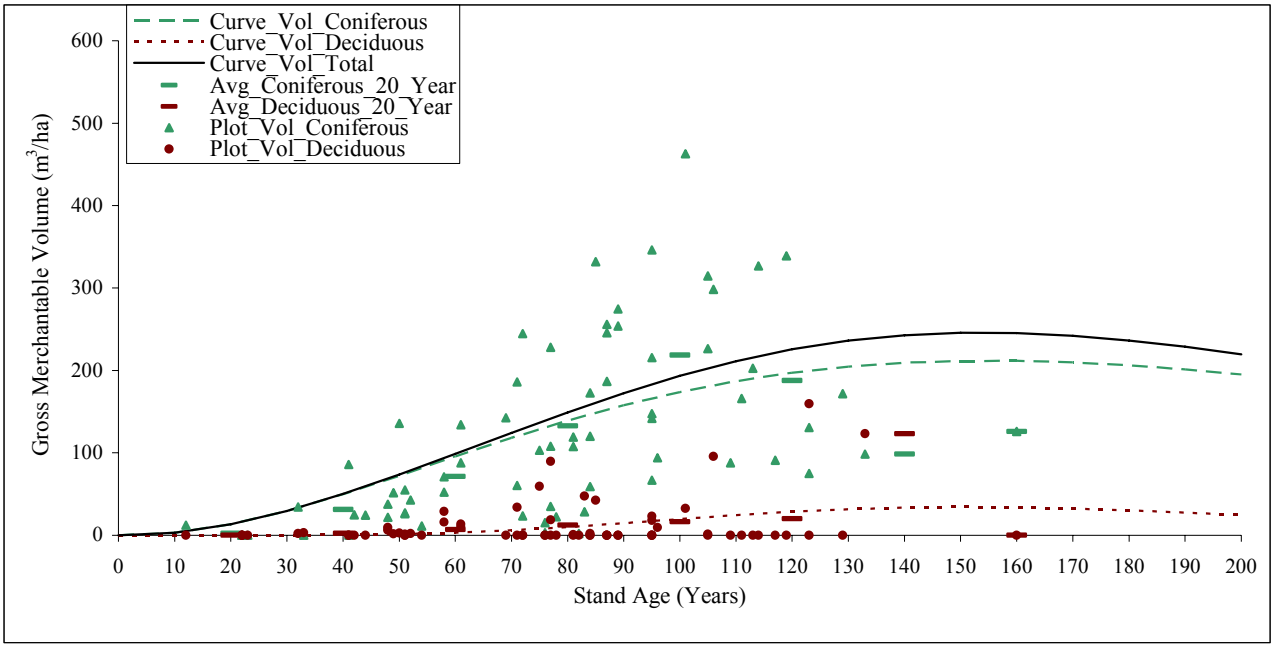


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	0.3	0.2	0.4	0.026	0.016	0.041
20	0	2.4	0.4	2.8	0.119	0.019	0.138
30	4	8.0	0.6	8.7	0.268	0.021	0.289
40	10	18.0	0.9	18.9	0.450	0.022	0.472
50	38	32.2	1.2	33.3	0.643	0.023	0.667
60	27	49.9	1.4	51.3	0.831	0.023	0.854
70	28	70.0	1.6	71.6	1.000	0.023	1.023
80	50	91.5	1.8	93.3	1.144	0.023	1.166
90	79	113.1	2.0	115.1	1.257	0.022	1.279
100	38	133.9	2.2	136.1	1.339	0.022	1.361
110	27	153.1	2.3	155.4	1.391	0.021	1.412
120	17	169.9	2.5	172.4	1.416	0.020	1.436
130	7	184.1	2.6	186.7	1.416	0.020	1.436
140	1	195.4	2.7	198.0	1.395	0.019	1.414
150	3	203.6	2.7	206.4	1.358	0.018	1.376
160	11	209.0	2.8	211.8	1.306	0.018	1.324
170	3	211.5	2.9	214.4	1.244	0.017	1.261
180	1	211.5	2.9	214.4	1.175	0.016	1.191
190	0	209.3	2.9	212.2	1.101	0.015	1.117
200	0	205.0	2.9	208.0	1.025	0.015	1.040

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =12 / E_B8_GL (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

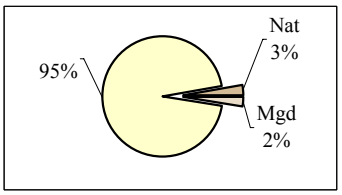
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.519E-02
Eqn: 2P	b	2.3589836
	k	N/A
Deciduous	a	2.440E-12
Eqn: 2P+K	b	7.5380675
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	70
Nat. Stand Area (ha):	17,672
Mgd. Stand Area (ha):	16,136

Stratum as a % of the managed landbase:

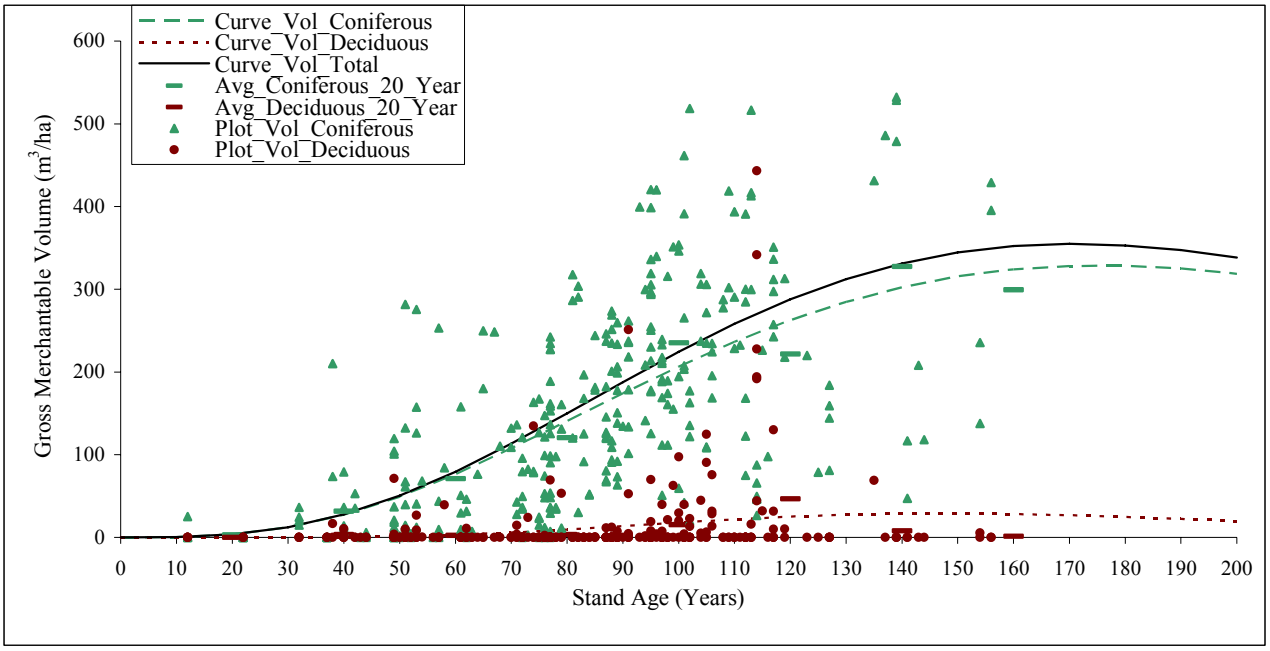


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	3.0	0.0	3.0	0.298	0.000	0.298
20	4	13.1	0.0	13.1	0.657	0.000	0.657
30	2	29.4	0.1	29.5	0.980	0.002	0.982
40	4	49.8	0.4	50.2	1.244	0.010	1.254
50	9	72.4	1.3	73.7	1.447	0.026	1.473
60	4	95.6	3.1	98.7	1.593	0.051	1.644
70	5	118.1	6.0	124.1	1.687	0.085	1.773
80	14	139.1	9.9	149.0	1.738	0.124	1.862
90	6	157.7	14.6	172.3	1.752	0.162	1.915
100	7	173.7	19.6	193.3	1.737	0.196	1.933
110	7	186.9	24.4	211.2	1.699	0.222	1.920
120	4	197.1	28.5	225.6	1.643	0.237	1.880
130	2	204.5	31.6	236.1	1.573	0.243	1.816
140	0	209.3	33.5	242.8	1.495	0.239	1.734
150	0	211.6	34.2	245.7	1.410	0.228	1.638
160	1	211.6	33.7	245.4	1.323	0.211	1.534
170	0	209.8	32.3	242.1	1.234	0.190	1.424
180	0	206.2	30.1	236.4	1.146	0.167	1.313
190	0	201.3	27.5	228.7	1.059	0.145	1.204
200	0	195.1	24.5	219.7	0.976	0.123	1.098

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =13 / E_B8_GH (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

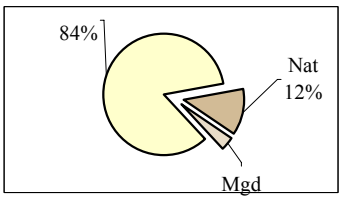
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.443E-04
Eqn: 2P+K	b	3.5120896
	k	50
Deciduous	a	5.323E-12
Eqn: 2P+K	b	7.3490797
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	311
Nat. Stand Area (ha):	79,758
Mgd. Stand Area (ha):	23,832

Stratum as a % of the managed landbase:

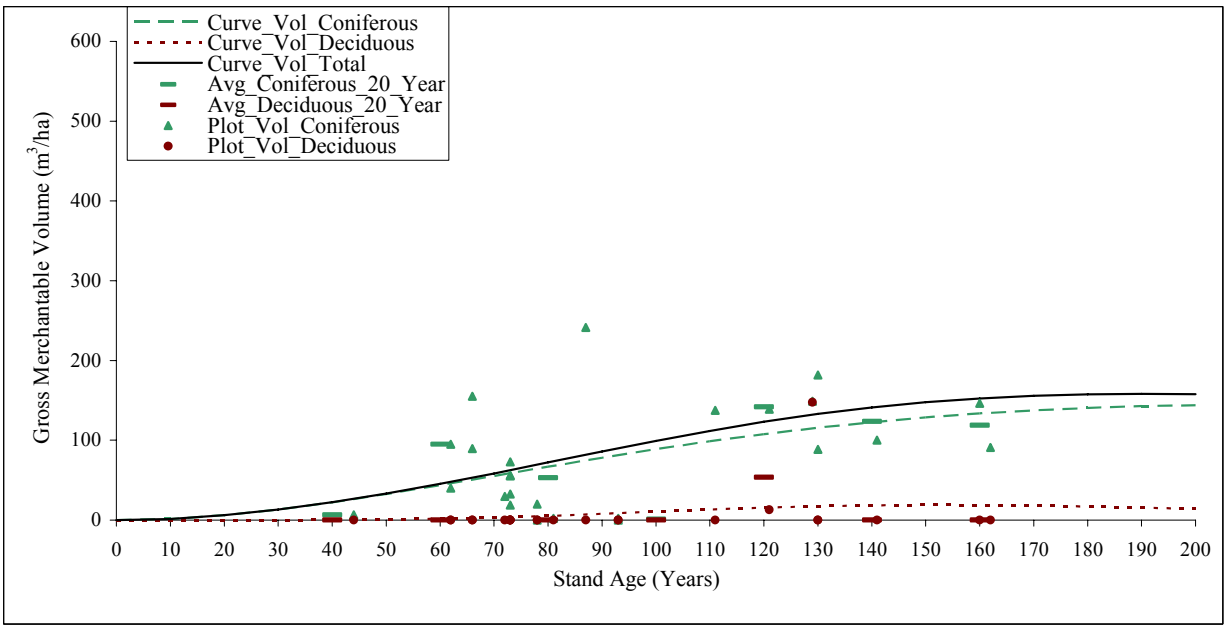


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	4	0.4	0.0	0.4	0.038	0.000	0.038
20	4	3.6	0.0	3.6	0.179	0.000	0.180
30	4	12.2	0.1	12.3	0.407	0.003	0.410
40	18	27.4	0.4	27.9	0.686	0.011	0.697
50	30	49.2	1.3	50.5	0.984	0.027	1.010
60	18	76.4	3.1	79.5	1.273	0.052	1.325
70	22	107.5	5.8	113.3	1.535	0.083	1.619
80	51	140.7	9.4	150.1	1.758	0.118	1.876
90	45	174.2	13.6	187.8	1.935	0.151	2.086
100	53	206.4	17.9	224.3	2.064	0.179	2.243
110	33	236.2	21.9	258.1	2.147	0.199	2.346
120	11	262.5	25.1	287.7	2.188	0.210	2.397
130	5	284.7	27.5	312.2	2.190	0.211	2.401
140	9	302.4	28.7	331.1	2.160	0.205	2.365
150	2	315.5	28.9	344.4	2.103	0.193	2.296
160	2	324.0	28.2	352.2	2.025	0.176	2.201
170	0	328.2	26.7	354.9	1.931	0.157	2.088
180	0	328.4	24.6	353.1	1.825	0.137	1.962
190	0	325.1	22.2	347.4	1.711	0.117	1.828
200	0	318.7	19.7	338.4	1.594	0.098	1.692

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =14 / E_B9_XX (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

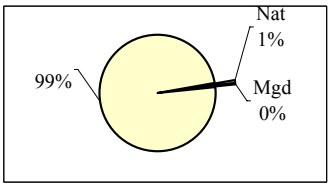
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.035E-02
Eqn: 2P	b	2.1913747
	k	N/A
Deciduous	a	8.664E-13
Eqn: 2P+K	b	7.6271657
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	25
Nat. Stand Area (ha):	4,777
Mgd. Stand Area (ha):	2,615

Stratum as a % of the managed landbase:

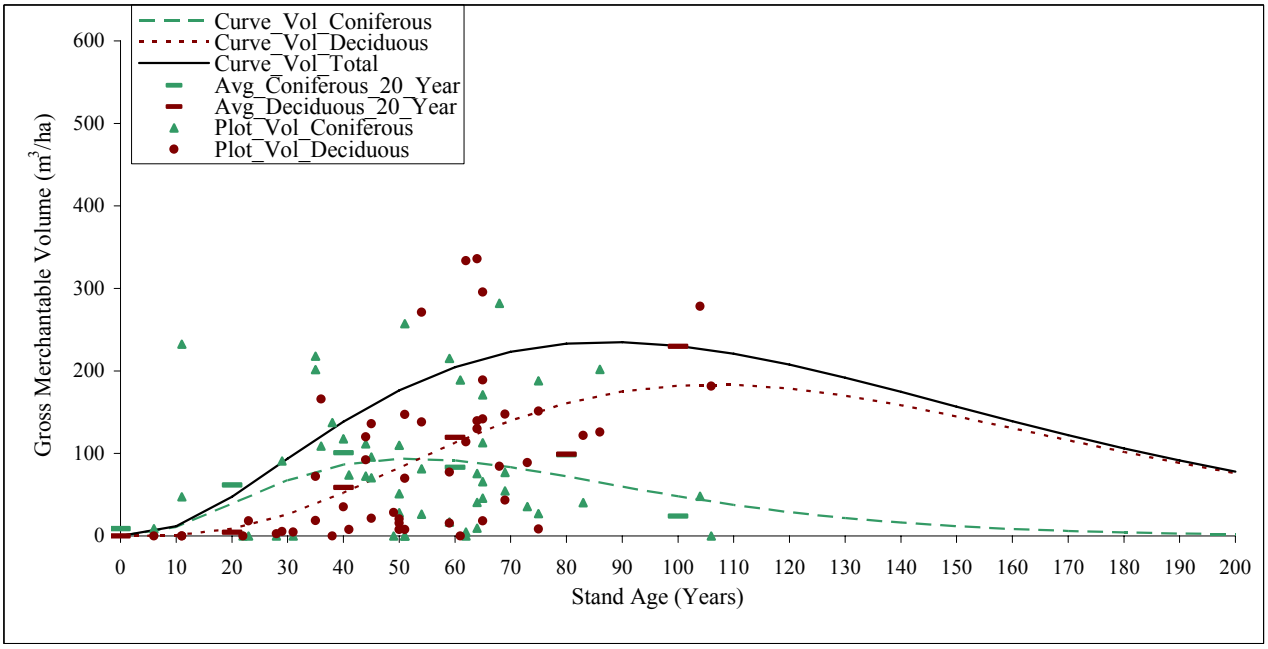


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	1.5	0.0	1.5	0.145	0.000	0.145
20	0	6.0	0.0	6.0	0.299	0.000	0.299
30	0	13.1	0.0	13.1	0.436	0.001	0.438
40	1	22.2	0.2	22.4	0.554	0.005	0.559
50	0	32.6	0.6	33.3	0.652	0.013	0.665
60	2	43.8	1.6	45.4	0.731	0.026	0.757
70	8	55.4	3.1	58.5	0.792	0.044	0.836
80	3	66.9	5.2	72.1	0.837	0.065	0.902
90	3	78.1	7.7	85.9	0.868	0.086	0.954
100	0	88.8	10.5	99.2	0.888	0.105	0.992
110	1	98.6	13.2	111.8	0.897	0.120	1.016
120	1	107.6	15.5	123.1	0.897	0.129	1.026
130	3	115.6	17.3	132.9	0.889	0.133	1.022
140	1	122.6	18.5	141.1	0.876	0.132	1.008
150	0	128.6	19.0	147.6	0.857	0.126	0.984
160	2	133.6	18.8	152.4	0.835	0.118	0.953
170	0	137.6	18.1	155.7	0.809	0.107	0.916
180	0	140.6	17.0	157.6	0.781	0.094	0.875
190	0	142.7	15.6	158.3	0.751	0.082	0.833
200	0	144.0	14.0	158.0	0.720	0.070	0.790

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =15 / E_UN_DM (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

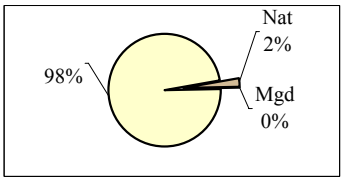
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	4.879E-02
Eqn: 2P	b	2.5564843
	k	N/A
Deciduous	a	4.117E-04
Eqn: 2P+K	b	3.5469361
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	49
Nat. Stand Area (ha):	15,843
Mgd. Stand Area (ha):	0

Stratum as a % of the managed landbase:

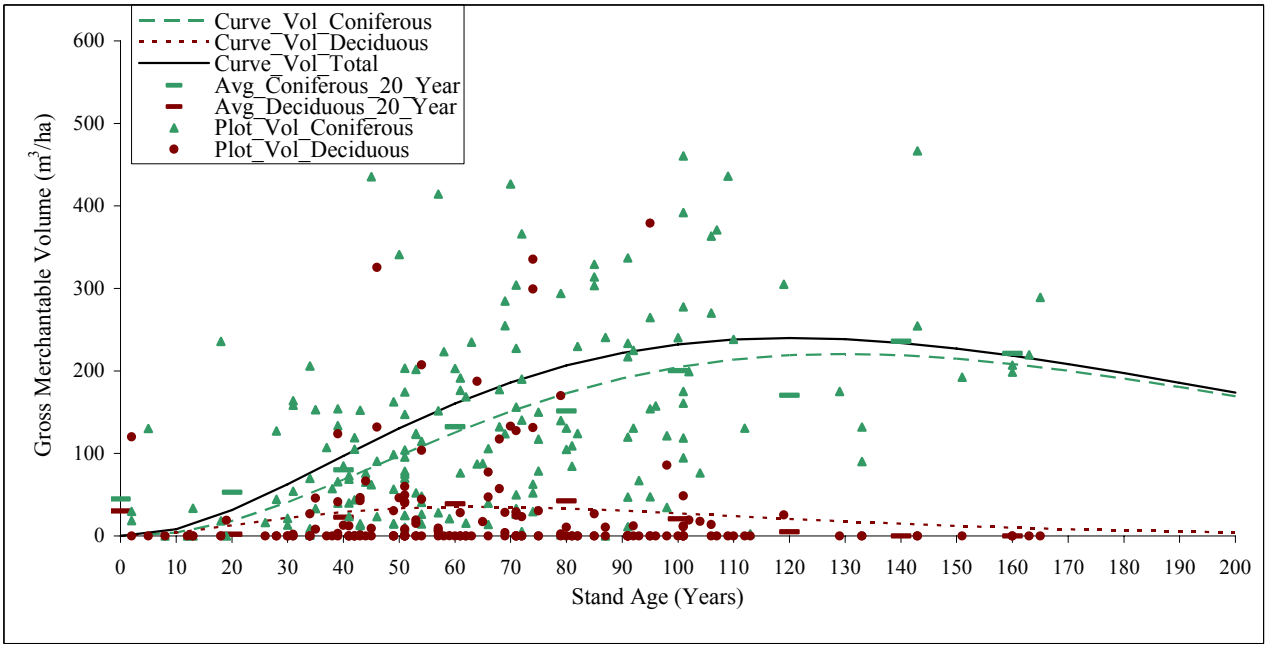


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	3	10.8	1.0	11.8	1.079	0.104	1.183
20	2	39.0	8.7	47.7	1.948	0.435	2.383
30	3	67.4	26.3	93.7	2.248	0.876	3.124
40	8	86.4	52.2	138.6	2.159	1.306	3.465
50	11	93.8	82.6	176.4	1.876	1.652	3.528
60	8	91.8	113.0	204.8	1.530	1.883	3.413
70	8	83.6	139.9	223.4	1.194	1.998	3.192
80	3	72.2	160.9	233.1	0.902	2.012	2.914
90	1	59.9	175.1	235.0	0.665	1.946	2.611
100	1	48.1	182.3	230.4	0.481	1.823	2.304
110	1	37.7	183.2	220.9	0.343	1.665	2.008
120	0	28.9	178.7	207.6	0.241	1.489	1.730
130	0	21.8	170.1	191.9	0.168	1.308	1.476
140	0	16.2	158.5	174.7	0.115	1.132	1.248
150	0	11.8	145.1	156.9	0.079	0.967	1.046
160	0	8.6	130.7	139.3	0.054	0.817	0.870
170	0	6.1	116.1	122.2	0.036	0.683	0.719
180	0	4.4	101.9	106.3	0.024	0.566	0.590
190	0	3.1	88.4	91.5	0.016	0.465	0.482
200	0	2.2	76.0	78.2	0.011	0.380	0.391

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =16 / E_UN_CX (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

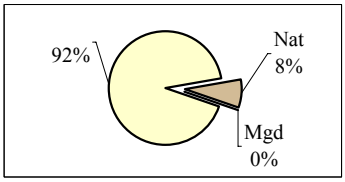
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.870E-02
Eqn: 2P	b	2.4257335
	k	N/A
Total	a	4.365E-02
Eqn: 2P+K	b	2.1237499
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	173
Nat. Stand Area (ha):	51,955
Mgd. Stand Area (ha):	0

Stratum as a % of the managed landbase:

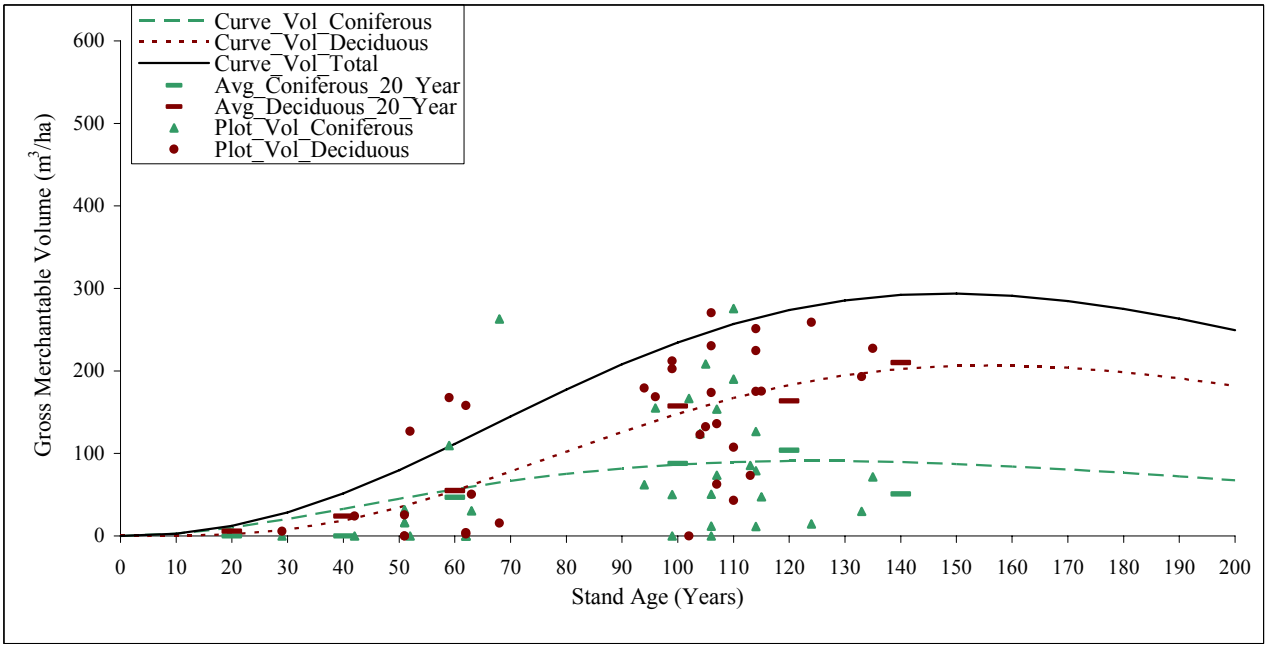


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	2	0.0	0.0	0.0	0.000	0.000	0.000
10	5	4.1	4.2	8.3	0.413	0.416	0.829
20	3	18.4	13.0	31.4	0.921	0.649	1.571
30	13	40.9	22.0	62.9	1.362	0.734	2.096
40	22	68.1	29.1	97.2	1.703	0.727	2.429
50	30	97.1	33.4	130.5	1.941	0.669	2.610
60	14	125.3	35.3	160.6	2.088	0.588	2.676
70	24	151.0	35.1	186.1	2.158	0.501	2.659
80	12	173.2	33.4	206.6	2.165	0.417	2.582
90	14	191.1	30.7	221.9	2.124	0.341	2.465
100	16	204.7	27.5	232.2	2.047	0.275	2.322
110	7	214.0	24.2	238.1	1.945	0.220	2.165
120	1	219.2	20.8	240.0	1.826	0.173	2.000
130	3	220.7	17.7	238.4	1.698	0.136	1.834
140	2	219.1	14.8	234.0	1.565	0.106	1.671
150	1	214.9	12.3	227.2	1.432	0.082	1.514
160	3	208.4	10.1	218.5	1.303	0.063	1.366
170	1	200.3	8.2	208.5	1.178	0.048	1.226
180	0	190.8	6.7	197.5	1.060	0.037	1.097
190	0	180.4	5.4	185.8	0.950	0.028	0.978
200	0	169.5	4.3	173.8	0.847	0.021	0.869

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 17 / E_B1_XL (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

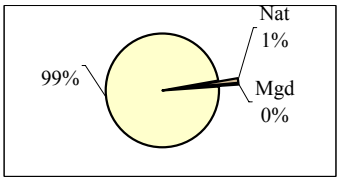
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.793E-02
Eqn: 2P	b	2.2312606
	k	N/A
Deciduous	a	2.822E-05
Eqn: 2P+K	b	3.9027911
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,174
Mgd. Stand Area (ha):	2,078

Stratum as a % of the managed landbase:

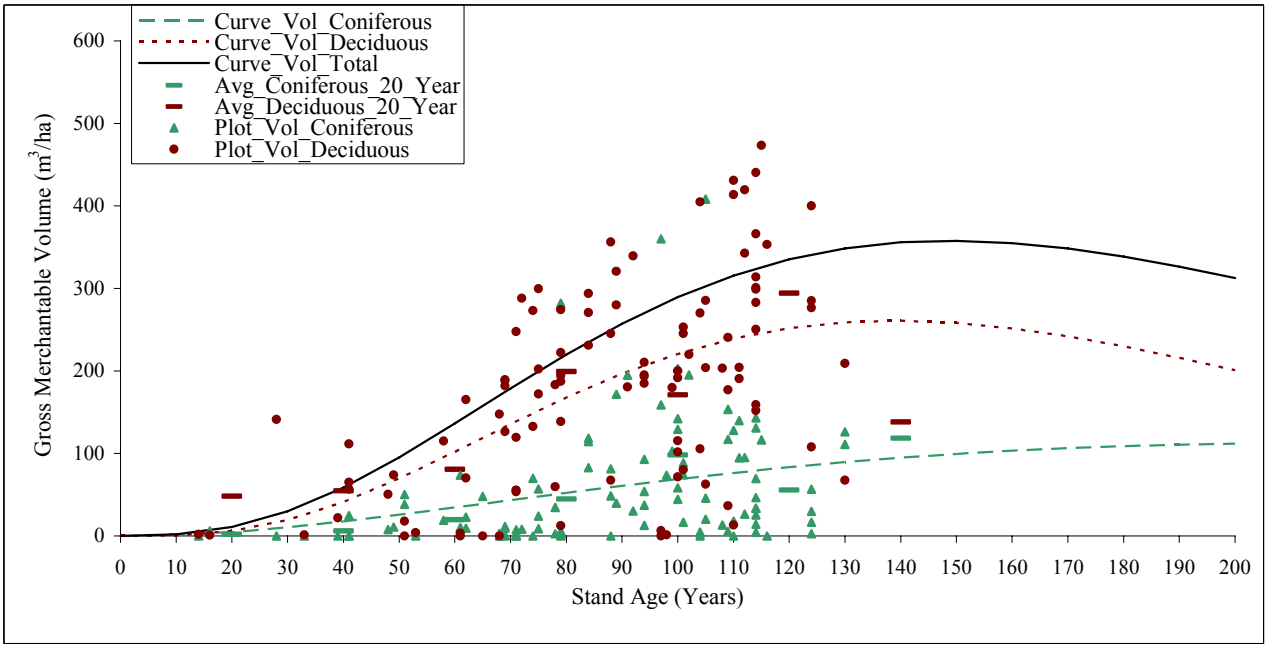


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.6	0.2	2.7	0.255	0.018	0.273
20	0	10.0	2.0	12.1	0.501	0.102	0.603
30	1	20.7	7.8	28.4	0.690	0.259	0.948
40	1	32.9	18.6	51.4	0.822	0.464	1.286
50	4	45.2	34.5	79.7	0.904	0.691	1.595
60	5	56.7	54.8	111.5	0.946	0.913	1.859
70	1	66.9	77.9	144.8	0.956	1.113	2.069
80	0	75.3	102.2	177.5	0.942	1.277	2.219
90	1	81.9	126.0	207.9	0.910	1.400	2.310
100	5	86.6	148.0	234.6	0.866	1.480	2.346
110	12	89.5	167.2	256.8	0.814	1.520	2.334
120	2	90.9	182.9	273.8	0.757	1.524	2.282
130	1	90.8	194.7	285.5	0.699	1.498	2.196
140	1	89.6	202.5	292.0	0.640	1.446	2.086
150	0	87.3	206.4	293.7	0.582	1.376	1.958
160	0	84.3	206.8	291.1	0.527	1.293	1.819
170	0	80.7	204.1	284.7	0.474	1.200	1.675
180	0	76.6	198.6	275.2	0.426	1.104	1.529
190	0	72.2	191.0	263.3	0.380	1.006	1.386
200	0	67.7	181.8	249.5	0.339	0.909	1.247

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 18 / E_B1_XH (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

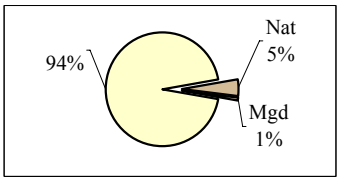
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	9.966E-03
Eqn: 2P	b	2.1363237
	k	N/A
Deciduous	a	3.070E-04
Eqn: 2P+K	b	3.4710979
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	104
Nat. Stand Area (ha):	30,931
Mgd. Stand Area (ha):	4,534

Stratum as a % of the managed landbase:

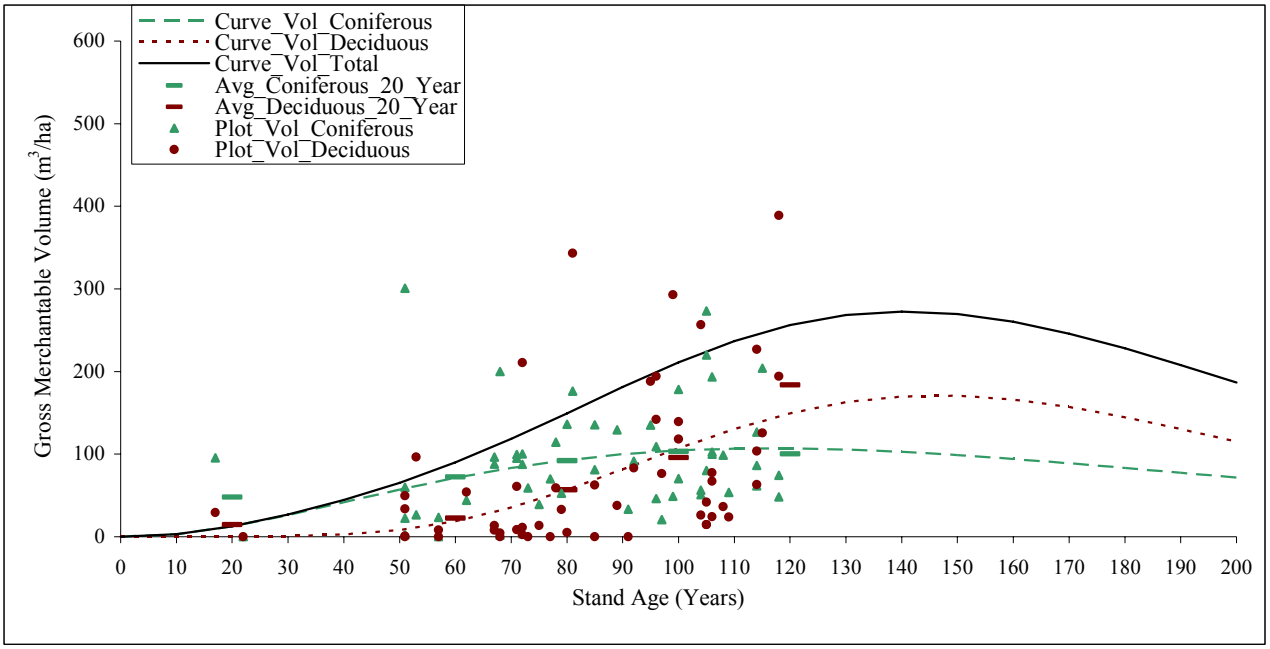


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	1.2	0.7	1.9	0.123	0.071	0.194
20	1	4.9	6.1	11.0	0.246	0.305	0.551
30	2	10.6	19.4	30.0	0.352	0.648	1.000
40	4	17.7	41.1	58.8	0.442	1.027	1.470
50	5	25.8	69.4	95.2	0.516	1.389	1.905
60	5	34.5	101.8	136.3	0.575	1.697	2.272
70	14	43.4	135.4	178.8	0.620	1.934	2.554
80	14	52.2	167.6	219.8	0.653	2.095	2.748
90	11	60.8	196.5	257.3	0.676	2.183	2.859
100	16	68.9	220.6	289.5	0.689	2.206	2.895
110	23	76.5	239.2	315.6	0.695	2.174	2.869
120	6	83.4	251.9	335.3	0.695	2.099	2.794
130	2	89.5	259.0	348.6	0.689	1.993	2.681
140	0	94.9	260.9	355.8	0.678	1.864	2.542
150	0	99.6	258.2	357.8	0.664	1.721	2.385
160	0	103.5	251.6	355.0	0.647	1.572	2.219
170	0	106.6	241.8	348.4	0.627	1.422	2.049
180	0	109.0	229.6	338.7	0.606	1.276	1.881
190	0	110.7	215.8	326.5	0.583	1.136	1.719
200	0	111.9	200.8	312.6	0.559	1.004	1.563

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 19 / E_B2_XX (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

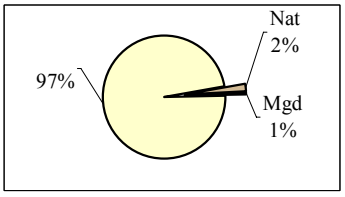
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.966E-02
Eqn: 2P	b	2.2894027
	k	N/A
Deciduous	a	3.616E-11
Eqn: 2P+K	b	7.3210378
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	54
Nat. Stand Area (ha):	11,880
Mgd. Stand Area (ha):	4,135

Stratum as a % of the managed landbase:

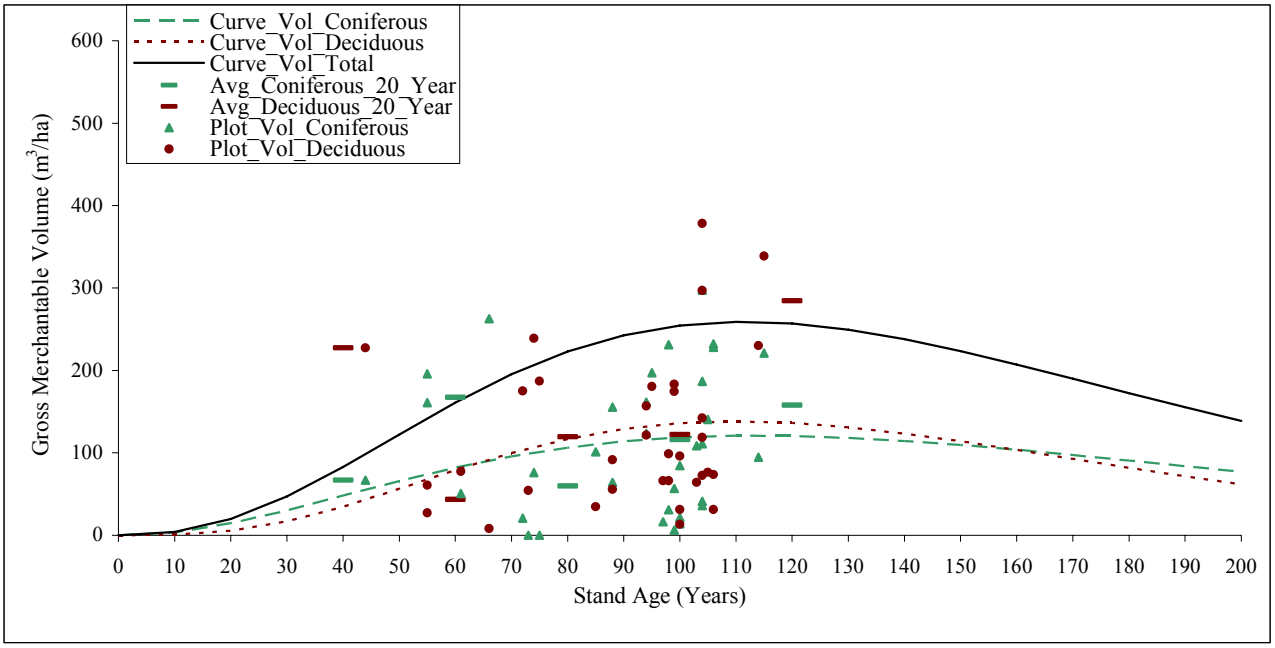


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.1	0.0	3.1	0.314	0.000	0.315
20	2	12.6	0.0	12.7	0.631	0.002	0.634
30	0	26.3	0.5	26.8	0.875	0.018	0.893
40	0	41.7	2.6	44.3	1.042	0.066	1.107
50	5	57.1	8.1	65.2	1.141	0.163	1.304
60	3	71.2	18.8	89.9	1.186	0.313	1.499
70	10	83.2	35.2	118.4	1.189	0.502	1.691
80	6	92.8	56.7	149.5	1.160	0.709	1.869
90	5	99.8	81.5	181.3	1.109	0.905	2.014
100	9	104.4	106.9	211.2	1.044	1.069	2.112
110	11	106.7	130.2	236.9	0.970	1.184	2.153
120	3	106.9	149.3	256.3	0.891	1.244	2.136
130	0	105.5	162.8	268.3	0.812	1.252	2.064
140	0	102.7	169.8	272.5	0.734	1.213	1.947
150	0	98.8	170.7	269.5	0.659	1.138	1.797
160	0	94.1	166.1	260.2	0.588	1.038	1.626
170	0	88.8	157.0	245.8	0.523	0.923	1.446
180	0	83.2	144.7	227.9	0.462	0.804	1.266
190	0	77.3	130.4	207.7	0.407	0.686	1.093
200	0	71.5	115.1	186.6	0.357	0.576	0.933

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 20 / E_B3_XX (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

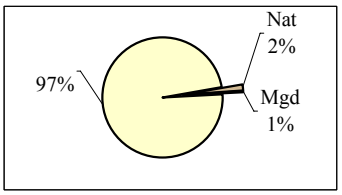
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	2.046E-02
Eqn: 2P	b	2.3259435
	k	N/A
Deciduous	a	1.717E-04
Eqn: 2P+K	b	3.6731387
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,983
Mgd. Stand Area (ha):	3,293

Stratum as a % of the managed landbase:

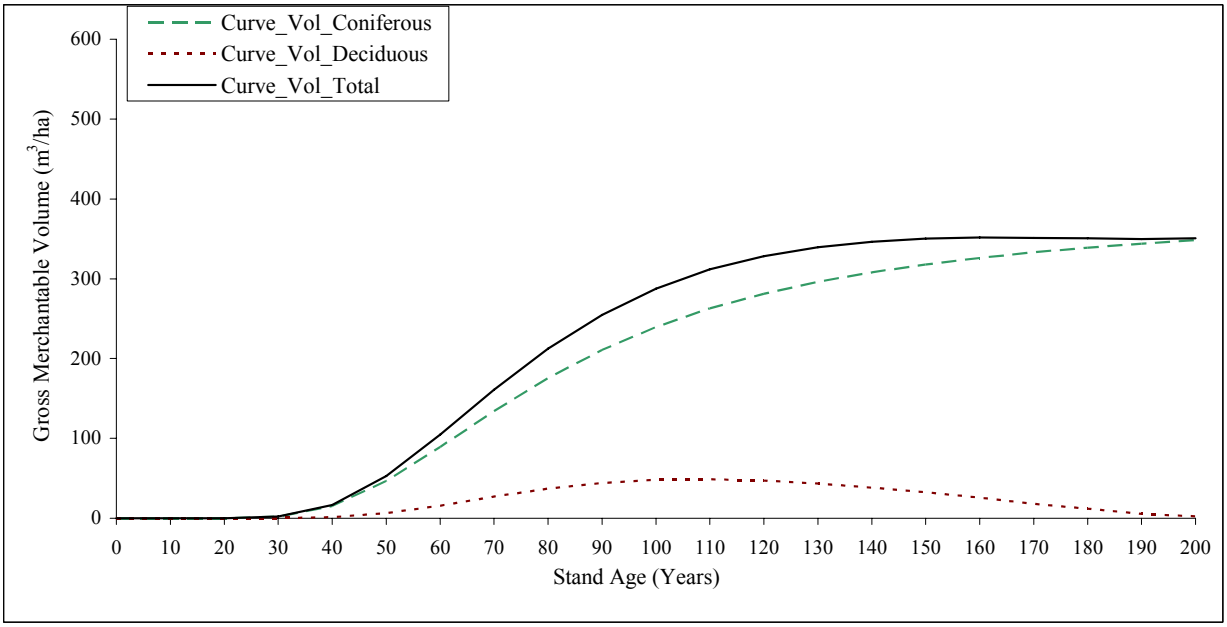


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.5	0.6	4.1	0.353	0.058	0.411
20	0	14.4	5.3	19.7	0.722	0.265	0.986
30	0	30.2	16.8	47.0	1.007	0.561	1.568
40	1	48.1	34.7	82.8	1.201	0.867	2.069
50	0	65.8	56.4	122.2	1.316	1.129	2.445
60	3	82.0	79.0	161.0	1.366	1.316	2.683
70	4	95.6	99.7	195.3	1.366	1.424	2.790
80	1	106.3	116.7	223.0	1.329	1.458	2.787
90	5	114.0	128.8	242.8	1.266	1.432	2.698
100	15	118.7	135.9	254.6	1.187	1.359	2.546
110	4	120.7	138.2	259.0	1.097	1.257	2.354
120	1	120.4	136.4	256.8	1.004	1.136	2.140
130	0	118.3	131.1	249.4	0.910	1.008	1.918
140	0	114.5	123.3	237.8	0.818	0.881	1.699
150	0	109.6	113.9	223.4	0.730	0.759	1.490
160	0	103.8	103.4	207.2	0.649	0.646	1.295
170	0	97.4	92.6	189.9	0.573	0.545	1.117
180	0	90.6	81.8	172.5	0.504	0.455	0.958
190	0	83.8	71.5	155.3	0.441	0.376	0.817
200	0	76.9	61.9	138.8	0.385	0.309	0.694

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 21 / G_B4_XX (Con-UT2/Dec-UT1)

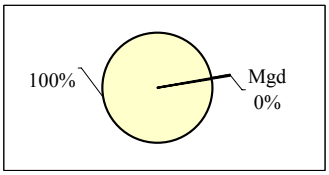


Average GYPSY Projections

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.66
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	10
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	2,315

Stratum as a % of the managed landbase:

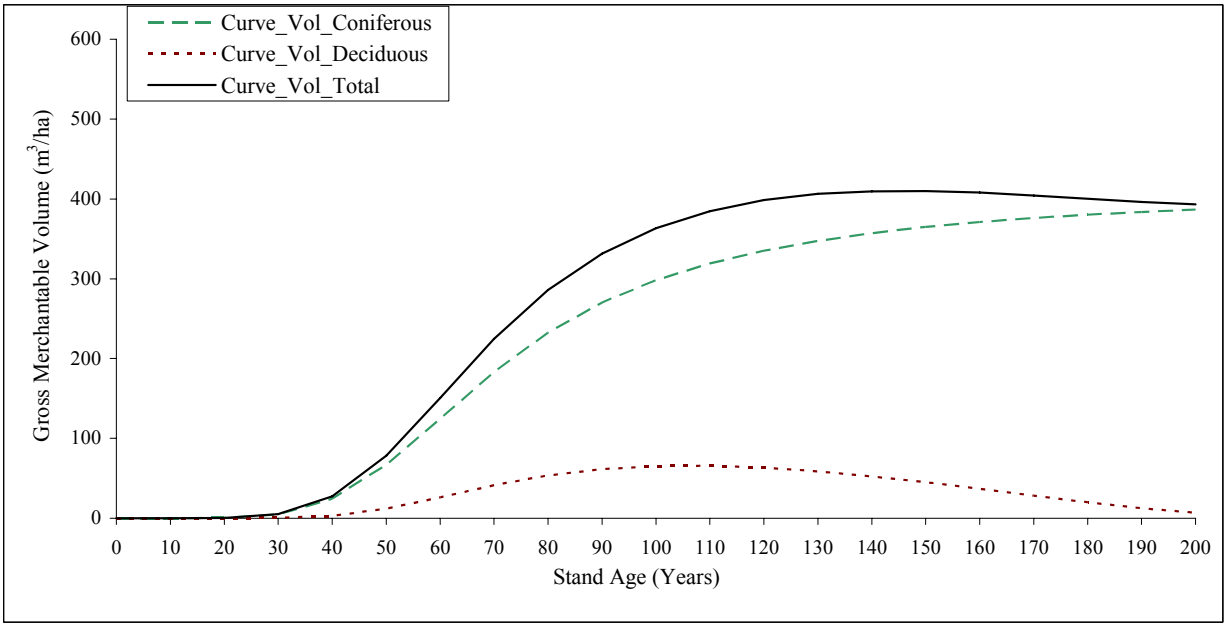


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m3/ha)			Mean Annual Increment (m3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.0	0.0	0.0	0.002	0.000	0.002
30	0	2.0	0.1	2.1	0.066	0.005	0.071
40	0	15.3	1.5	16.8	0.383	0.037	0.420
50	0	46.5	6.3	52.8	0.930	0.126	1.056
60	0	89.1	15.6	104.7	1.484	0.260	1.744
70	0	133.9	27.0	160.9	1.913	0.386	2.299
80	0	175.3	37.1	212.4	2.191	0.464	2.655
90	0	210.6	44.2	254.9	2.340	0.492	2.832
100	0	239.6	48.0	287.6	2.396	0.480	2.876
110	0	262.8	48.8	311.6	2.389	0.444	2.832
120	0	281.2	47.1	328.3	2.343	0.392	2.736
130	0	296.0	43.5	339.4	2.277	0.334	2.611
140	0	307.9	38.5	346.4	2.200	0.275	2.474
150	0	317.8	32.5	350.3	2.119	0.217	2.335
160	0	326.0	25.6	351.7	2.038	0.160	2.198
170	0	333.0	18.1	351.1	1.959	0.106	2.065
180	0	339.0	11.7	350.7	1.883	0.065	1.948
190	0	344.1	5.5	349.5	1.811	0.029	1.840
200	0	348.5	2.3	350.7	1.742	0.011	1.754

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 22 / G_B5_XX (Con-UT2/Dec-UT1)

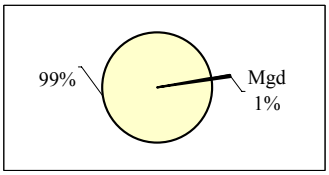


Average GYPSY Projections

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.66
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	16
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	3,424

Stratum as a % of the managed landbase:

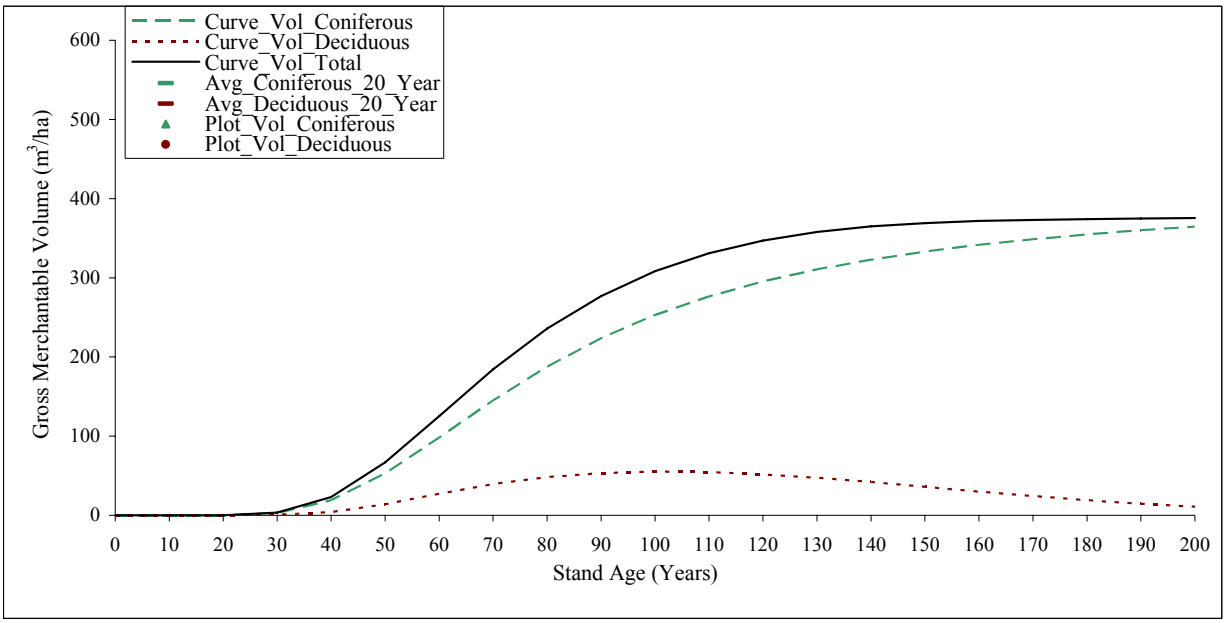


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m3/ha)			Mean Annual Increment (m3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.3	0.0	0.3	0.013	0.000	0.013
30	0	4.6	0.3	4.9	0.154	0.010	0.164
40	0	24.3	3.0	27.3	0.608	0.075	0.683
50	0	66.7	11.7	78.4	1.334	0.234	1.568
60	0	124.5	26.1	150.6	2.075	0.435	2.511
70	0	183.1	41.4	224.5	2.616	0.592	3.208
80	0	232.3	53.6	285.9	2.903	0.670	3.573
90	0	269.9	61.5	331.4	2.999	0.683	3.682
100	0	298.0	65.3	363.3	2.980	0.653	3.633
110	0	319.1	65.7	384.8	2.900	0.598	3.498
120	0	335.1	63.4	398.5	2.792	0.528	3.321
130	0	347.4	58.8	406.2	2.673	0.452	3.125
140	0	357.1	52.4	409.5	2.551	0.374	2.925
150	0	364.8	45.0	409.8	2.432	0.300	2.732
160	0	371.1	37.0	408.0	2.319	0.231	2.550
170	0	376.1	28.3	404.4	2.212	0.166	2.379
180	0	380.3	20.0	400.2	2.113	0.111	2.224
190	0	383.7	12.6	396.3	2.019	0.066	2.086
200	0	386.5	6.7	393.2	1.933	0.033	1.966

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 23 / G_B7_XX (Con-UT2/Dec-UT1)



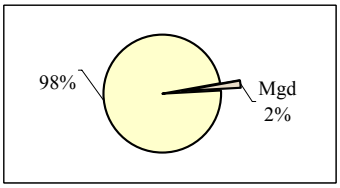
Average GYPSY Projections

Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.1	0.0	0.1	0.004	0.001	0.004
30	0	2.9	0.5	3.5	0.098	0.018	0.116
40	0	19.0	4.2	23.2	0.475	0.105	0.580
50	0	53.1	13.8	66.9	1.061	0.276	1.337
60	0	98.1	27.0	125.1	1.634	0.451	2.085
70	0	144.8	39.3	184.1	2.069	0.561	2.631
80	0	187.5	48.2	235.6	2.343	0.602	2.945
90	0	223.6	53.3	276.9	2.484	0.592	3.076
100	0	253.0	55.2	308.2	2.530	0.552	3.082
110	0	276.5	54.5	331.0	2.514	0.495	3.009
120	0	295.4	51.7	347.1	2.462	0.431	2.892
130	0	310.6	47.4	358.0	2.389	0.364	2.754
140	0	323.0	41.9	364.9	2.307	0.300	2.606
150	0	333.1	36.0	369.2	2.221	0.240	2.461
160	0	341.6	30.0	371.6	2.135	0.187	2.323
170	0	348.8	24.3	373.0	2.052	0.143	2.194
180	0	354.8	19.1	374.0	1.971	0.106	2.078
190	0	360.1	14.6	374.6	1.895	0.077	1.972
200	0	364.6	10.8	375.3	1.823	0.054	1.877

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.66
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	103
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	12,336

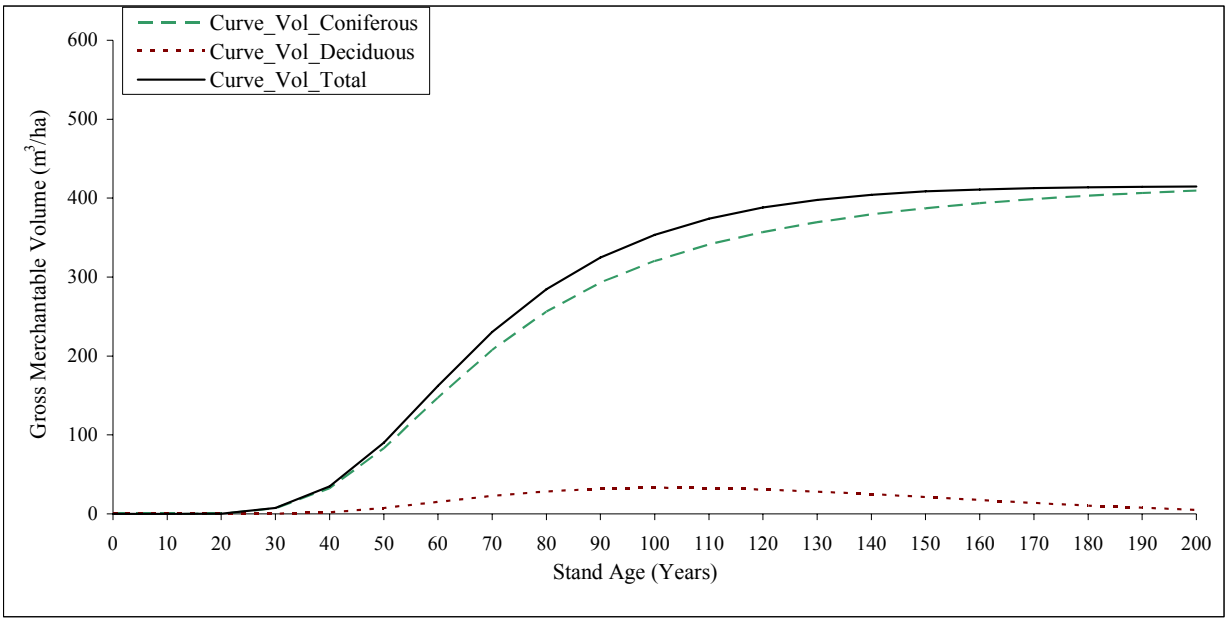
Stratum as a % of the managed landbase:



1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 24 / G_B8_XX (Con-UT2/Dec-UT1)



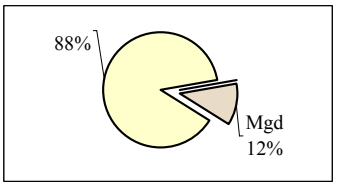
Average GYPSY Projections

Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.4	0.0	0.4	0.021	0.000	0.021
30	0	7.1	0.3	7.4	0.238	0.009	0.247
40	0	32.7	2.2	34.8	0.817	0.054	0.871
50	0	83.0	7.4	90.4	1.661	0.148	1.809
60	0	147.1	15.2	162.3	2.452	0.253	2.705
70	0	207.5	22.8	230.4	2.965	0.326	3.291
80	0	256.1	28.5	284.7	3.201	0.357	3.558
90	0	292.9	31.9	324.8	3.254	0.354	3.609
100	0	320.4	33.2	353.6	3.204	0.332	3.536
110	0	341.2	32.7	374.0	3.102	0.297	3.400
120	0	357.2	31.0	388.1	2.976	0.258	3.235
130	0	369.6	28.3	397.9	2.843	0.218	3.060
140	0	379.4	25.0	404.3	2.710	0.178	2.888
150	0	387.2	21.2	408.4	2.581	0.142	2.723
160	0	393.5	17.5	411.0	2.460	0.109	2.569
170	0	398.7	13.9	412.7	2.346	0.082	2.427
180	0	403.0	10.7	413.7	2.239	0.059	2.298
190	0	406.5	7.7	414.2	2.140	0.041	2.180
200	0	409.5	5.1	414.6	2.047	0.026	2.073

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.66
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	450
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	76,615

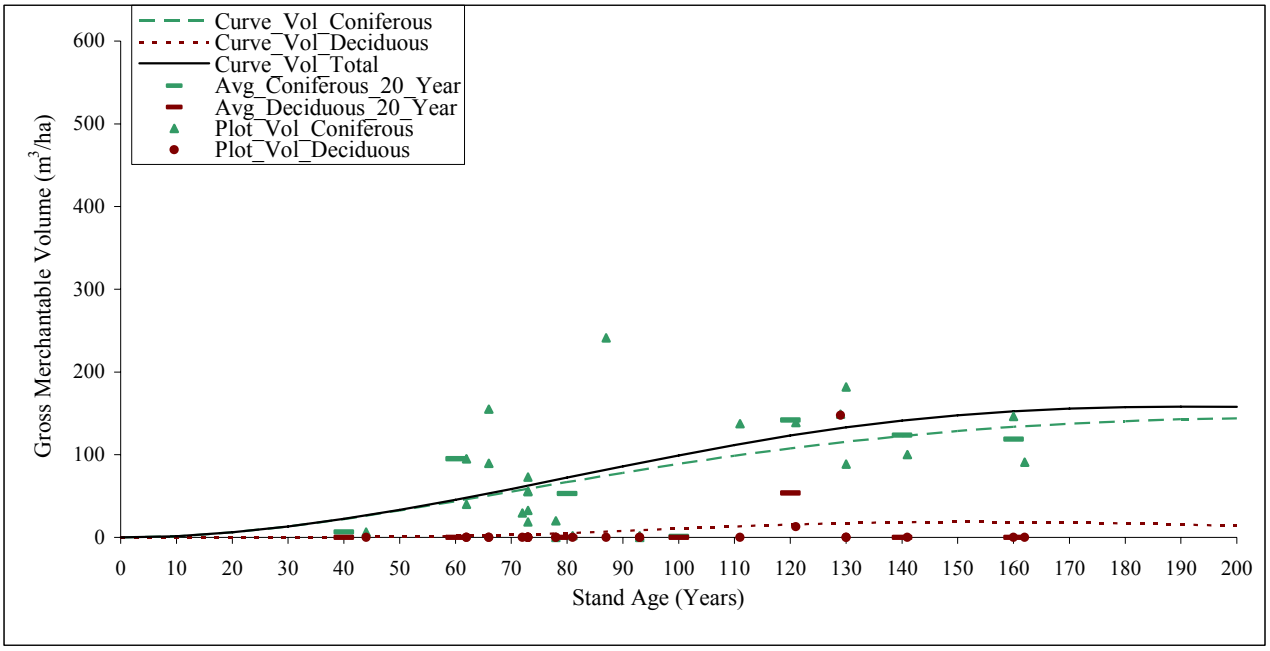
Stratum as a % of the managed landbase:



1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 25 / E_B9_XX (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

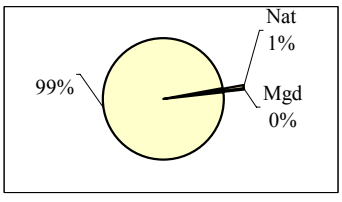
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.035E-02
Eqn: 2P	b	2.1913747
	k	N/A
Deciduous	a	8.664E-13
Eqn: 2P+K	b	7.6271657
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	25
Nat. Stand Area (ha):	4,777
Mgd. Stand Area (ha):	2,615

Stratum as a % of the managed landbase:

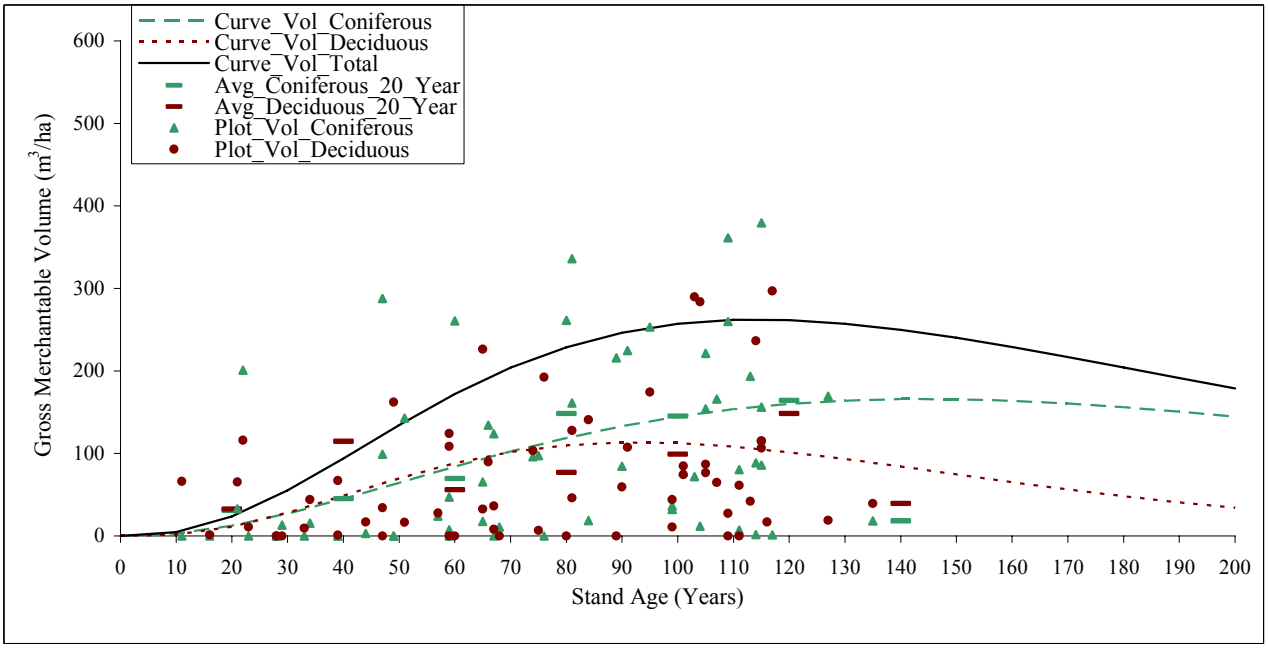


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	1.5	0.0	1.5	0.145	0.000	0.145
20	0	6.0	0.0	6.0	0.299	0.000	0.299
30	0	13.1	0.0	13.1	0.436	0.001	0.438
40	1	22.2	0.2	22.4	0.554	0.005	0.559
50	0	32.6	0.6	33.3	0.652	0.013	0.665
60	2	43.8	1.6	45.4	0.731	0.026	0.757
70	8	55.4	3.1	58.5	0.792	0.044	0.836
80	3	66.9	5.2	72.1	0.837	0.065	0.902
90	3	78.1	7.7	85.9	0.868	0.086	0.954
100	0	88.8	10.5	99.2	0.888	0.105	0.992
110	1	98.6	13.2	111.8	0.897	0.120	1.016
120	1	107.6	15.5	123.1	0.897	0.129	1.026
130	3	115.6	17.3	132.9	0.889	0.133	1.022
140	1	122.6	18.5	141.1	0.876	0.132	1.008
150	0	128.6	19.0	147.6	0.857	0.126	0.984
160	2	133.6	18.8	152.4	0.835	0.118	0.953
170	0	137.6	18.1	155.7	0.809	0.107	0.916
180	0	140.6	17.0	157.6	0.781	0.094	0.875
190	0	142.7	15.6	158.3	0.751	0.082	0.833
200	0	144.0	14.0	158.0	0.720	0.070	0.790

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =26 / E_PAS_D (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

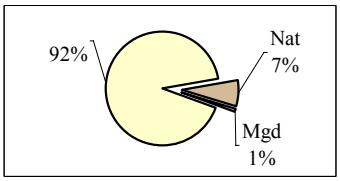
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.614E-02
Eqn: 2P	b	2.3265894
	k	N/A
Deciduous	a	2.070E-03
Eqn: 2P+K	b	3.0917084
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	63
Nat. Stand Area (ha):	22,426
Mgd. Stand Area (ha):	2,660

Stratum as a % of the passive landbase:

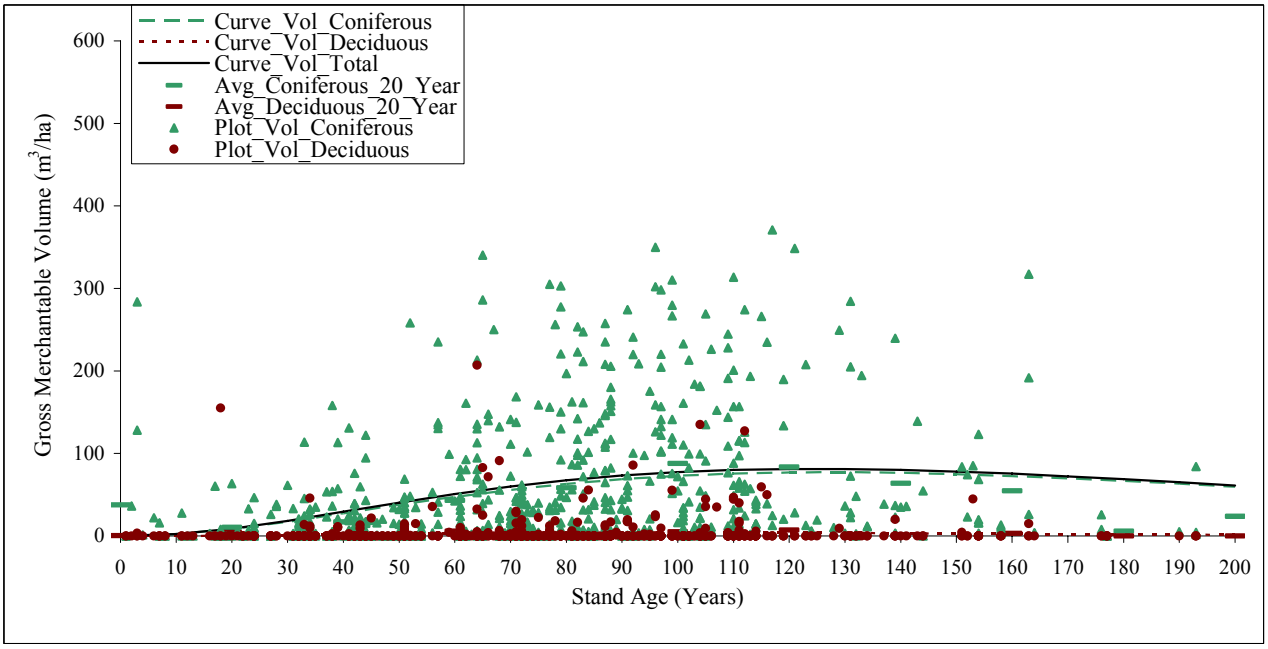


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	2.9	1.8	4.7	0.291	0.183	0.474
20	4	12.4	11.2	23.6	0.622	0.559	1.181
30	5	27.2	28.1	55.3	0.906	0.936	1.842
40	3	45.2	49.0	94.1	1.129	1.224	2.354
50	5	64.6	70.0	134.6	1.292	1.399	2.691
60	5	84.0	88.1	172.1	1.400	1.468	2.868
70	7	102.3	101.6	204.0	1.462	1.452	2.914
80	6	118.8	110.1	228.9	1.485	1.376	2.861
90	3	133.0	113.5	246.5	1.478	1.261	2.739
100	7	144.6	112.6	257.3	1.446	1.126	2.573
110	10	153.6	108.4	262.0	1.396	0.985	2.382
120	5	160.0	101.6	261.7	1.334	0.847	2.181
130	1	164.1	93.3	257.3	1.262	0.717	1.980
140	1	165.9	84.0	249.9	1.185	0.600	1.785
150	0	165.8	74.5	240.3	1.105	0.497	1.602
160	0	163.9	65.2	229.1	1.024	0.407	1.432
170	0	160.6	56.3	217.0	0.945	0.331	1.276
180	0	156.1	48.2	204.3	0.867	0.268	1.135
190	0	150.7	40.8	191.5	0.793	0.215	1.008
200	0	144.5	34.3	178.7	0.722	0.171	0.894

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =27 / E_PAS_C (Con-UT2/Dec-UT2)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

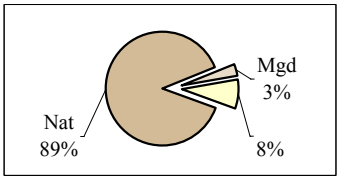
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.718E-02
Eqn: 2P	b	2.1871978
	k	N/A
Deciduous	a	5.329E-05
Eqn: 2P+K	b	3.1874128
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	702
Nat. Stand Area (ha):	267,931
Mgd. Stand Area (ha):	10,345

Stratum as a % of the passive landbase:



Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	7	0.0	0.0	0.0	0.000	0.000	0.000
10	10	2.2	0.1	2.3	0.223	0.006	0.229
20	26	8.5	0.4	8.9	0.427	0.019	0.446
30	50	17.5	1.0	18.5	0.582	0.033	0.615
40	67	27.6	1.8	29.4	0.690	0.045	0.734
50	51	37.8	2.6	40.5	0.757	0.052	0.809
60	56	47.5	3.4	50.8	0.791	0.056	0.847
70	92	56.0	3.9	59.9	0.800	0.056	0.856
80	77	63.2	4.3	67.5	0.790	0.054	0.844
90	67	68.8	4.5	73.3	0.765	0.050	0.815
100	66	73.0	4.5	77.5	0.730	0.045	0.775
110	61	75.7	4.4	80.1	0.688	0.040	0.728
120	15	77.1	4.1	81.3	0.643	0.034	0.677
130	16	77.4	3.8	81.2	0.595	0.029	0.625
140	11	76.6	3.5	80.1	0.547	0.025	0.572
150	12	75.0	3.1	78.1	0.500	0.021	0.521
160	8	72.8	2.7	75.5	0.455	0.017	0.472
170	0	70.0	2.4	72.4	0.412	0.014	0.426
180	6	66.8	2.0	68.8	0.371	0.011	0.382
190	4	63.3	1.7	65.0	0.333	0.009	0.342
200	0	59.6	1.5	61.1	0.298	0.007	0.306

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

- **Baseline Yield Curves – Coniferous UT3 and Deciduous UT3**

Coniferous UT3 – all yield curves:

- Species – live PL, SW, SE, SB, FB, FA & FD
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 13.0 cm top diameter inside bark
- cut-to-length; target length of 4.98 m, then 4.37 m, then a minimum log length of 3.76 m. No lengths other that those specified are acceptable.

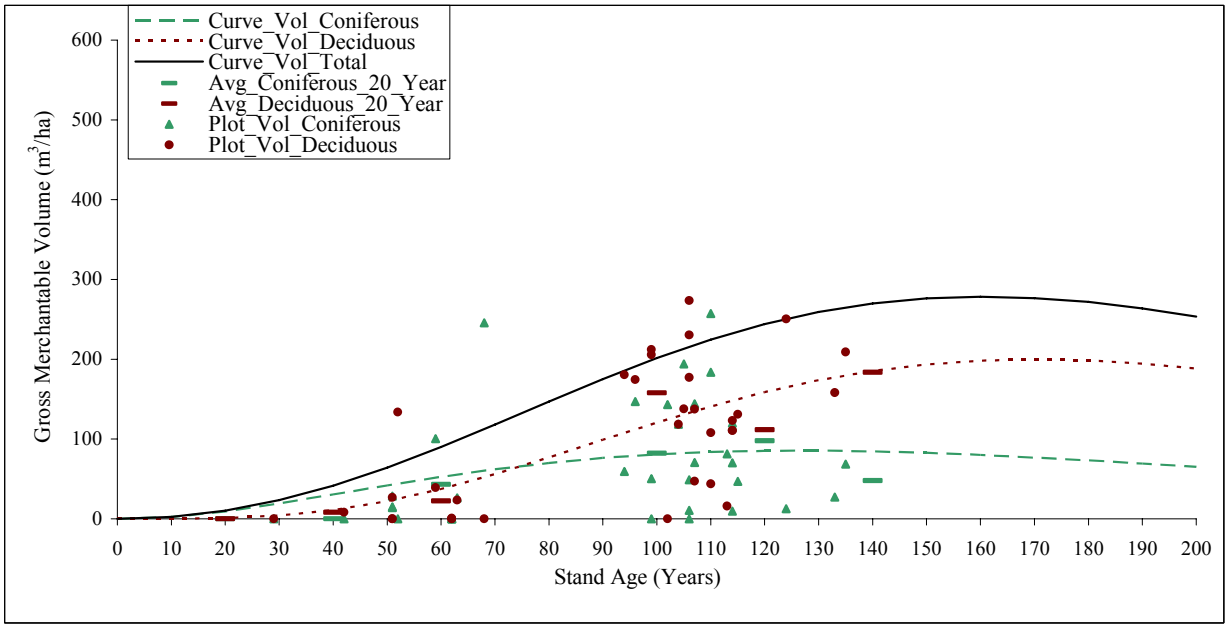
Deciduous UT3 – all yield curves except strata 21-24:

- Species – live AW only
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 10.0 cm top diameter inside bark
- cut to length; target length of 2.56 m and minimum log length of 1.78 m.

Deciduous UT1 – strata 21-24:

- Species – live AW & PB
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 10.0 cm top diameter inside bark
- tree length; minimum log length of 3.66 m.

STRATUM NUMBER = 1 / E_B1_XL (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

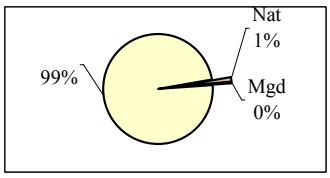
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.749E-02
Eqn: 2P	b	2.2122879
	k	N/A
Deciduous	a	4.659E-06
Eqn: 2P+K	b	4.2494502
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,174
Mgd. Stand Area (ha):	2,078

Stratum as a % of the managed landbase:

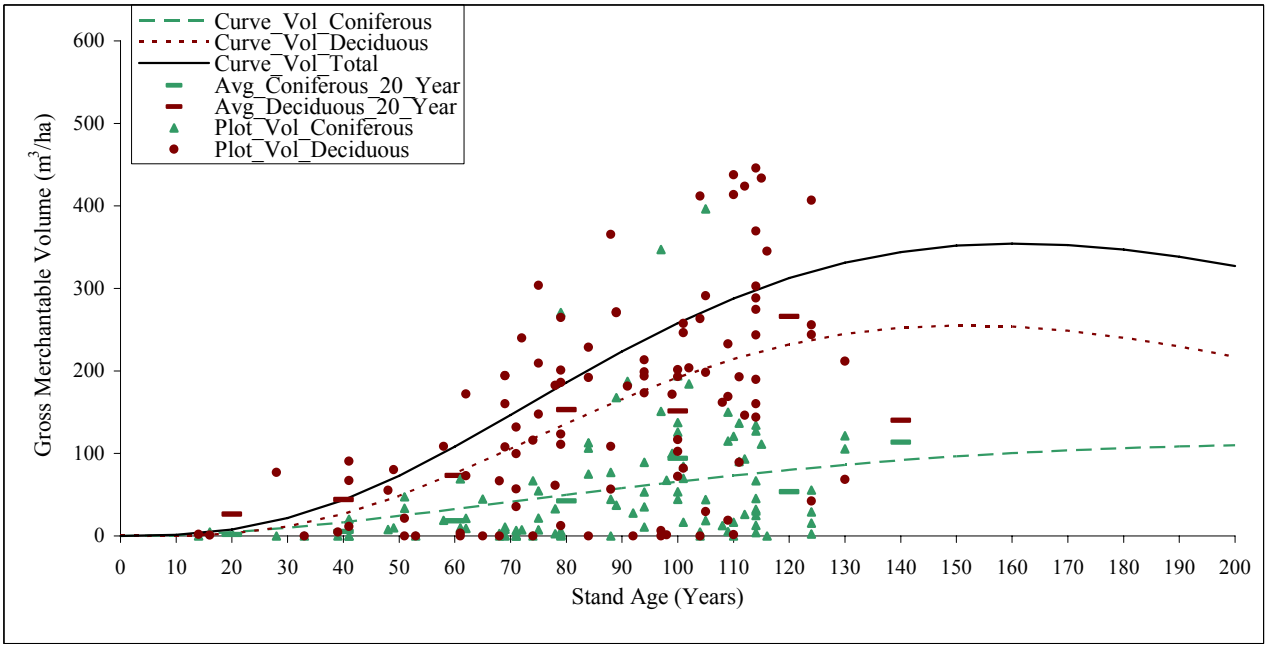


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.4	0.1	2.5	0.239	0.006	0.246
20	0	9.3	1.0	10.3	0.466	0.048	0.514
30	1	19.2	4.2	23.3	0.639	0.139	0.778
40	1	30.4	11.0	41.4	0.761	0.275	1.036
50	4	41.8	22.1	64.0	0.837	0.443	1.280
60	5	52.6	37.4	90.0	0.876	0.624	1.500
70	1	62.1	56.1	118.2	0.887	0.801	1.688
80	0	70.0	77.1	147.1	0.875	0.963	1.839
90	1	76.3	99.0	175.3	0.848	1.100	1.948
100	5	80.9	120.6	201.5	0.809	1.206	2.015
110	12	83.8	140.9	224.7	0.762	1.281	2.042
120	2	85.3	158.8	244.1	0.711	1.323	2.034
130	1	85.5	173.8	259.2	0.657	1.337	1.994
140	1	84.5	185.4	270.0	0.604	1.324	1.928
150	0	82.7	193.6	276.3	0.551	1.291	1.842
160	0	80.1	198.4	278.4	0.500	1.240	1.740
170	0	76.9	199.9	276.7	0.452	1.176	1.628
180	0	73.2	198.5	271.7	0.407	1.103	1.509
190	0	69.3	194.5	263.7	0.365	1.024	1.388
200	0	65.1	188.3	253.5	0.326	0.942	1.267

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 2 / E_B1_XH (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

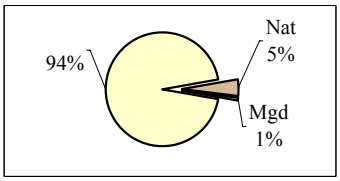
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	9.630E-03
Eqn: 2P	b	2.1270025
	k	N/A
Deciduous	a	6.298E-05
Eqn: 2P+K	b	3.7849665
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	104
Nat. Stand Area (ha):	30,931
Mgd. Stand Area (ha):	4,534

Stratum as a % of the managed landbase:

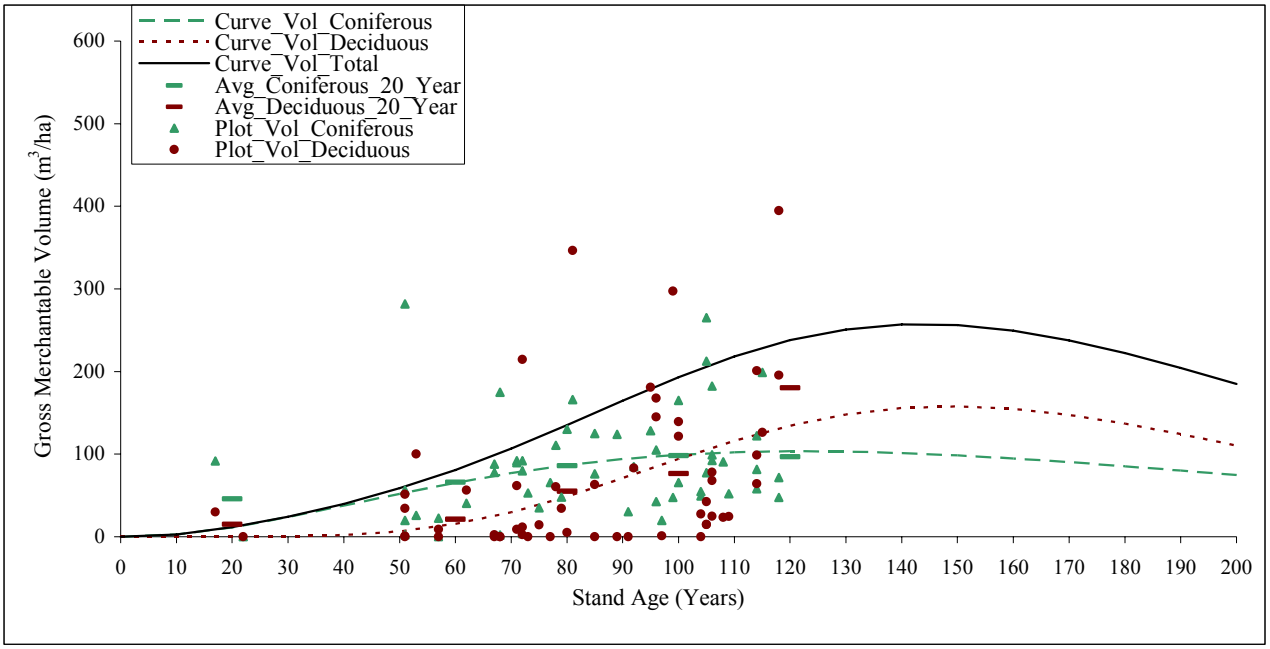


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	1.2	0.3	1.5	0.117	0.030	0.147
20	1	4.6	3.2	7.9	0.232	0.160	0.393
30	2	10.0	11.6	21.6	0.333	0.387	0.720
40	4	16.7	26.8	43.6	0.419	0.671	1.089
50	5	24.4	48.6	73.1	0.489	0.973	1.461
60	5	32.7	75.5	108.2	0.545	1.258	1.804
70	14	41.2	105.4	146.6	0.589	1.506	2.095
80	14	49.8	136.1	185.8	0.622	1.701	2.323
90	11	58.1	165.5	223.6	0.645	1.839	2.484
100	16	66.0	192.0	258.0	0.660	1.920	2.580
110	23	73.4	214.5	287.9	0.667	1.950	2.617
120	6	80.2	232.2	312.4	0.668	1.935	2.604
130	2	86.4	244.9	331.2	0.664	1.884	2.548
140	0	91.8	252.5	344.3	0.656	1.803	2.459
150	0	96.6	255.3	351.9	0.644	1.702	2.346
160	0	100.6	253.8	354.4	0.629	1.586	2.215
170	0	103.9	248.7	352.6	0.611	1.463	2.074
180	0	106.6	240.4	347.0	0.592	1.336	1.928
190	0	108.6	229.8	338.4	0.572	1.209	1.781
200	0	110.0	217.3	327.3	0.550	1.086	1.637

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 3 / E_B2_XX (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

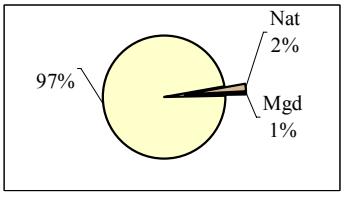
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.852E-02
Eqn: 2P	b	2.2664093
	k	N/A
Deciduous	a	1.810E-11
Eqn: 2P+K	b	7.4435508
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	54
Nat. Stand Area (ha):	11,880
Mgd. Stand Area (ha):	4,135

Stratum as a % of the managed landbase:

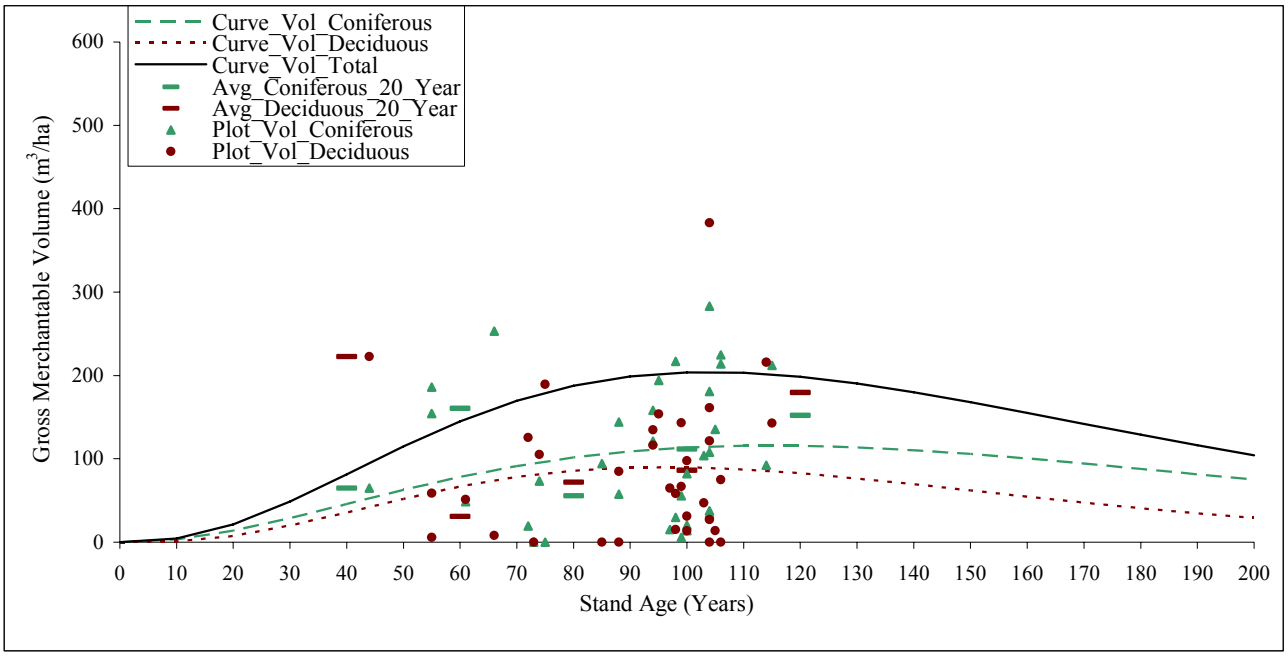


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.8	0.0	2.8	0.284	0.000	0.284
20	2	11.4	0.0	11.4	0.568	0.002	0.570
30	0	23.7	0.4	24.1	0.789	0.013	0.802
40	0	37.7	2.1	39.8	0.944	0.052	0.995
50	5	52.0	6.6	58.6	1.040	0.132	1.172
60	3	65.3	15.5	80.8	1.089	0.258	1.347
70	10	77.0	29.6	106.6	1.100	0.423	1.523
80	6	86.6	48.6	135.1	1.082	0.607	1.689
90	5	93.9	70.8	164.7	1.044	0.786	1.830
100	9	99.1	94.0	193.1	0.991	0.940	1.931
110	11	102.2	116.0	218.2	0.929	1.054	1.983
120	3	103.4	134.4	237.8	0.862	1.120	1.982
130	0	103.0	147.9	251.0	0.793	1.138	1.930
140	0	101.3	155.8	257.0	0.723	1.113	1.836
150	0	98.4	157.9	256.3	0.656	1.053	1.708
160	0	94.6	154.8	249.4	0.591	0.968	1.559
170	0	90.2	147.5	237.7	0.531	0.867	1.398
180	0	85.3	136.9	222.2	0.474	0.760	1.234
190	0	80.1	124.1	204.3	0.422	0.653	1.075
200	0	74.8	110.3	185.1	0.374	0.552	0.926

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 4 / E_B3_XX (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

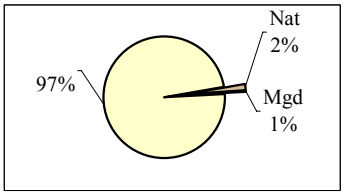
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	2.020E-02
Eqn: 2P	b	2.3138942
	k	N/A
Deciduous	a	1.038E-03
Eqn: 2P+K	b	3.1927601
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,983
Mgd. Stand Area (ha):	3,293

Stratum as a % of the managed landbase:

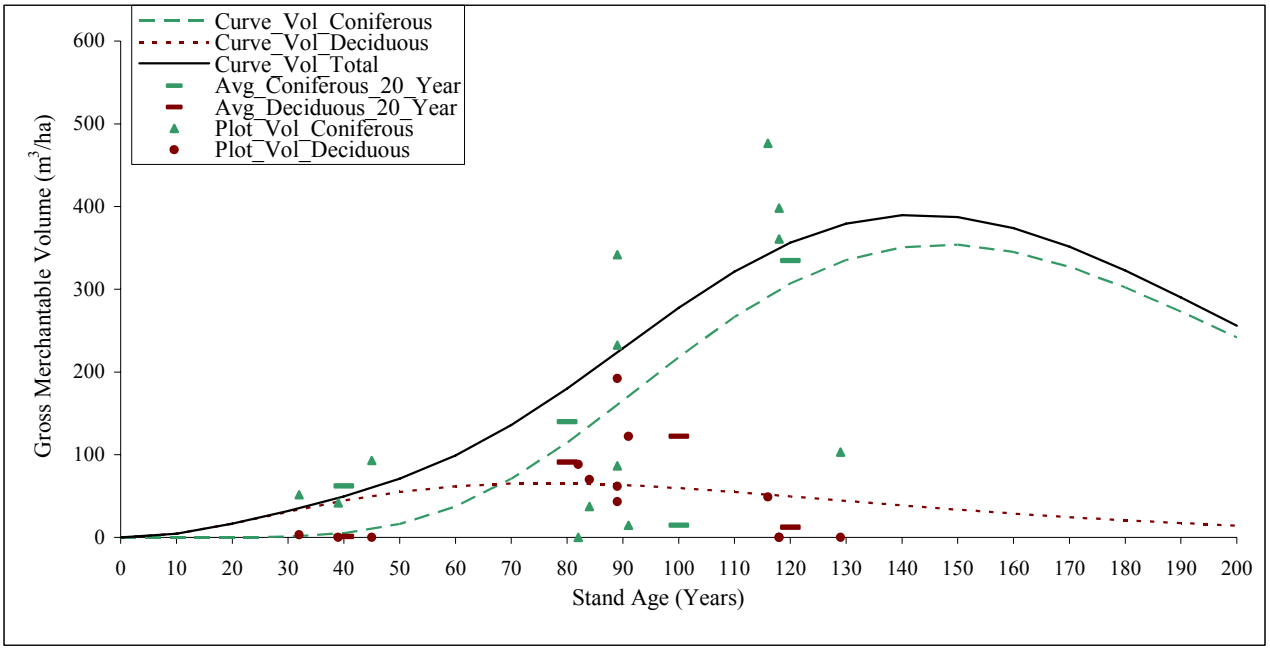


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.4	1.2	4.6	0.340	0.116	0.456
20	0	13.8	7.6	21.4	0.691	0.380	1.070
30	0	28.8	19.9	48.7	0.961	0.662	1.623
40	1	45.9	35.6	81.5	1.147	0.891	2.038
50	0	62.8	52.1	114.9	1.256	1.042	2.298
60	3	78.2	66.8	145.0	1.304	1.113	2.417
70	4	91.3	78.3	169.6	1.305	1.118	2.423
80	1	101.6	85.9	187.6	1.271	1.074	2.345
90	5	109.1	89.7	198.7	1.212	0.996	2.208
100	15	113.7	89.9	203.7	1.137	0.899	2.037
110	4	115.9	87.4	203.2	1.053	0.794	1.848
120	1	115.8	82.7	198.4	0.965	0.689	1.654
130	0	113.9	76.5	190.3	0.876	0.588	1.464
140	0	110.4	69.4	179.8	0.789	0.496	1.285
150	0	105.9	62.0	167.8	0.706	0.413	1.119
160	0	100.4	54.6	155.0	0.628	0.341	0.969
170	0	94.4	47.5	141.9	0.555	0.279	0.835
180	0	88.0	40.8	128.9	0.489	0.227	0.716
190	0	81.5	34.8	116.3	0.429	0.183	0.612
200	0	75.0	29.3	104.4	0.375	0.147	0.522

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 5 / E_B4_XX (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

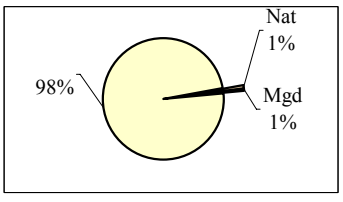
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	6.088E-11
Eqn: 2P+K	b	7.3625262
	k	20
Deciduous	a	3.027E-02
Eqn: 2P	b	2.3051162
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	13
Nat. Stand Area (ha):	5,141
Mgd. Stand Area (ha):	4,098

Stratum as a % of the managed landbase:

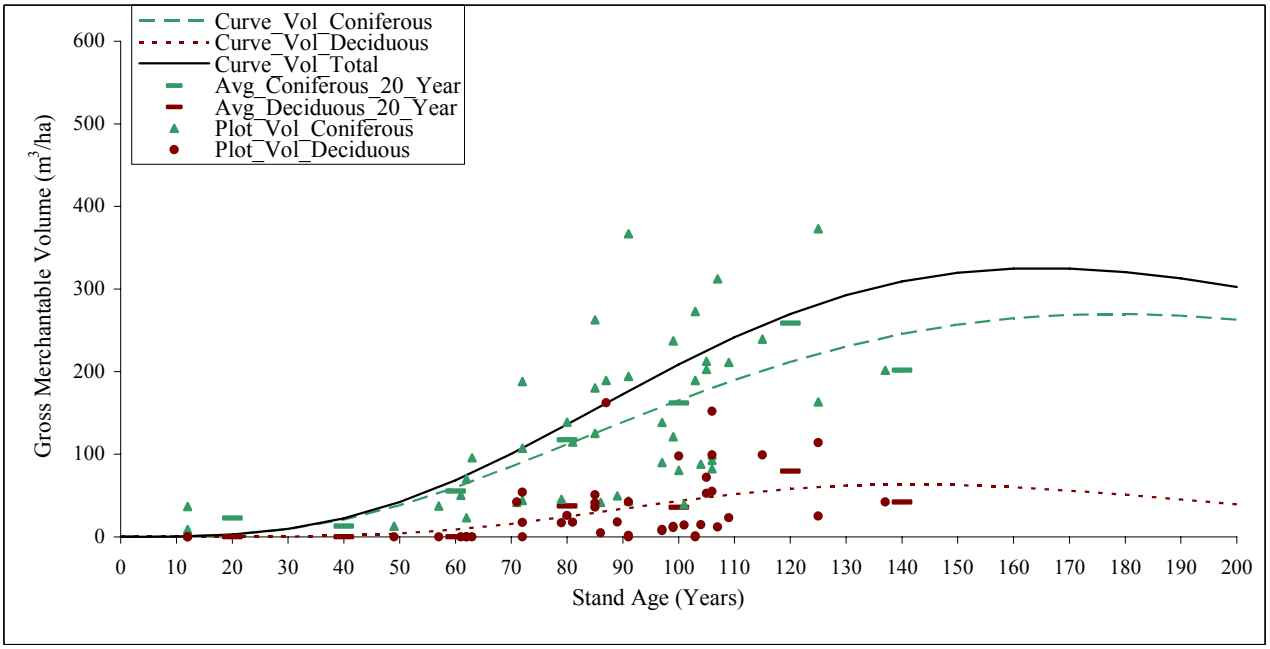


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	4.5	4.5	0.000	0.452	0.452
20	0	0.1	16.5	16.6	0.004	0.824	0.829
30	1	1.0	31.0	32.0	0.034	1.034	1.068
40	1	5.1	44.5	49.6	0.129	1.112	1.240
50	1	16.1	55.0	71.1	0.322	1.099	1.422
60	0	37.4	61.8	99.2	0.624	1.030	1.654
70	0	70.6	65.2	135.8	1.009	0.931	1.940
80	2	114.5	65.5	180.0	1.431	0.819	2.250
90	4	165.3	63.5	228.8	1.837	0.705	2.542
100	0	217.8	59.8	277.6	2.178	0.598	2.776
110	0	266.5	55.0	321.5	2.422	0.500	2.923
120	3	306.7	49.7	356.4	2.556	0.414	2.970
130	1	335.4	44.1	379.5	2.580	0.340	2.919
140	0	351.0	38.7	389.7	2.507	0.276	2.784
150	0	353.8	33.5	387.3	2.359	0.223	2.582
160	0	345.1	28.7	373.9	2.157	0.180	2.337
170	0	327.1	24.4	351.5	1.924	0.144	2.068
180	0	302.2	20.6	322.8	1.679	0.114	1.793
190	0	272.9	17.2	290.1	1.436	0.091	1.527
200	0	241.5	14.3	255.8	1.207	0.072	1.279

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 6 / E_B5_XX (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

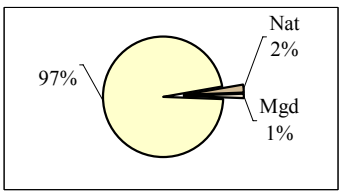
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	9.472E-05
Eqn: 2P+K	b	3.5552058
	k	50
Deciduous	a	4.702E-11
Eqn: 2P+K	b	7.0686717
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	44
Nat. Stand Area (ha):	14,170
Mgd. Stand Area (ha):	6,888

Stratum as a % of the managed landbase:

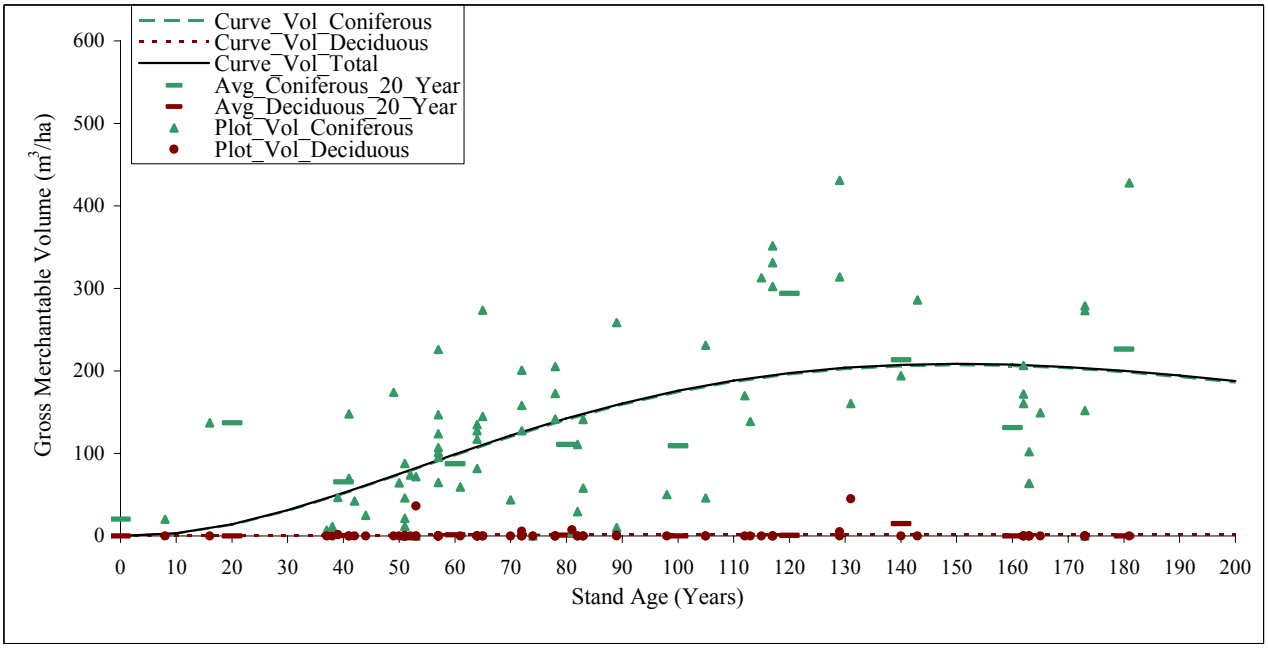


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	2	0.3	0.0	0.3	0.028	0.000	0.028
20	0	2.7	0.0	2.7	0.134	0.001	0.135
30	0	9.3	0.3	9.6	0.309	0.010	0.319
40	0	21.1	1.3	22.5	0.528	0.034	0.562
50	1	38.2	3.9	42.2	0.764	0.079	0.843
60	5	59.8	8.7	68.5	0.997	0.145	1.142
70	4	84.7	15.7	100.4	1.211	0.224	1.434
80	3	111.5	24.4	135.9	1.394	0.305	1.699
90	9	138.8	34.0	172.8	1.542	0.378	1.921
100	9	165.3	43.5	208.8	1.653	0.435	2.088
110	7	189.9	51.7	241.6	1.727	0.470	2.197
120	1	211.9	58.0	269.9	1.766	0.483	2.249
130	2	230.6	62.0	292.5	1.774	0.477	2.250
140	1	245.7	63.5	309.1	1.755	0.453	2.208
150	0	257.0	62.7	319.7	1.714	0.418	2.131
160	0	264.7	60.0	324.7	1.655	0.375	2.030
170	0	268.9	55.9	324.7	1.582	0.329	1.910
180	0	269.7	50.7	320.5	1.499	0.282	1.780
190	0	267.6	45.1	312.8	1.409	0.237	1.646
200	0	263.0	39.3	302.3	1.315	0.197	1.511

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 7 / E_B7_MX (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

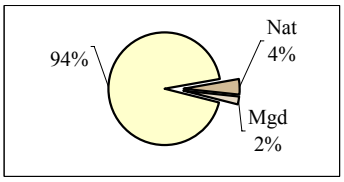
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.573E-02
Eqn: 2P	b	2.3638761
	k	N/A
Deciduous	a	1.069E-02
Eqn: 2P	b	1.3290667
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	76
Nat. Stand Area (ha):	28,336
Mgd. Stand Area (ha):	15,336

Stratum as a % of the managed landbase:

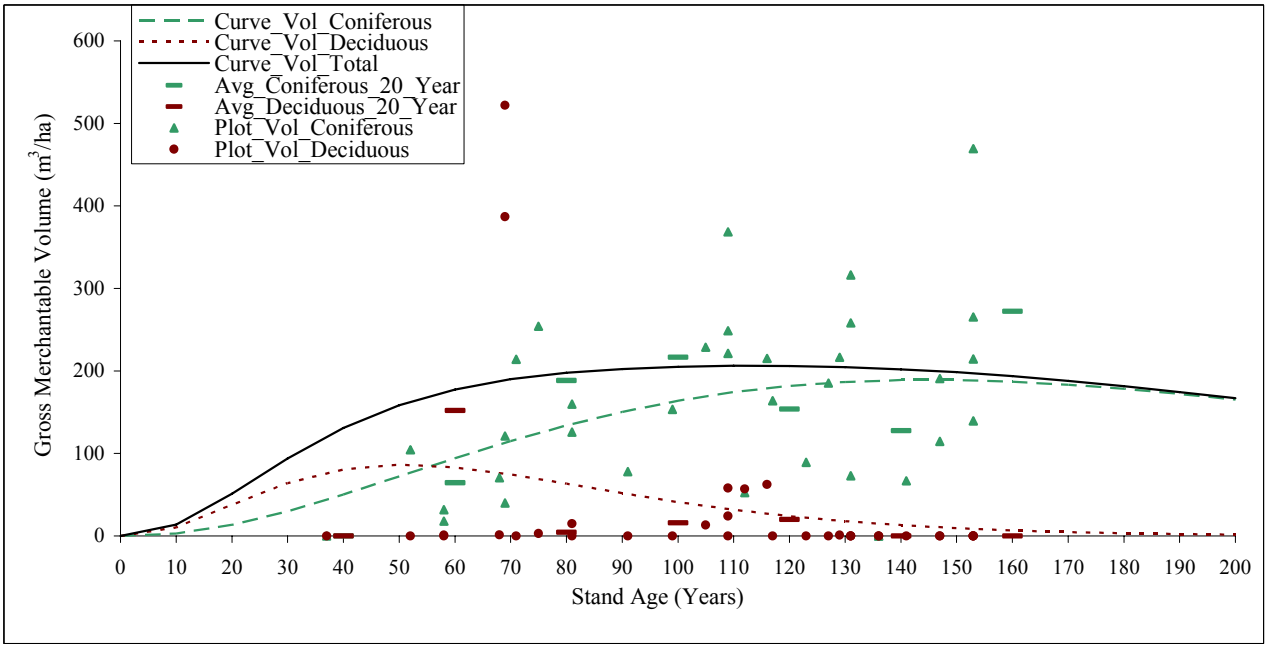


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	3.1	0.2	3.3	0.311	0.021	0.331
20	1	13.7	0.5	14.1	0.683	0.023	0.706
30	0	30.4	0.7	31.2	1.015	0.024	1.039
40	7	51.4	0.9	52.3	1.284	0.023	1.307
50	12	74.4	1.1	75.5	1.487	0.023	1.510
60	12	97.8	1.3	99.1	1.629	0.022	1.651
70	7	120.3	1.4	121.7	1.718	0.020	1.738
80	8	140.9	1.5	142.4	1.761	0.019	1.780
90	2	159.0	1.6	160.6	1.767	0.018	1.785
100	1	174.3	1.7	176.0	1.743	0.017	1.760
110	4	186.6	1.7	188.3	1.696	0.015	1.712
120	4	195.8	1.7	197.5	1.632	0.014	1.646
130	3	202.2	1.7	203.9	1.555	0.013	1.568
140	2	205.8	1.7	207.5	1.470	0.012	1.482
150	0	207.0	1.7	208.7	1.380	0.011	1.391
160	6	206.0	1.6	207.7	1.288	0.010	1.298
170	5	203.2	1.6	204.8	1.195	0.009	1.204
180	1	198.7	1.6	200.2	1.104	0.009	1.112
190	0	192.9	1.5	194.4	1.015	0.008	1.023
200	0	186.1	1.4	187.5	0.930	0.007	0.938

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 8 / E_B7_GL (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

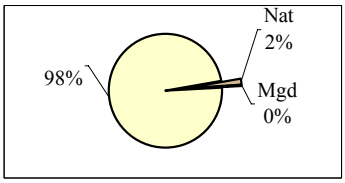
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.624E-02
Eqn: 2P	b	2.3545789
	k	N/A
Total	a	5.010E-02
Eqn: 2P	b	2.5455147
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	35
Nat. Stand Area (ha):	10,099
Mgd. Stand Area (ha):	1,667

Stratum as a % of the managed landbase:

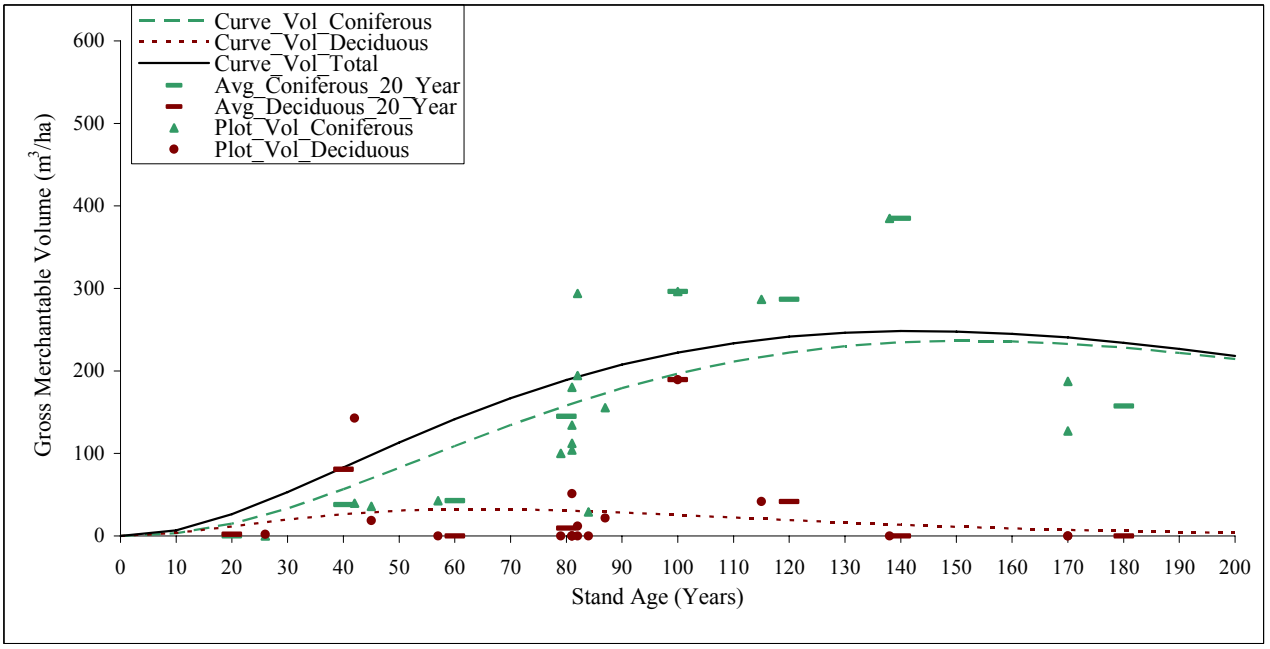


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.1	10.7	13.8	0.312	1.066	1.378
20	0	13.6	37.7	51.3	0.679	1.886	2.565
30	0	30.0	64.1	94.1	1.000	2.138	3.138
40	1	50.2	80.8	131.0	1.255	2.021	3.276
50	1	72.2	86.4	158.6	1.443	1.729	3.172
60	2	94.2	83.3	177.5	1.571	1.388	2.959
70	4	115.2	74.7	189.9	1.645	1.068	2.713
80	3	134.1	63.6	197.7	1.676	0.795	2.471
90	1	150.4	52.0	202.4	1.671	0.578	2.249
100	1	163.9	41.2	205.1	1.639	0.412	2.051
110	5	174.3	31.8	206.2	1.585	0.289	1.874
120	3	181.9	24.1	206.0	1.516	0.201	1.716
130	5	186.7	17.9	204.6	1.436	0.138	1.574
140	3	189.0	13.1	202.1	1.350	0.093	1.443
150	6	189.0	9.4	198.4	1.260	0.063	1.323
160	0	187.0	6.7	193.8	1.169	0.042	1.211
170	0	183.4	4.8	188.2	1.079	0.028	1.107
180	0	178.4	3.3	181.7	0.991	0.019	1.010
190	0	172.2	2.3	174.5	0.906	0.012	0.919
200	0	165.2	1.6	166.8	0.826	0.008	0.834

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 9 / E_B7_GH (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

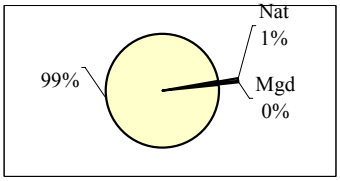
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.572E-02
Eqn: 2P	b	2.3902339
	k	N/A
Deciduous	a	3.397E-02
Eqn: 2P	b	2.1750046
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	18
Nat. Stand Area (ha):	5,713
Mgd. Stand Area (ha):	1,153

Stratum as a % of the managed landbase:

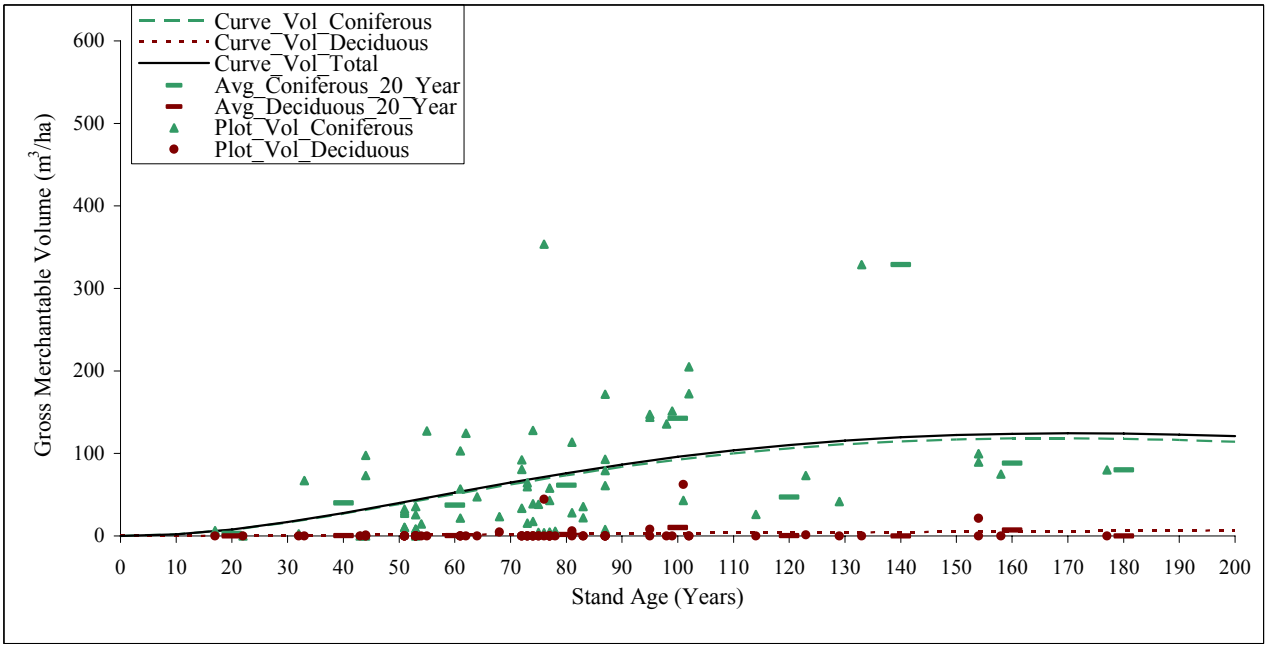


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.3	3.6	6.9	0.330	0.362	0.692
20	0	14.8	11.6	26.4	0.739	0.582	1.321
30	1	33.3	20.0	53.3	1.110	0.667	1.777
40	1	56.6	26.6	83.2	1.414	0.666	2.080
50	1	82.4	30.8	113.2	1.648	0.616	2.265
60	1	108.9	32.6	141.5	1.815	0.544	2.359
70	0	134.5	32.5	167.0	1.922	0.464	2.386
80	8	158.2	30.9	189.1	1.977	0.386	2.364
90	1	179.1	28.4	207.6	1.990	0.316	2.306
100	1	196.9	25.5	222.4	1.969	0.255	2.224
110	0	211.3	22.3	233.6	1.921	0.203	2.124
120	1	222.3	19.2	241.5	1.853	0.160	2.013
130	0	230.1	16.3	246.3	1.770	0.125	1.895
140	1	234.7	13.6	248.3	1.676	0.097	1.774
150	0	236.5	11.3	247.8	1.577	0.075	1.652
160	0	235.8	9.2	245.1	1.474	0.058	1.532
170	2	233.0	7.5	240.5	1.370	0.044	1.414
180	0	228.2	6.0	234.3	1.268	0.034	1.302
190	0	222.0	4.8	226.8	1.168	0.025	1.194
200	0	214.4	3.9	218.3	1.072	0.019	1.091

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =10 / E_B8_ML (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

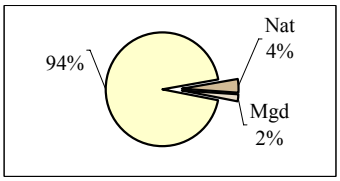
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.321E-02
Eqn: 2P	b	2.2096170
	k	N/A
Deciduous	a	3.663E-03
Eqn: 2P	b	1.5584749
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	69
Nat. Stand Area (ha):	25,396
Mgd. Stand Area (ha):	12,695

Stratum as a % of the managed landbase:

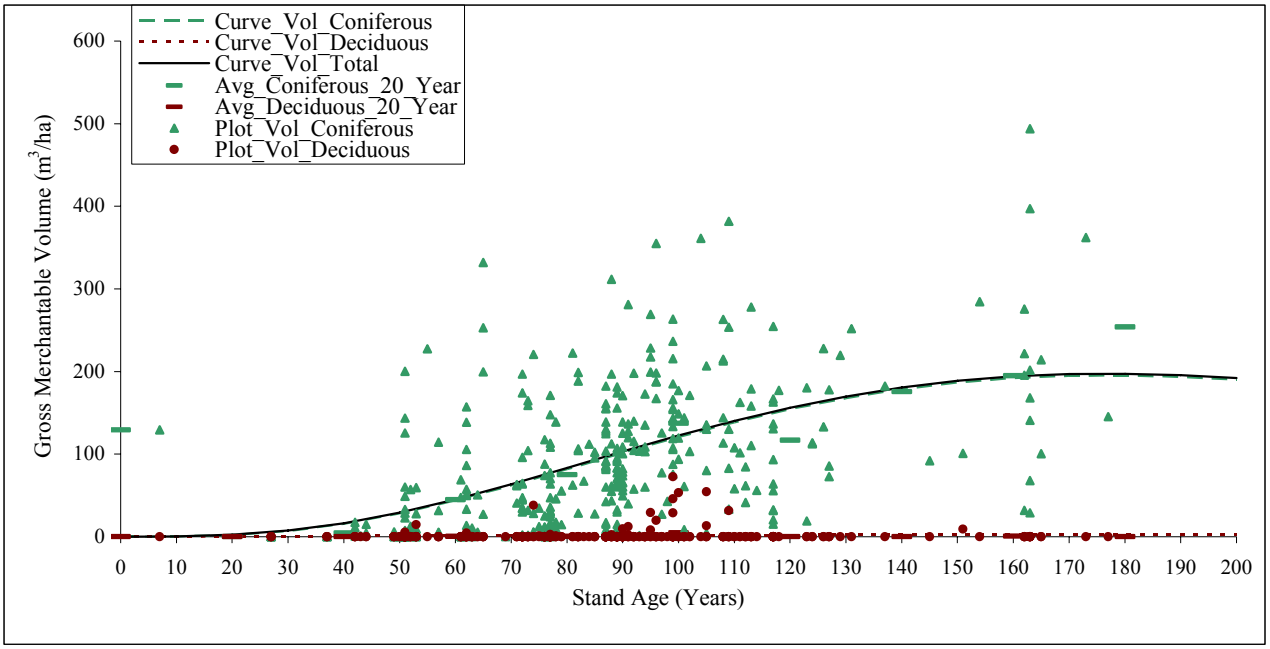


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	1.9	0.1	2.0	0.188	0.013	0.200
20	2	7.6	0.4	8.0	0.380	0.018	0.398
30	2	16.3	0.7	17.0	0.544	0.022	0.566
40	4	27.0	1.0	28.0	0.675	0.025	0.700
50	12	38.7	1.4	40.1	0.775	0.027	0.802
60	6	50.8	1.7	52.5	0.846	0.029	0.875
70	10	62.6	2.1	64.7	0.894	0.030	0.924
80	13	73.6	2.5	76.2	0.920	0.032	0.952
90	5	83.7	2.9	86.6	0.930	0.033	0.962
100	7	92.6	3.3	95.9	0.926	0.033	0.959
110	1	100.1	3.7	103.8	0.910	0.034	0.944
120	1	106.3	4.1	110.4	0.886	0.034	0.920
130	2	111.2	4.5	115.7	0.855	0.034	0.890
140	0	114.8	4.9	119.6	0.820	0.035	0.855
150	2	117.1	5.2	122.4	0.781	0.035	0.816
160	1	118.4	5.6	123.9	0.740	0.035	0.775
170	0	118.6	5.9	124.5	0.698	0.035	0.732
180	1	117.9	6.2	124.1	0.655	0.034	0.690
190	0	116.4	6.5	122.9	0.613	0.034	0.647
200	0	114.3	6.8	121.1	0.571	0.034	0.605

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =11 / E_B8_MH (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

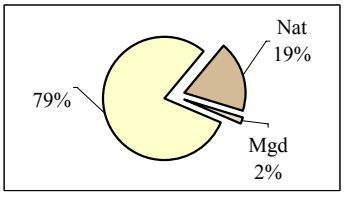
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	7.454E-05
Eqn: 2P+K	b	3.5390489
	k	50
Deciduous	a	6.826E-03
Eqn: 2P	b	1.3379217
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	345
Nat. Stand Area (ha):	121,277
Mgd. Stand Area (ha):	10,565

Stratum as a % of the managed landbase:

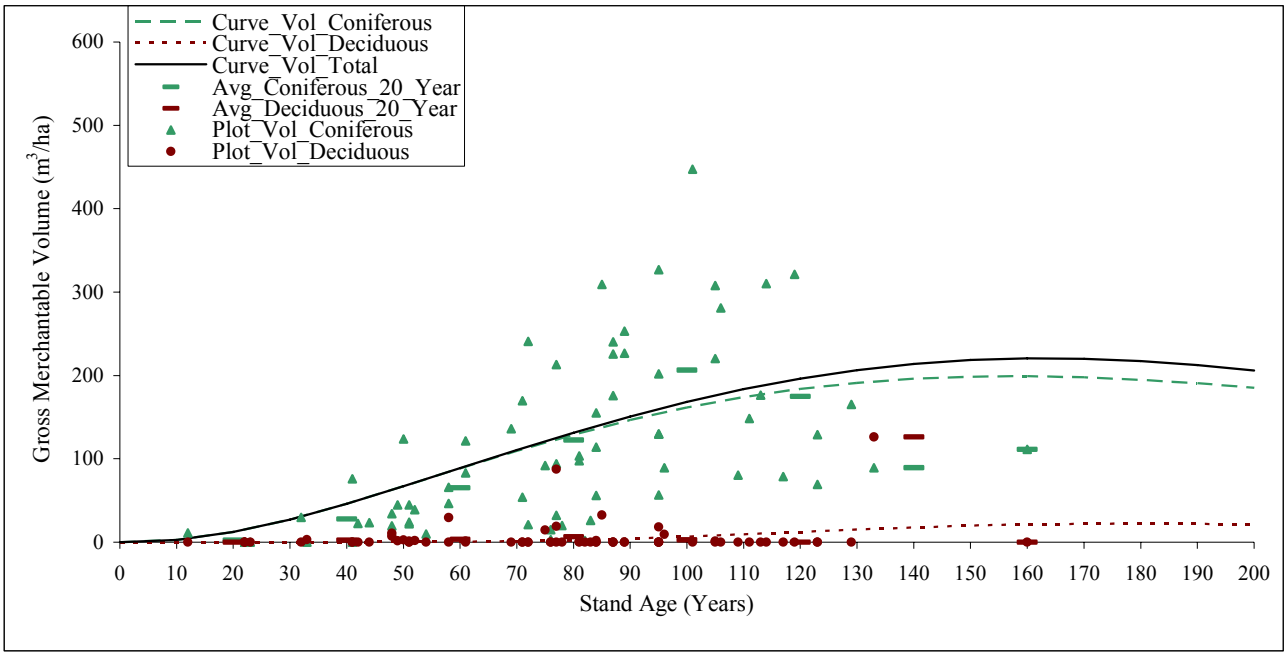


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	0.2	0.1	0.3	0.021	0.014	0.035
20	0	2.0	0.3	2.3	0.100	0.016	0.117
30	4	6.9	0.5	7.4	0.230	0.018	0.248
40	10	15.7	0.7	16.4	0.391	0.018	0.409
50	38	28.2	0.9	29.1	0.565	0.018	0.583
60	27	44.1	1.1	45.2	0.735	0.018	0.753
70	28	62.3	1.2	63.5	0.890	0.018	0.907
80	50	81.8	1.4	83.2	1.022	0.017	1.040
90	79	101.6	1.5	103.1	1.129	0.017	1.146
100	38	120.7	1.6	122.4	1.207	0.016	1.224
110	27	138.5	1.7	140.3	1.259	0.016	1.275
120	17	154.3	1.8	156.1	1.286	0.015	1.301
130	7	167.7	1.9	169.6	1.290	0.015	1.305
140	1	178.5	2.0	180.4	1.275	0.014	1.289
150	3	186.5	2.0	188.5	1.244	0.013	1.257
160	11	191.9	2.0	194.0	1.199	0.013	1.212
170	3	194.7	2.1	196.8	1.145	0.012	1.158
180	1	195.2	2.1	197.3	1.084	0.012	1.096
190	0	193.5	2.1	195.6	1.018	0.011	1.029
200	0	190.0	2.1	192.0	0.950	0.010	0.960

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =12 / E_B8_GL (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

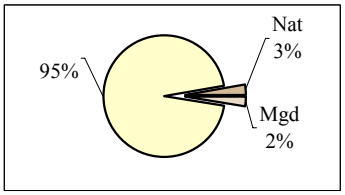
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.486E-02
Eqn: 2P	b	2.3408020
	k	N/A
Deciduous	a	1.857E-15
Eqn: 2P+K	b	8.8632549
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	70
Nat. Stand Area (ha):	17,672
Mgd. Stand Area (ha):	16,136

Stratum as a % of the managed landbase:

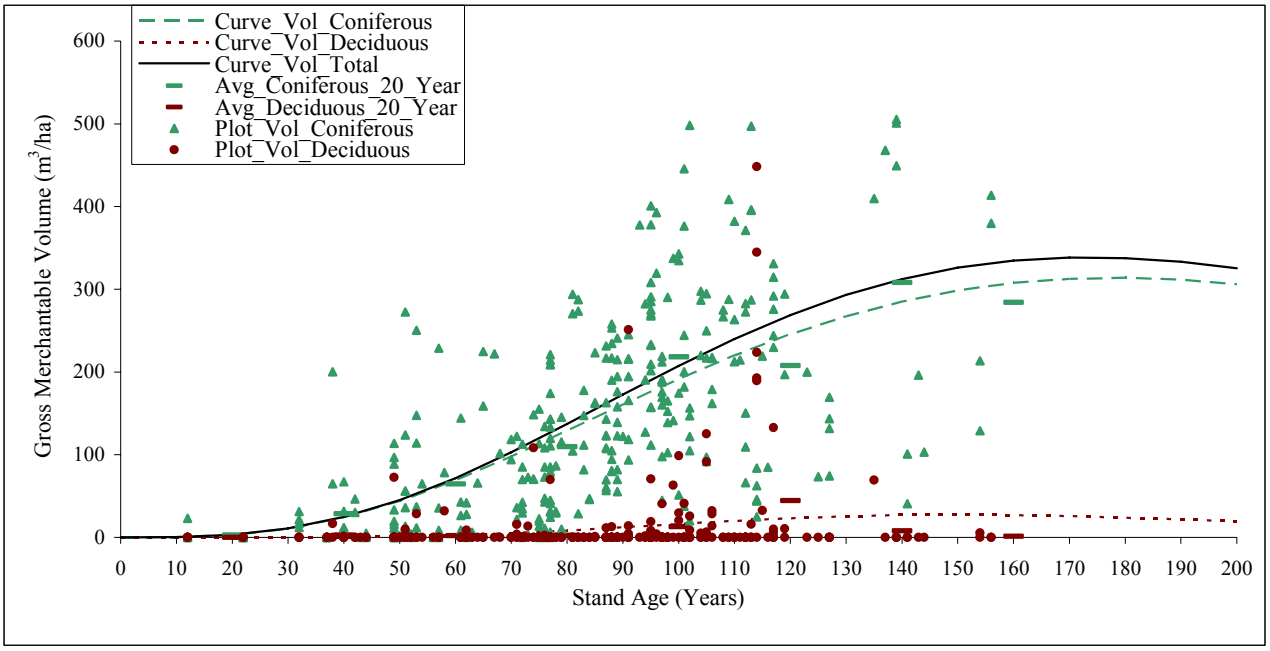


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	2.8	0.0	2.8	0.281	0.000	0.281
20	4	12.3	0.0	12.3	0.613	0.000	0.613
30	2	27.3	0.0	27.3	0.910	0.000	0.910
40	4	46.1	0.0	46.2	1.153	0.001	1.154
50	9	67.0	0.2	67.2	1.341	0.003	1.344
60	4	88.5	0.5	89.1	1.476	0.009	1.484
70	5	109.5	1.3	110.7	1.564	0.018	1.582
80	14	129.0	2.5	131.5	1.612	0.031	1.644
90	6	146.5	4.3	150.8	1.627	0.048	1.675
100	7	161.5	6.7	168.2	1.615	0.067	1.682
110	7	174.0	9.4	183.5	1.582	0.086	1.668
120	4	183.9	12.3	196.2	1.533	0.103	1.635
130	2	191.2	15.2	206.4	1.471	0.117	1.588
140	0	196.0	17.8	213.8	1.400	0.127	1.527
150	0	198.5	19.9	218.4	1.324	0.133	1.456
160	1	199.0	21.4	220.4	1.244	0.134	1.378
170	0	197.7	22.2	219.9	1.163	0.131	1.294
180	0	194.8	22.4	217.2	1.082	0.124	1.206
190	0	190.6	21.9	212.5	1.003	0.115	1.118
200	0	185.2	20.9	206.1	0.926	0.105	1.031

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =13 / E_B8_GH (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

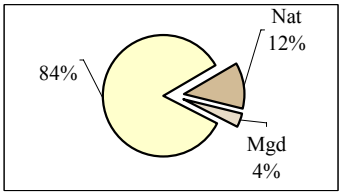
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.057E-04
Eqn: 2P+K	b	3.5631370
	k	50
Deciduous	a	2.681E-12
Eqn: 2P+K	b	7.4754125
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	311
Nat. Stand Area (ha):	79,758
Mgd. Stand Area (ha):	23,832

Stratum as a % of the managed landbase:

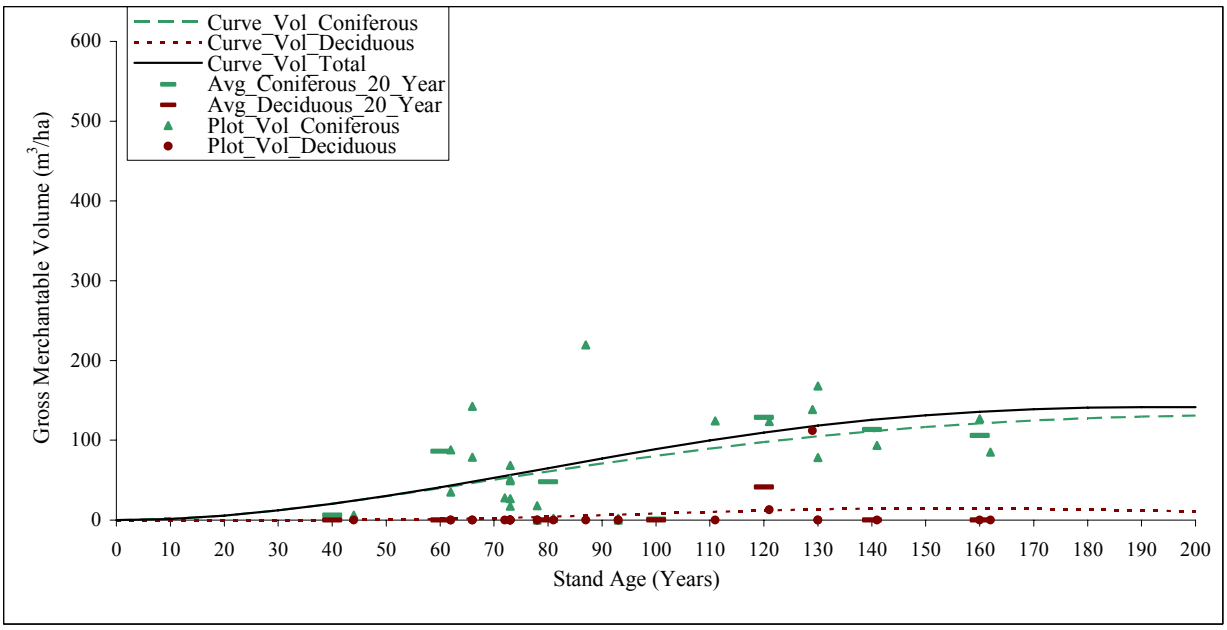


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	4	0.3	0.0	0.3	0.032	0.000	0.032
20	4	3.1	0.0	3.1	0.153	0.000	0.153
30	4	10.6	0.1	10.7	0.355	0.002	0.357
40	18	24.3	0.3	24.6	0.607	0.009	0.615
50	30	44.0	1.1	45.1	0.880	0.022	0.902
60	18	69.0	2.6	71.6	1.150	0.044	1.194
70	22	97.8	5.0	102.9	1.398	0.072	1.470
80	51	128.9	8.3	137.2	1.612	0.103	1.715
90	45	160.6	12.1	172.7	1.784	0.134	1.919
100	53	191.4	16.1	207.5	1.914	0.161	2.075
110	33	220.1	19.9	240.0	2.001	0.181	2.182
120	11	245.7	23.2	268.8	2.047	0.193	2.240
130	5	267.5	25.6	293.1	2.058	0.197	2.255
140	9	285.2	27.0	312.2	2.037	0.193	2.230
150	2	298.6	27.4	326.0	1.991	0.183	2.173
160	2	307.7	27.0	334.6	1.923	0.168	2.091
170	0	312.6	25.7	338.3	1.839	0.151	1.990
180	0	313.8	23.9	337.7	1.743	0.133	1.876
190	0	311.5	21.7	333.2	1.639	0.114	1.754
200	0	306.2	19.3	325.5	1.531	0.097	1.627

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =14 / E_B9_XX (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

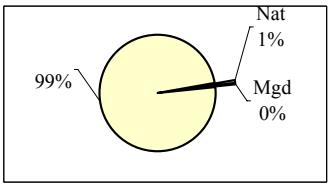
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.020E-02
Eqn: 2P	b	2.1703443
	k	N/A
Deciduous	a	7.250E-13
Eqn: 2P+K	b	7.6114646
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	25
Nat. Stand Area (ha):	4,777
Mgd. Stand Area (ha):	2,615

Stratum as a % of the managed landbase:

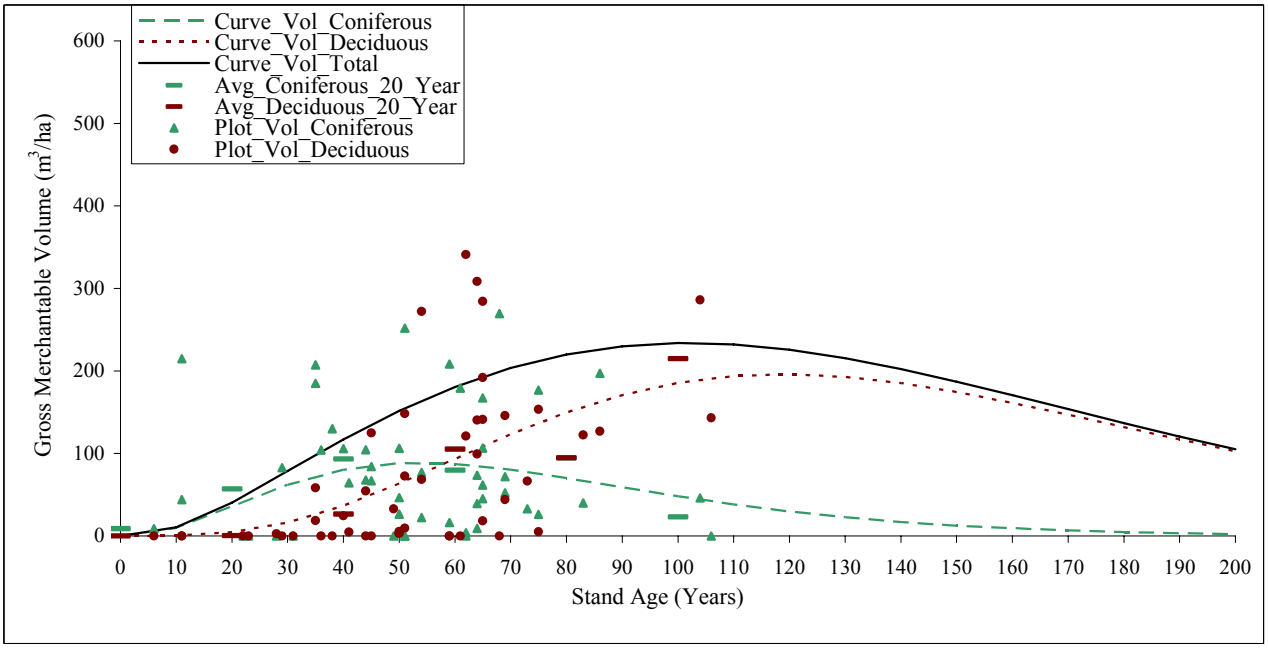


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	1.4	0.0	1.4	0.136	0.000	0.136
20	0	5.5	0.0	5.5	0.277	0.000	0.277
30	0	12.1	0.0	12.1	0.402	0.001	0.403
40	1	20.3	0.2	20.5	0.509	0.004	0.512
50	0	29.8	0.5	30.3	0.596	0.010	0.606
60	2	40.0	1.2	41.2	0.667	0.021	0.687
70	8	50.5	2.4	52.9	0.721	0.035	0.756
80	3	60.9	4.1	65.0	0.761	0.051	0.812
90	3	71.0	6.0	77.0	0.789	0.067	0.856
100	0	80.6	8.2	88.8	0.806	0.082	0.888
110	1	89.5	10.2	99.7	0.814	0.093	0.907
120	1	97.6	12.0	109.7	0.814	0.100	0.914
130	3	104.9	13.4	118.3	0.807	0.103	0.910
140	1	111.3	14.3	125.6	0.795	0.102	0.897
150	0	116.7	14.7	131.4	0.778	0.098	0.876
160	2	121.2	14.5	135.8	0.758	0.091	0.849
170	0	124.9	14.0	138.9	0.735	0.082	0.817
180	0	127.7	13.1	140.8	0.709	0.073	0.782
190	0	129.6	12.0	141.6	0.682	0.063	0.745
200	0	130.9	10.8	141.6	0.654	0.054	0.708

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =15 / E_UN_DM (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

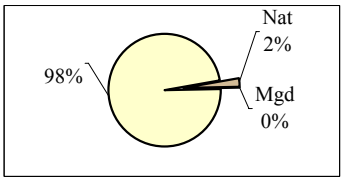
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	4.715E-02
Eqn: 2P	b	2.5286361
	k	N/A
Deciduous	a	6.381E-05
Eqn: 2P+K	b	3.9556473
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	49
Nat. Stand Area (ha):	15,843
Mgd. Stand Area (ha):	0

Stratum as a % of the managed landbase:

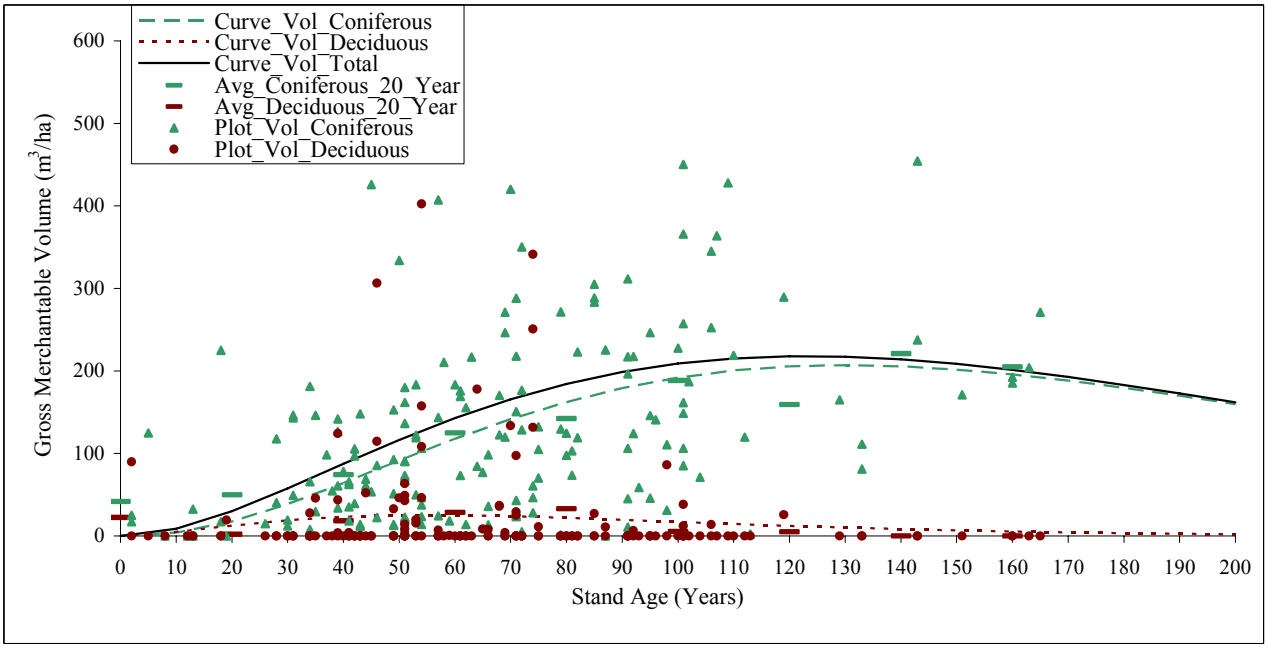


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	3	9.9	0.4	10.4	0.994	0.041	1.035
20	2	35.8	4.6	40.4	1.790	0.229	2.019
30	3	62.3	16.4	78.6	2.076	0.545	2.621
40	8	80.4	36.6	117.0	2.011	0.914	2.925
50	11	88.2	63.3	151.6	1.765	1.267	3.032
60	8	87.3	93.3	180.7	1.455	1.556	3.011
70	8	80.5	123.1	203.5	1.150	1.758	2.908
80	3	70.4	149.5	219.9	0.880	1.869	2.749
90	1	59.2	170.7	229.9	0.657	1.897	2.555
100	1	48.2	185.6	233.8	0.482	1.856	2.338
110	1	38.3	193.9	232.2	0.348	1.763	2.111
120	0	29.8	196.0	225.8	0.248	1.633	1.881
130	0	22.7	192.7	215.5	0.175	1.483	1.658
140	0	17.1	185.2	202.3	0.122	1.323	1.445
150	0	12.7	174.3	187.0	0.085	1.162	1.247
160	0	9.3	161.2	170.6	0.058	1.008	1.066
170	0	6.8	146.8	153.6	0.040	0.864	0.904
180	0	4.9	131.9	136.8	0.027	0.733	0.760
190	0	3.5	117.0	120.5	0.018	0.616	0.634
200	0	2.5	102.7	105.2	0.012	0.514	0.526

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =16 / E_UN_CX (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

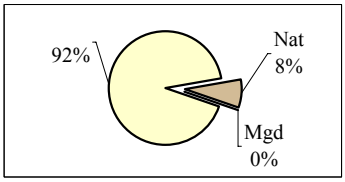
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.854E-02
Eqn: 2P	b	2.4100139
	k	N/A
Total	a	9.960E-02
Eqn: 2P+K	b	1.8404623
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	173
Nat. Stand Area (ha):	51,955
Mgd. Stand Area (ha):	0

Stratum as a % of the managed landbase:

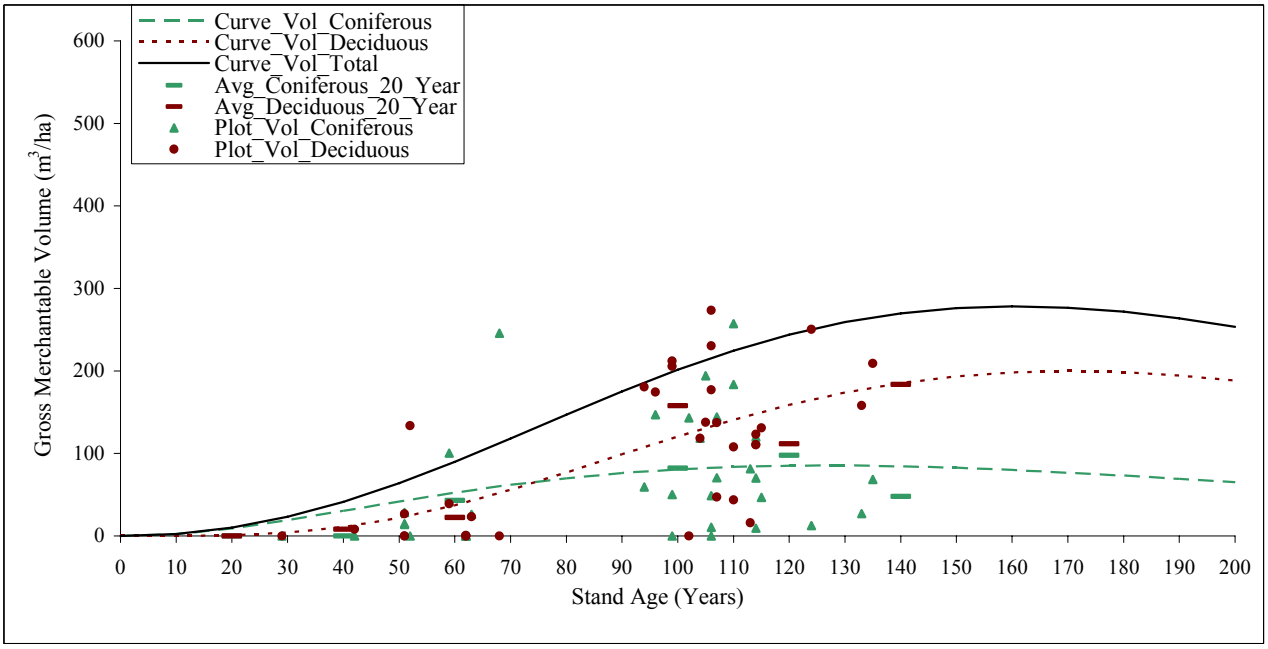


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	2	0.0	0.0	0.0	0.000	0.000	0.000
10	5	4.0	4.9	8.9	0.396	0.494	0.890
20	3	17.5	12.7	30.2	0.874	0.634	1.508
30	13	38.6	19.2	57.8	1.286	0.639	1.925
40	22	64.1	23.3	87.4	1.603	0.583	2.186
50	30	91.2	25.2	116.4	1.824	0.504	2.328
60	14	117.6	25.3	142.8	1.960	0.421	2.381
70	24	141.6	24.0	165.7	2.024	0.343	2.367
80	12	162.4	22.0	184.4	2.029	0.275	2.305
90	14	179.2	19.6	198.7	1.991	0.218	2.208
100	16	191.9	17.0	208.9	1.919	0.170	2.089
110	7	200.6	14.6	215.1	1.823	0.132	1.956
120	1	205.5	12.2	217.7	1.712	0.102	1.814
130	3	207.0	10.2	217.2	1.593	0.078	1.671
140	2	205.6	8.3	214.0	1.469	0.060	1.529
150	1	201.8	6.8	208.5	1.345	0.045	1.390
160	3	195.8	5.5	201.3	1.224	0.034	1.258
170	1	188.3	4.4	192.7	1.108	0.026	1.133
180	0	179.5	3.5	183.0	0.997	0.019	1.017
190	0	169.9	2.8	172.7	0.894	0.015	0.909
200	0	159.7	2.2	161.9	0.799	0.011	0.810

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 17 / E_B1_XL (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

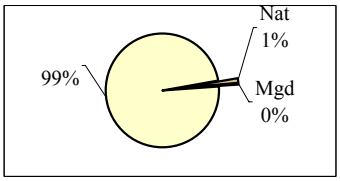
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.749E-02
Eqn: 2P	b	2.2122879
	k	N/A
Deciduous	a	4.659E-06
Eqn: 2P+K	b	4.2494502
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,174
Mgd. Stand Area (ha):	2,078

Stratum as a % of the managed landbase:

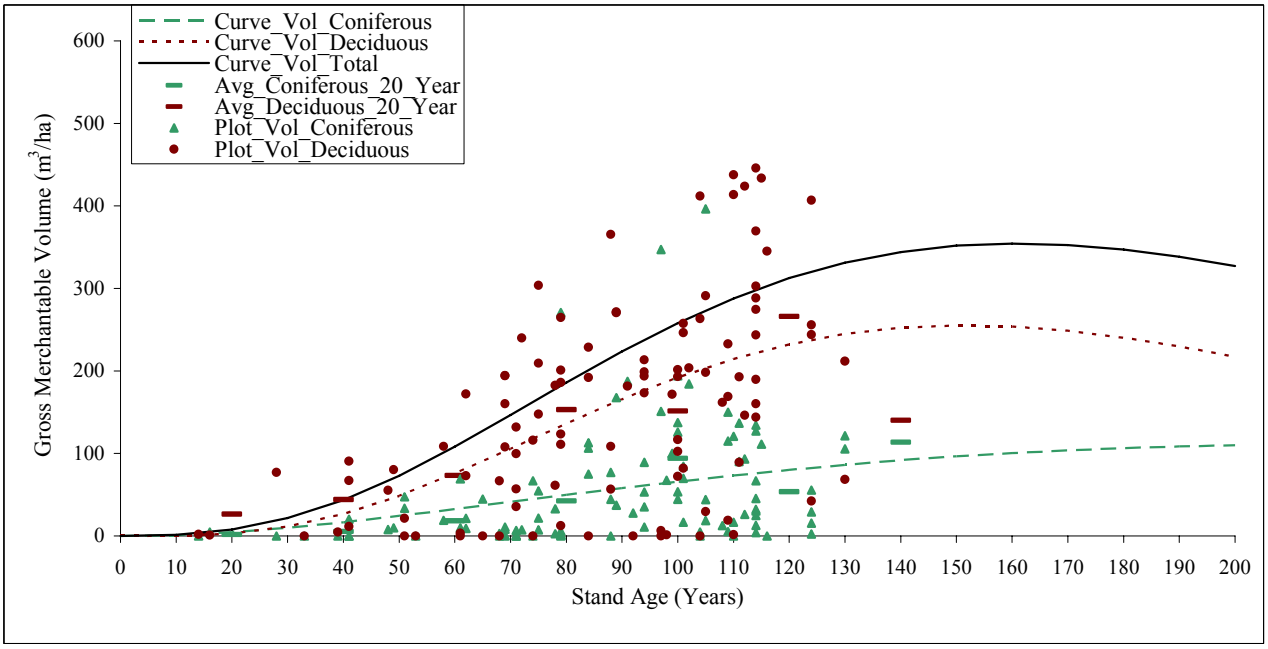


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.4	0.1	2.5	0.239	0.006	0.246
20	0	9.3	1.0	10.3	0.466	0.048	0.514
30	1	19.2	4.2	23.3	0.639	0.139	0.778
40	1	30.4	11.0	41.4	0.761	0.275	1.036
50	4	41.8	22.1	64.0	0.837	0.443	1.280
60	5	52.6	37.4	90.0	0.876	0.624	1.500
70	1	62.1	56.1	118.2	0.887	0.801	1.688
80	0	70.0	77.1	147.1	0.875	0.963	1.839
90	1	76.3	99.0	175.3	0.848	1.100	1.948
100	5	80.9	120.6	201.5	0.809	1.206	2.015
110	12	83.8	140.9	224.7	0.762	1.281	2.042
120	2	85.3	158.8	244.1	0.711	1.323	2.034
130	1	85.5	173.8	259.2	0.657	1.337	1.994
140	1	84.5	185.4	270.0	0.604	1.324	1.928
150	0	82.7	193.6	276.3	0.551	1.291	1.842
160	0	80.1	198.4	278.4	0.500	1.240	1.740
170	0	76.9	199.9	276.7	0.452	1.176	1.628
180	0	73.2	198.5	271.7	0.407	1.103	1.509
190	0	69.3	194.5	263.7	0.365	1.024	1.388
200	0	65.1	188.3	253.5	0.326	0.942	1.267

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 18 / E_B1_XH (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

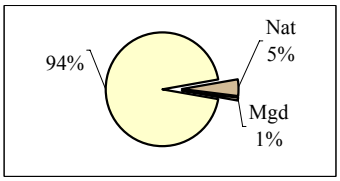
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	9.630E-03
Eqn: 2P	b	2.1270025
	k	N/A
Deciduous	a	6.298E-05
Eqn: 2P+K	b	3.7849665
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	104
Nat. Stand Area (ha):	30,931
Mgd. Stand Area (ha):	4,534

Stratum as a % of the managed landbase:

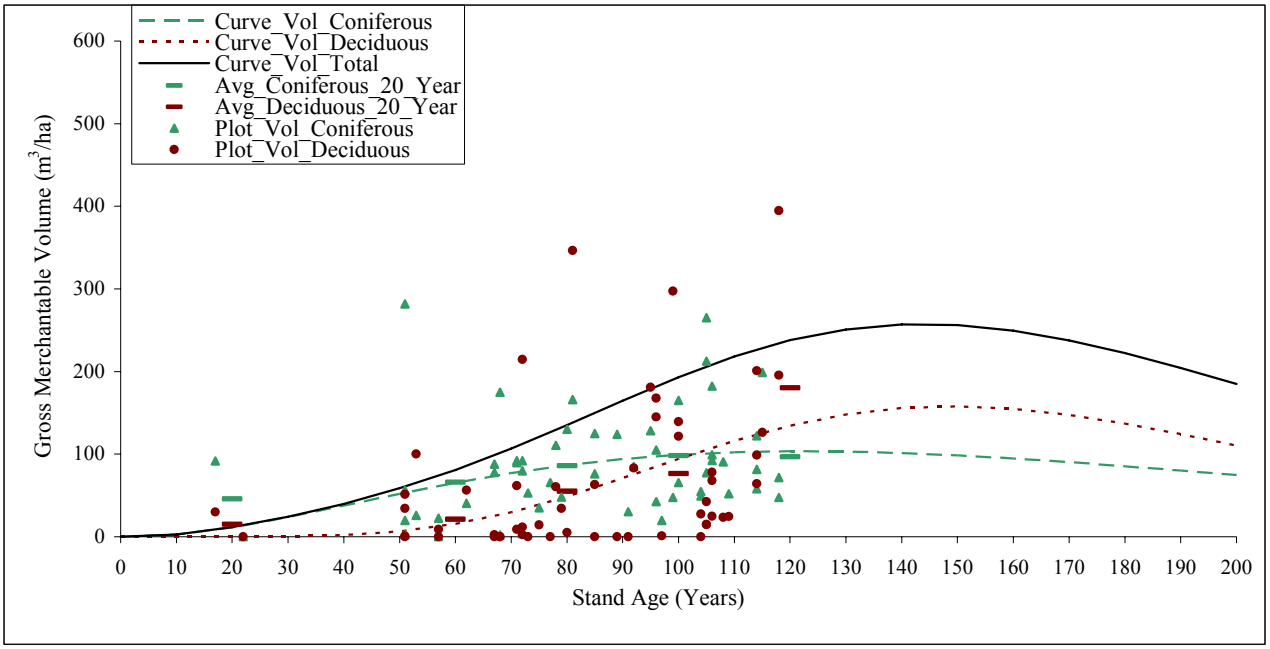


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	1.2	0.3	1.5	0.117	0.030	0.147
20	1	4.6	3.2	7.9	0.232	0.160	0.393
30	2	10.0	11.6	21.6	0.333	0.387	0.720
40	4	16.7	26.8	43.6	0.419	0.671	1.089
50	5	24.4	48.6	73.1	0.489	0.973	1.461
60	5	32.7	75.5	108.2	0.545	1.258	1.804
70	14	41.2	105.4	146.6	0.589	1.506	2.095
80	14	49.8	136.1	185.8	0.622	1.701	2.323
90	11	58.1	165.5	223.6	0.645	1.839	2.484
100	16	66.0	192.0	258.0	0.660	1.920	2.580
110	23	73.4	214.5	287.9	0.667	1.950	2.617
120	6	80.2	232.2	312.4	0.668	1.935	2.604
130	2	86.4	244.9	331.2	0.664	1.884	2.548
140	0	91.8	252.5	344.3	0.656	1.803	2.459
150	0	96.6	255.3	351.9	0.644	1.702	2.346
160	0	100.6	253.8	354.4	0.629	1.586	2.215
170	0	103.9	248.7	352.6	0.611	1.463	2.074
180	0	106.6	240.4	347.0	0.592	1.336	1.928
190	0	108.6	229.8	338.4	0.572	1.209	1.781
200	0	110.0	217.3	327.3	0.550	1.086	1.637

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 19 / E_B2_XX (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

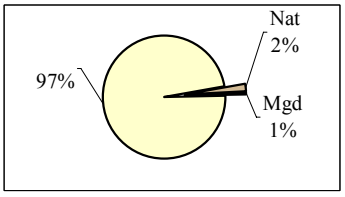
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.852E-02
Eqn: 2P	b	2.2664093
	k	N/A
Deciduous	a	1.810E-11
Eqn: 2P+K	b	7.4435508
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	54
Nat. Stand Area (ha):	11,880
Mgd. Stand Area (ha):	4,135

Stratum as a % of the managed landbase:

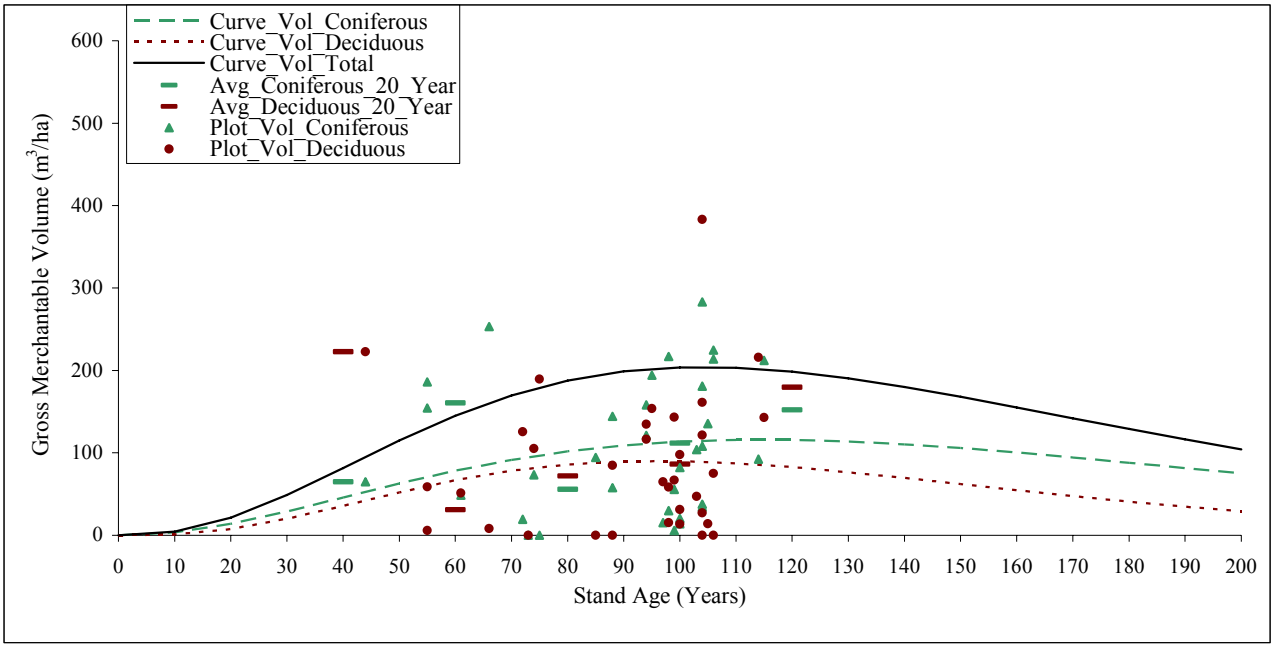


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.8	0.0	2.8	0.284	0.000	0.284
20	2	11.4	0.0	11.4	0.568	0.002	0.570
30	0	23.7	0.4	24.1	0.789	0.013	0.802
40	0	37.7	2.1	39.8	0.944	0.052	0.995
50	5	52.0	6.6	58.6	1.040	0.132	1.172
60	3	65.3	15.5	80.8	1.089	0.258	1.347
70	10	77.0	29.6	106.6	1.100	0.423	1.523
80	6	86.6	48.6	135.1	1.082	0.607	1.689
90	5	93.9	70.8	164.7	1.044	0.786	1.830
100	9	99.1	94.0	193.1	0.991	0.940	1.931
110	11	102.2	116.0	218.2	0.929	1.054	1.983
120	3	103.4	134.4	237.8	0.862	1.120	1.982
130	0	103.0	147.9	251.0	0.793	1.138	1.930
140	0	101.3	155.8	257.0	0.723	1.113	1.836
150	0	98.4	157.9	256.3	0.656	1.053	1.708
160	0	94.6	154.8	249.4	0.591	0.968	1.559
170	0	90.2	147.5	237.7	0.531	0.867	1.398
180	0	85.3	136.9	222.2	0.474	0.760	1.234
190	0	80.1	124.1	204.3	0.422	0.653	1.075
200	0	74.8	110.3	185.1	0.374	0.552	0.926

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 20 / E_B3_XX (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

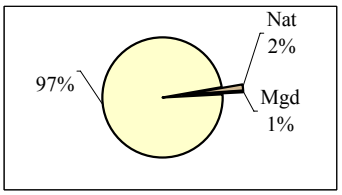
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	2.020E-02
Eqn: 2P	b	2.3138942
	k	N/A
Deciduous	a	1.038E-03
Eqn: 2P+K	b	3.1927601
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,983
Mgd. Stand Area (ha):	3,293

Stratum as a % of the managed landbase:

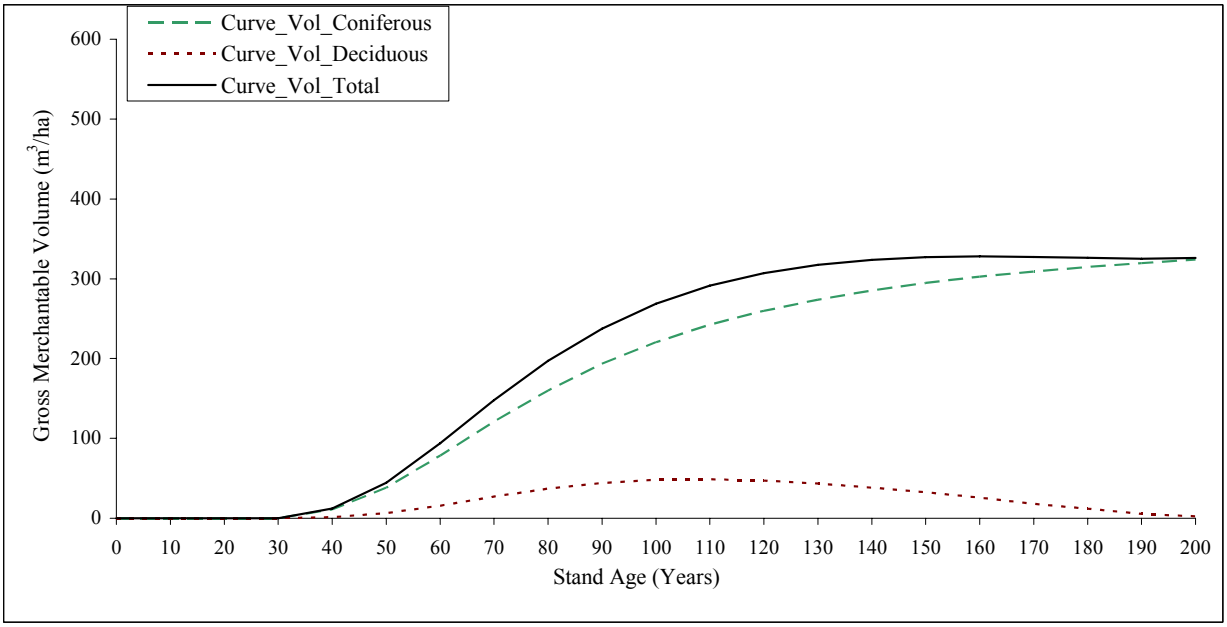


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.4	1.2	4.6	0.340	0.116	0.456
20	0	13.8	7.6	21.4	0.691	0.380	1.070
30	0	28.8	19.9	48.7	0.961	0.662	1.623
40	1	45.9	35.6	81.5	1.147	0.891	2.038
50	0	62.8	52.1	114.9	1.256	1.042	2.298
60	3	78.2	66.8	145.0	1.304	1.113	2.417
70	4	91.3	78.3	169.6	1.305	1.118	2.423
80	1	101.6	85.9	187.6	1.271	1.074	2.345
90	5	109.1	89.7	198.7	1.212	0.996	2.208
100	15	113.7	89.9	203.7	1.137	0.899	2.037
110	4	115.9	87.4	203.2	1.053	0.794	1.848
120	1	115.8	82.7	198.4	0.965	0.689	1.654
130	0	113.9	76.5	190.3	0.876	0.588	1.464
140	0	110.4	69.4	179.8	0.789	0.496	1.285
150	0	105.9	62.0	167.8	0.706	0.413	1.119
160	0	100.4	54.6	155.0	0.628	0.341	0.969
170	0	94.4	47.5	141.9	0.555	0.279	0.835
180	0	88.0	40.8	128.9	0.489	0.227	0.716
190	0	81.5	34.8	116.3	0.429	0.183	0.612
200	0	75.0	29.3	104.4	0.375	0.147	0.522

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 21 / G_B4_XX (Con-UT3/Dec-UT1)



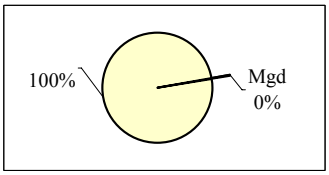
Average GYPSY Projections

Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m³/ha) Conifer	Deciduous	Total	Mean Annual Increment (m³/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.0	0.0	0.0	0.000	0.000	0.000
30	0	0.0	0.1	0.1	0.000	0.005	0.005
40	0	10.8	1.5	12.3	0.270	0.037	0.306
50	0	38.2	6.3	44.4	0.763	0.126	0.889
60	0	78.4	15.6	94.0	1.307	0.260	1.567
70	0	120.8	27.0	147.8	1.725	0.386	2.111
80	0	159.8	37.1	196.9	1.997	0.464	2.461
90	0	193.2	44.2	237.4	2.146	0.492	2.638
100	0	220.5	48.0	268.5	2.205	0.480	2.685
110	0	242.4	48.8	291.2	2.204	0.444	2.647
120	0	259.8	47.1	306.9	2.165	0.392	2.557
130	0	273.8	43.5	317.3	2.107	0.334	2.441
140	0	285.2	38.5	323.7	2.037	0.275	2.312
150	0	294.6	32.5	327.1	1.964	0.217	2.181
160	0	302.4	25.6	328.0	1.890	0.160	2.050
170	0	309.0	18.1	327.1	1.818	0.106	1.924
180	0	314.7	11.7	326.4	1.748	0.065	1.814
190	0	319.6	5.5	325.0	1.682	0.029	1.711
200	0	323.8	2.3	326.1	1.619	0.011	1.630

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	10
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	2,315

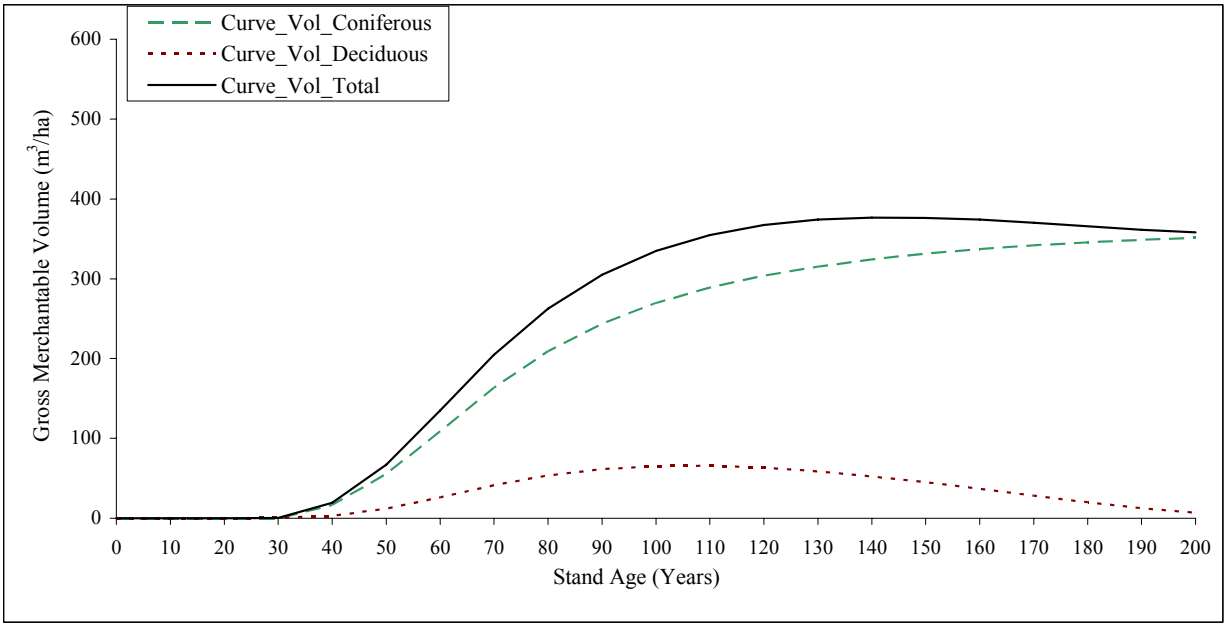
Stratum as a % of the managed landbase:



1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 22 / G_B5_XX (Con-UT3/Dec-UT1)



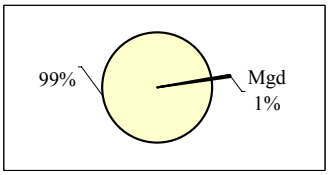
Average GYPSY Projections

Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m³/ha) Conifer	Deciduous	Total	Mean Annual Increment (m³/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.0	0.0	0.0	0.000	0.000	0.000
30	0	0.0	0.3	0.3	0.000	0.010	0.010
40	0	16.5	3.0	19.5	0.412	0.075	0.487
50	0	55.4	11.7	67.1	1.108	0.234	1.342
60	0	109.0	26.1	135.1	1.817	0.435	2.252
70	0	163.3	41.4	204.7	2.333	0.592	2.925
80	0	208.8	53.6	262.4	2.610	0.670	3.280
90	0	243.6	61.5	305.1	2.706	0.683	3.389
100	0	269.5	65.3	334.8	2.695	0.653	3.348
110	0	289.0	65.7	354.7	2.627	0.598	3.225
120	0	303.8	63.4	367.2	2.532	0.528	3.060
130	0	315.2	58.8	374.0	2.425	0.452	2.877
140	0	324.2	52.4	376.6	2.316	0.374	2.690
150	0	331.3	45.0	376.3	2.209	0.300	2.509
160	0	337.1	37.0	374.0	2.107	0.231	2.338
170	0	341.8	28.3	370.0	2.010	0.166	2.177
180	0	345.6	20.0	365.6	1.920	0.111	2.031
190	0	348.8	12.6	361.4	1.836	0.066	1.902
200	0	351.4	6.7	358.1	1.757	0.033	1.791

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	16
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	3,424

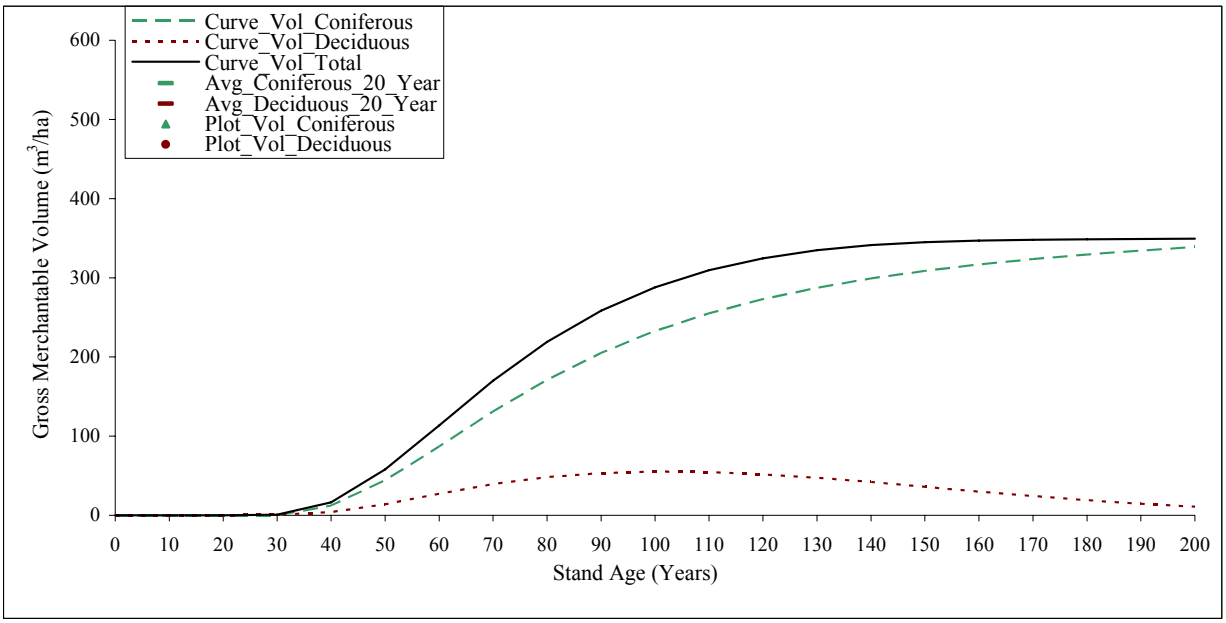
Stratum as a % of the managed landbase:



1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 23 / G_B7_XX (Con-UT3/Dec-UT1)



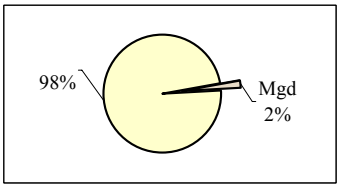
Average GYPSY Projections

Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.0	0.0	0.0	0.000	0.001	0.001
30	0	0.1	0.5	0.7	0.004	0.018	0.022
40	0	12.1	4.2	16.3	0.301	0.105	0.406
50	0	44.2	13.8	58.0	0.885	0.276	1.161
60	0	86.7	27.0	113.7	1.445	0.451	1.895
70	0	130.8	39.3	170.1	1.868	0.561	2.430
80	0	171.0	48.2	219.2	2.137	0.602	2.739
90	0	205.0	53.3	258.3	2.278	0.592	2.870
100	0	232.8	55.2	288.0	2.328	0.552	2.880
110	0	255.1	54.5	309.6	2.319	0.495	2.814
120	0	273.0	51.7	324.7	2.275	0.431	2.705
130	0	287.4	47.4	334.8	2.211	0.364	2.575
140	0	299.1	41.9	341.1	2.137	0.300	2.436
150	0	308.8	36.0	344.8	2.059	0.240	2.299
160	0	316.9	30.0	346.9	1.980	0.187	2.168
170	0	323.6	24.3	347.9	1.904	0.143	2.047
180	0	329.4	19.1	348.5	1.830	0.106	1.936
190	0	334.4	14.6	349.0	1.760	0.077	1.837
200	0	338.7	10.8	349.5	1.694	0.054	1.747

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	103
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	12,336

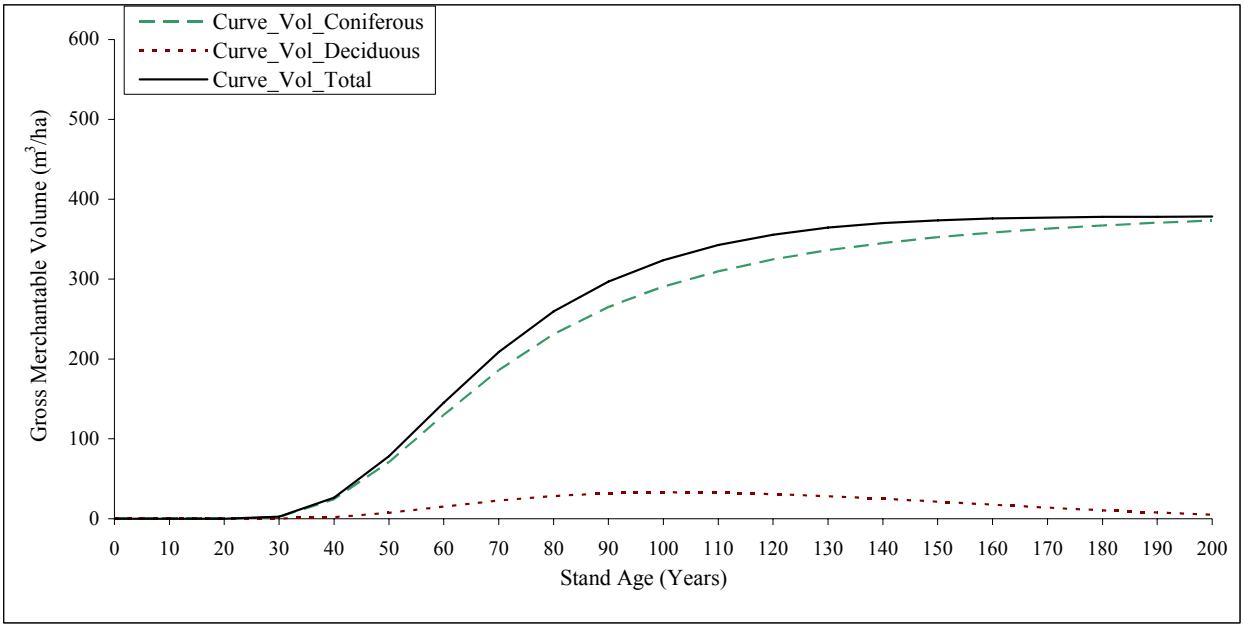
Stratum as a % of the managed landbase:



1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 24 / G_B8_XX (Con-UT3/Dec-UT1)



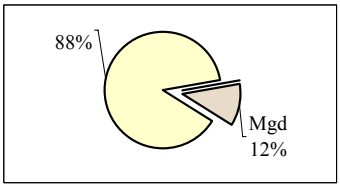
Average GYPSY Projections

Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	0.0	0.0	0.000	0.000	0.000
20	0	0.0	0.0	0.0	0.000	0.000	0.000
30	0	2.3	0.3	2.6	0.077	0.009	0.086
40	0	24.4	2.2	26.6	0.610	0.054	0.664
50	0	70.9	7.4	78.3	1.419	0.148	1.567
60	0	130.0	15.2	145.1	2.166	0.253	2.419
70	0	186.0	22.8	208.9	2.658	0.326	2.984
80	0	231.1	28.5	259.6	2.889	0.357	3.245
90	0	265.2	31.9	297.1	2.946	0.354	3.301
100	0	290.7	33.2	323.9	2.907	0.332	3.239
110	0	310.0	32.7	342.7	2.818	0.297	3.115
120	0	324.7	31.0	355.7	2.706	0.258	2.964
130	0	336.2	28.3	364.5	2.586	0.218	2.804
140	0	345.3	25.0	370.2	2.466	0.178	2.645
150	0	352.6	21.2	373.8	2.350	0.142	2.492
160	0	358.4	17.5	375.9	2.240	0.109	2.350
170	0	363.3	13.9	377.2	2.137	0.082	2.219
180	0	367.2	10.7	377.9	2.040	0.059	2.100
190	0	370.5	7.7	378.2	1.950	0.041	1.991
200	0	373.2	5.1	378.4	1.866	0.026	1.892

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	3.66
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Blocks:	450
Nat. Stand Area (ha):	n/a
Mgd. Stand Area (ha):	76,615

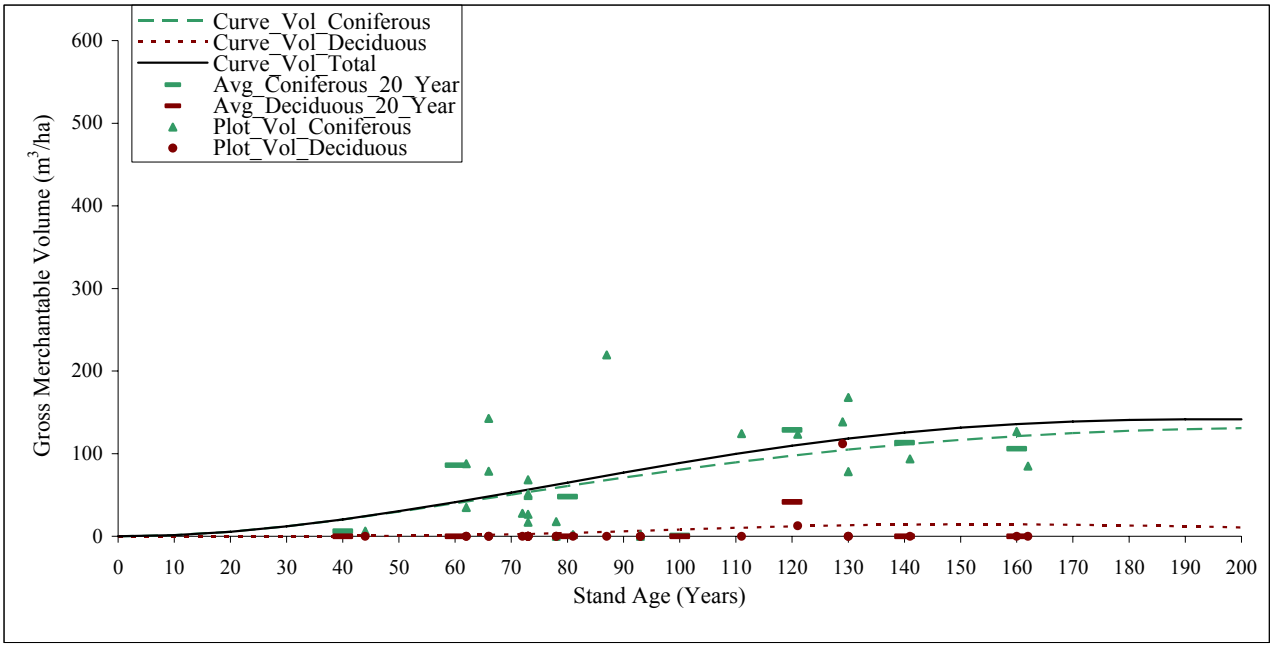
Stratum as a % of the managed landbase:



1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 25 / E_B9_XX (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

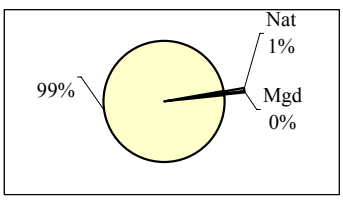
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.020E-02
Eqn: 2P	b	2.1703443
	k	N/A
Deciduous	a	7.250E-13
Eqn: 2P+K	b	7.6114646
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	25
Nat. Stand Area (ha):	4,777
Mgd. Stand Area (ha):	2,615

Stratum as a % of the managed landbase:

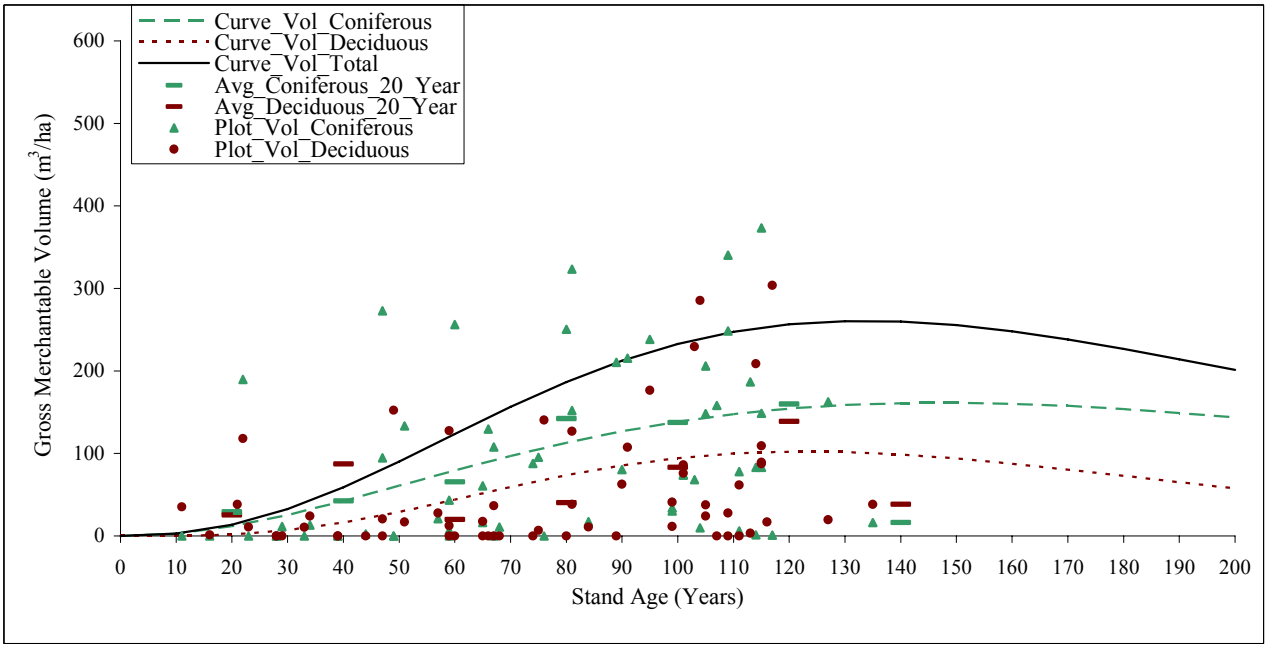


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	1.4	0.0	1.4	0.136	0.000	0.136
20	0	5.5	0.0	5.5	0.277	0.000	0.277
30	0	12.1	0.0	12.1	0.402	0.001	0.403
40	1	20.3	0.2	20.5	0.509	0.004	0.512
50	0	29.8	0.5	30.3	0.596	0.010	0.606
60	2	40.0	1.2	41.2	0.667	0.021	0.687
70	8	50.5	2.4	52.9	0.721	0.035	0.756
80	3	60.9	4.1	65.0	0.761	0.051	0.812
90	3	71.0	6.0	77.0	0.789	0.067	0.856
100	0	80.6	8.2	88.8	0.806	0.082	0.888
110	1	89.5	10.2	99.7	0.814	0.093	0.907
120	1	97.6	12.0	109.7	0.814	0.100	0.914
130	3	104.9	13.4	118.3	0.807	0.103	0.910
140	1	111.3	14.3	125.6	0.795	0.102	0.897
150	0	116.7	14.7	131.4	0.778	0.098	0.876
160	2	121.2	14.5	135.8	0.758	0.091	0.849
170	0	124.9	14.0	138.9	0.735	0.082	0.817
180	0	127.7	13.1	140.8	0.709	0.073	0.782
190	0	129.6	12.0	141.6	0.682	0.063	0.745
200	0	130.9	10.8	141.6	0.654	0.054	0.708

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =26 / E_PAS_D (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

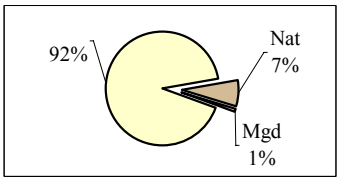
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.568E-02
Eqn: 2P	b	2.3134441
	k	N/A
Deciduous	a	1.688E-05
Eqn: 2P+K	b	4.0976698
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	63
Nat. Stand Area (ha):	22,426
Mgd. Stand Area (ha):	2,660

Stratum as a % of the managed landbase:

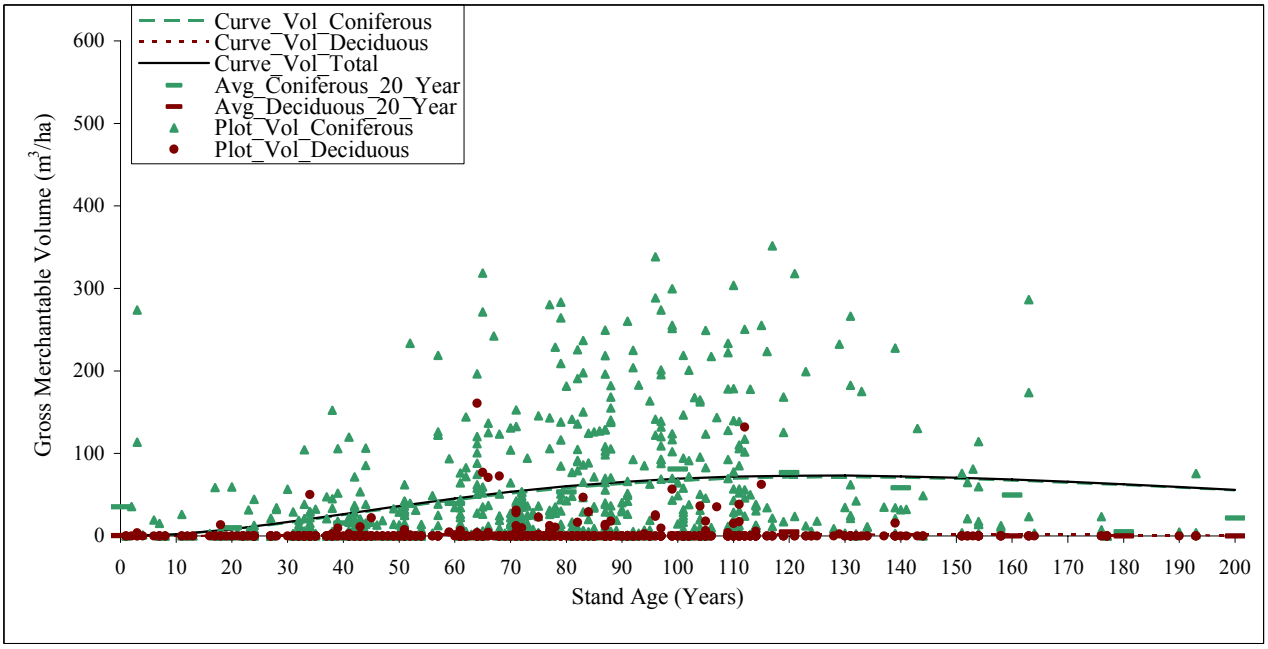


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	2.8	0.2	2.9	0.276	0.015	0.291
20	4	11.7	1.9	13.6	0.586	0.093	0.679
30	5	25.6	7.0	32.6	0.853	0.234	1.087
40	3	42.6	16.3	58.9	1.065	0.408	1.473
50	5	61.0	29.2	90.2	1.220	0.584	1.804
60	5	79.5	44.2	123.7	1.325	0.736	2.061
70	7	97.1	59.5	156.6	1.387	0.850	2.237
80	6	113.0	73.7	186.7	1.413	0.921	2.334
90	3	126.9	85.6	212.5	1.410	0.951	2.361
100	7	138.4	94.4	232.8	1.384	0.944	2.328
110	10	147.5	100.0	247.5	1.341	0.909	2.250
120	5	154.2	102.3	256.6	1.285	0.853	2.138
130	1	158.7	101.8	260.5	1.221	0.783	2.004
140	1	161.0	98.8	259.8	1.150	0.706	1.856
150	0	161.5	93.9	255.4	1.077	0.626	1.703
160	0	160.3	87.7	247.9	1.002	0.548	1.550
170	0	157.6	80.5	238.2	0.927	0.474	1.401
180	0	153.8	72.9	226.7	0.855	0.405	1.260
190	0	149.0	65.2	214.2	0.784	0.343	1.128
200	0	143.4	57.7	201.1	0.717	0.288	1.005

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =27 / E_PAS_C (Con-UT3/Dec-UT3)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

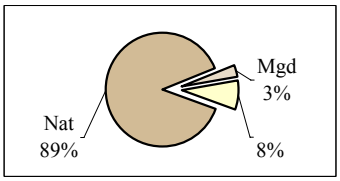
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.691E-02
Eqn: 2P	b	2.1658698
	k	N/A
Deciduous	a	7.396E-05
Eqn: 2P+K	b	2.9911612
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	1.78
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	702
Nat. Stand Area (ha):	267,931
Mgd. Stand Area (ha):	10,345

Stratum as a % of the managed landbase:



Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	7	0.0	0.0	0.0	0.000	0.000	0.000
10	10	2.1	0.1	2.1	0.209	0.005	0.214
20	26	7.9	0.3	8.2	0.396	0.015	0.411
30	50	16.1	0.7	16.8	0.537	0.024	0.561
40	67	25.4	1.2	26.6	0.634	0.030	0.664
50	51	34.7	1.7	36.4	0.695	0.034	0.728
60	56	43.5	2.1	45.6	0.725	0.035	0.760
70	92	51.3	2.4	53.7	0.733	0.034	0.767
80	77	57.9	2.5	60.4	0.723	0.032	0.755
90	67	63.1	2.6	65.6	0.701	0.029	0.729
100	66	66.9	2.5	69.4	0.669	0.025	0.694
110	61	69.5	2.4	71.9	0.631	0.022	0.653
120	15	70.8	2.2	73.1	0.590	0.019	0.609
130	16	71.1	2.0	73.2	0.547	0.016	0.563
140	11	70.5	1.8	72.3	0.504	0.013	0.517
150	12	69.1	1.6	70.7	0.461	0.011	0.472
160	8	67.1	1.4	68.5	0.420	0.009	0.428
170	0	64.6	1.2	65.8	0.380	0.007	0.387
180	6	61.8	1.0	62.8	0.343	0.006	0.349
190	4	58.6	0.9	59.5	0.309	0.005	0.313
200	0	55.3	0.7	56.1	0.277	0.004	0.280

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

- **Baseline Yield Curves – Coniferous UT3 and Deciduous UT4**

Coniferous UT3 (same as previous section):

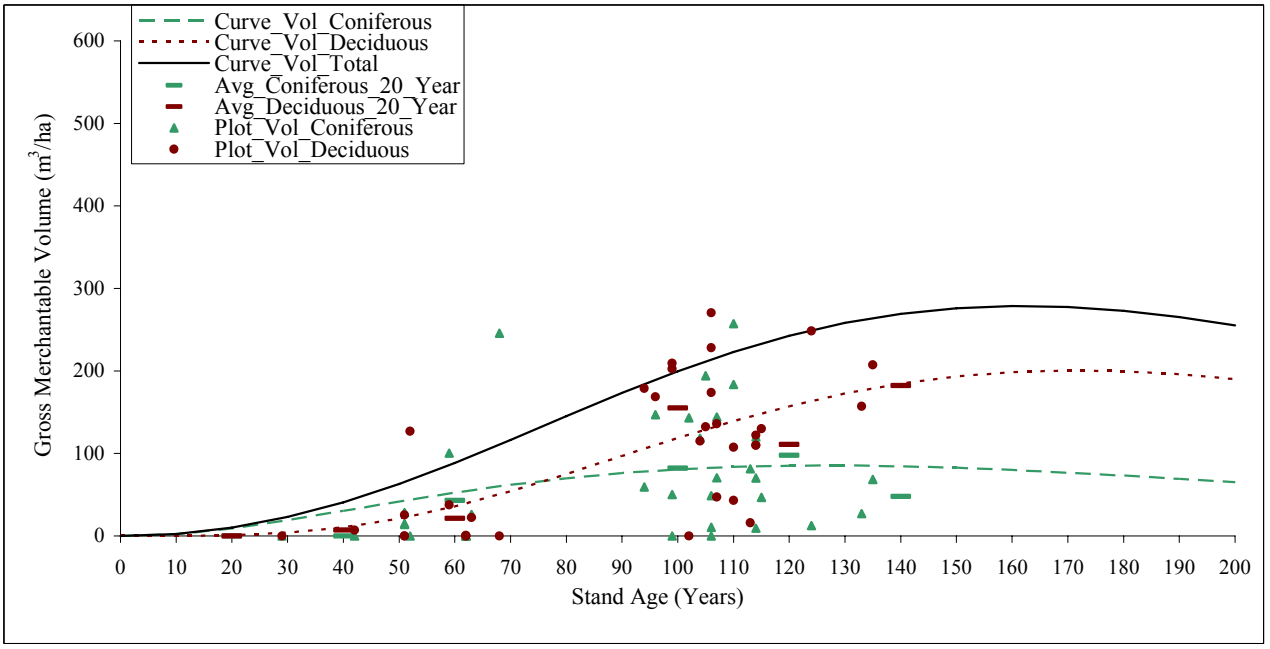
- Species – live PL, SW, SE, SB, FB, FA & FD
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 13.0 cm top diameter inside bark
- cut-to-length; target length of 4.98 m, then 4.37 m, then a minimum log length of 3.76 m. No lengths other that those specified are acceptable

Deciduous UT4:

- Species – live AW only
- 15.0 cm stump height
- minimum 15.0 cm diameter outside bark at stump height
- minimum 10.0 cm top diameter inside bark
- cut to length; target length of 2.56 m and minimum log length also of 2.56 m.

Yield Curves for strata 21-24 were not developed for coniferous UT3 and deciduous UT4 since there is no deciduous UT4 from GYPSY projections (Table 3-10).

STRATUM NUMBER = 1 / E_B1_XL (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

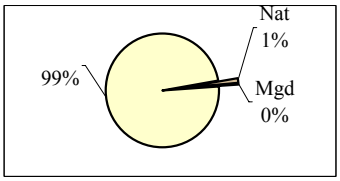
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.749E-02
Eqn: 2P	b	2.2122879
	k	N/A
Deciduous	a	3.843E-06
Eqn: 2P+K	b	4.2876332
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,174
Mgd. Stand Area (ha):	2,078

Stratum as a % of the managed landbase:

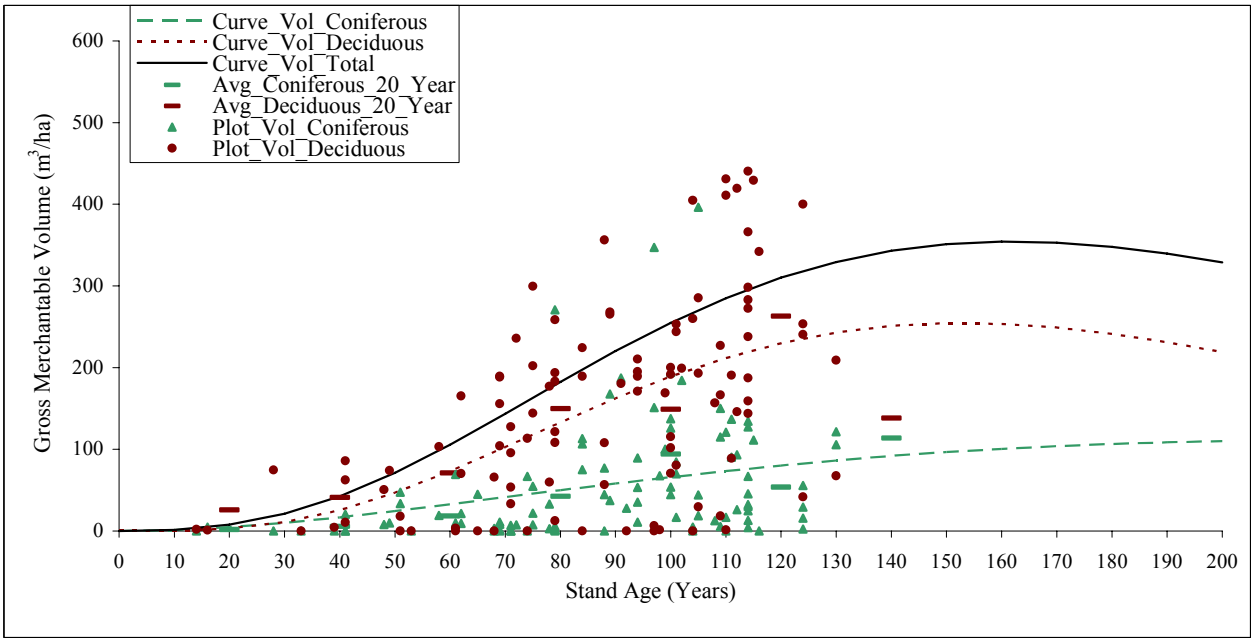


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.4	0.1	2.5	0.239	0.006	0.245
20	0	9.3	0.9	10.2	0.466	0.044	0.510
30	1	19.2	3.9	23.1	0.639	0.130	0.770
40	1	30.4	10.5	40.9	0.761	0.261	1.022
50	4	41.8	21.2	63.0	0.837	0.424	1.261
60	5	52.6	36.1	88.7	0.876	0.601	1.478
70	1	62.1	54.4	116.5	0.887	0.778	1.664
80	0	70.0	75.1	145.2	0.875	0.939	1.815
90	1	76.3	97.0	173.3	0.848	1.077	1.925
100	5	80.9	118.6	199.5	0.809	1.186	1.995
110	12	83.8	139.0	222.9	0.762	1.264	2.026
120	2	85.3	157.3	242.5	0.711	1.310	2.021
130	1	85.5	172.6	258.1	0.657	1.328	1.985
140	1	84.5	184.7	269.3	0.604	1.319	1.923
150	0	82.7	193.4	276.0	0.551	1.289	1.840
160	0	80.1	198.6	278.7	0.500	1.241	1.742
170	0	76.9	200.6	277.4	0.452	1.180	1.632
180	0	73.2	199.6	272.8	0.407	1.109	1.516
190	0	69.3	196.0	265.3	0.365	1.032	1.396
200	0	65.1	190.2	255.3	0.326	0.951	1.277

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 2 / E_B1_XL (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

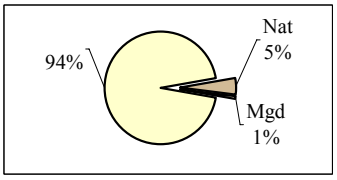
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	9.630E-03
Eqn: 2P	b	2.1270025
	k	N/A
Deciduous	a	5.295E-05
Eqn: 2P+K	b	3.8190012
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	104
Nat. Stand Area (ha):	30,931
Mgd. Stand Area (ha):	4,534

Stratum as a % of the managed landbase:

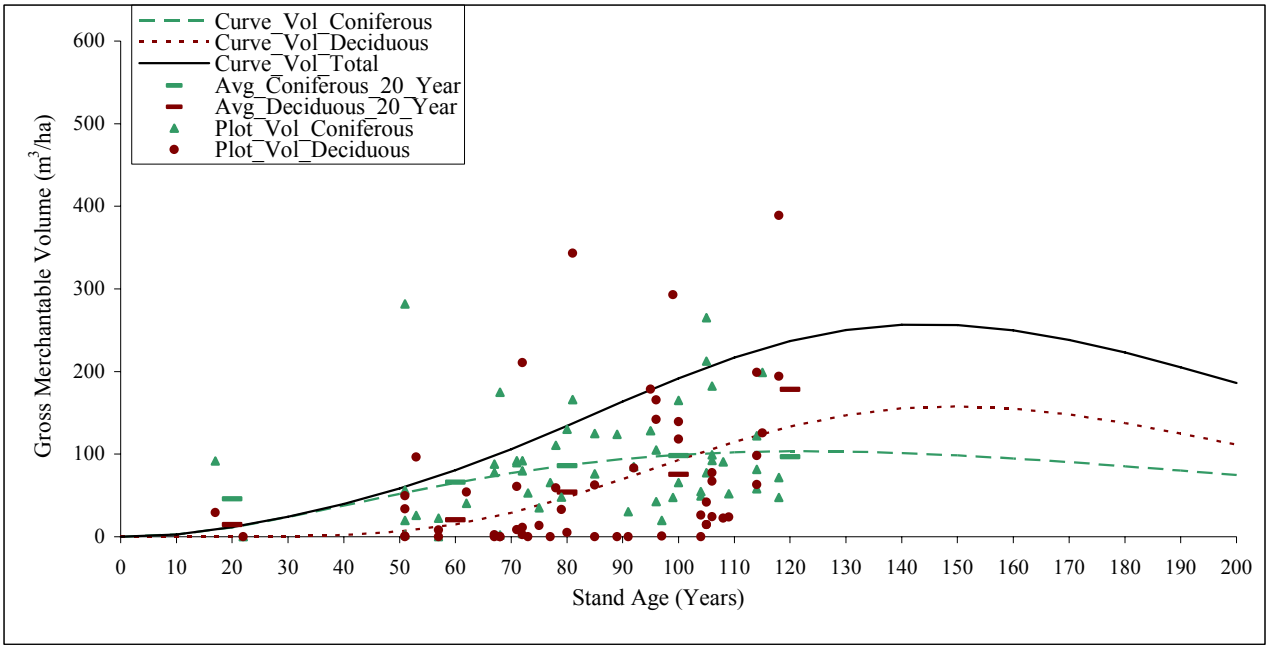


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	1.2	0.3	1.4	0.117	0.027	0.144
20	1	4.6	3.0	7.6	0.232	0.149	0.382
30	2	10.0	10.9	20.9	0.333	0.365	0.698
40	4	16.7	25.6	42.3	0.419	0.639	1.058
50	5	24.4	46.7	71.2	0.489	0.934	1.423
60	5	32.7	73.0	105.7	0.545	1.216	1.762
70	14	41.2	102.4	143.6	0.589	1.463	2.052
80	14	49.8	132.8	182.6	0.622	1.660	2.282
90	11	58.1	162.2	220.2	0.645	1.802	2.447
100	16	66.0	188.9	254.8	0.660	1.889	2.548
110	23	73.4	211.7	285.1	0.667	1.924	2.591
120	6	80.2	229.8	310.0	0.668	1.915	2.584
130	2	86.4	243.0	329.3	0.664	1.869	2.533
140	0	91.8	251.1	343.0	0.656	1.794	2.450
150	0	96.6	254.6	351.1	0.644	1.697	2.341
160	0	100.6	253.7	354.3	0.629	1.585	2.214
170	0	103.9	249.0	353.0	0.611	1.465	2.076
180	0	106.6	241.2	347.9	0.592	1.340	1.933
190	0	108.6	231.0	339.6	0.572	1.216	1.787
200	0	110.0	218.8	328.8	0.550	1.094	1.644

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 3 / E_B2_XX (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

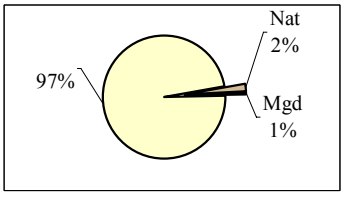
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.852E-02
Eqn: 2P	b	2.2664093
	k	N/A
Deciduous	a	1.533E-11
Eqn: 2P+K	b	7.4765311
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	54
Nat. Stand Area (ha):	11,880
Mgd. Stand Area (ha):	4,135

Stratum as a % of the managed landbase:

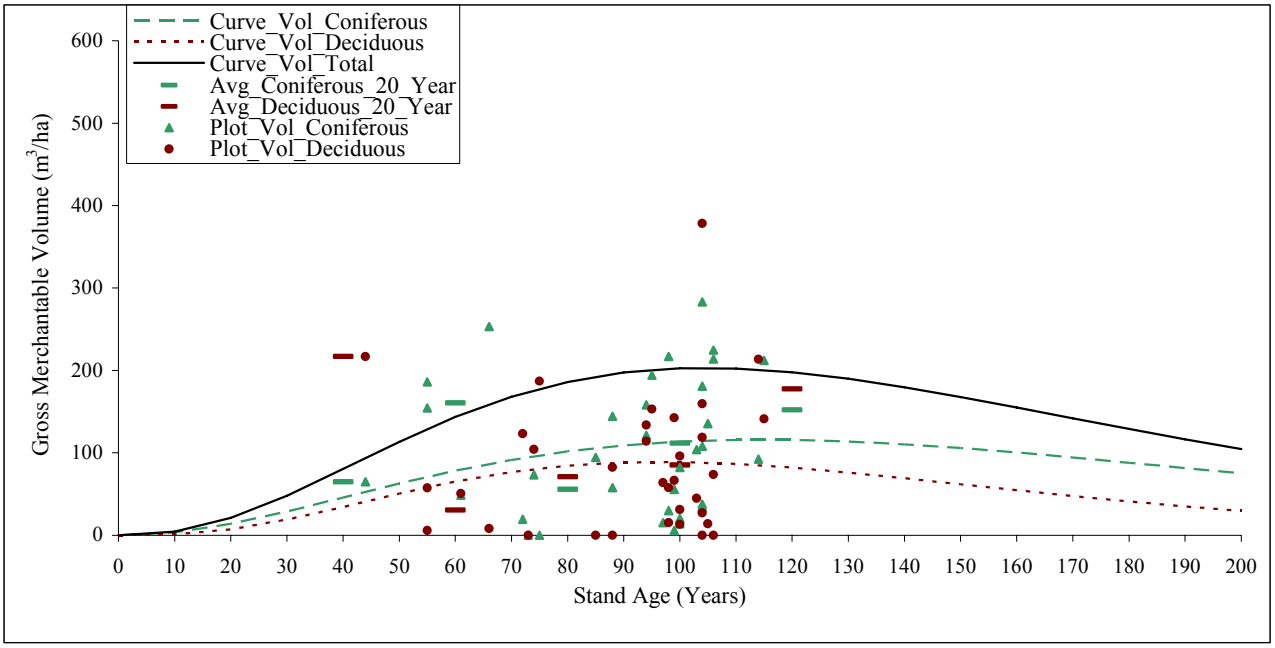


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.8	0.0	2.8	0.284	0.000	0.284
20	2	11.4	0.0	11.4	0.568	0.002	0.570
30	0	23.7	0.4	24.0	0.789	0.013	0.802
40	0	37.7	2.0	39.7	0.944	0.049	0.993
50	5	52.0	6.3	58.3	1.040	0.127	1.167
60	3	65.3	15.0	80.4	1.089	0.251	1.339
70	10	77.0	28.9	105.8	1.100	0.412	1.512
80	6	86.6	47.5	134.1	1.082	0.594	1.676
90	5	93.9	69.5	163.5	1.044	0.773	1.816
100	9	99.1	92.7	191.8	0.991	0.927	1.918
110	11	102.2	114.7	216.9	0.929	1.042	1.972
120	3	103.4	133.3	236.7	0.862	1.111	1.973
130	0	103.0	147.1	250.1	0.793	1.131	1.924
140	0	101.3	155.3	256.5	0.723	1.109	1.832
150	0	98.4	157.7	256.1	0.656	1.052	1.708
160	0	94.6	155.0	249.6	0.591	0.969	1.560
170	0	90.2	147.9	238.1	0.531	0.870	1.401
180	0	85.3	137.6	222.9	0.474	0.764	1.238
190	0	80.1	125.0	205.1	0.422	0.658	1.080
200	0	74.8	111.3	186.0	0.374	0.556	0.930

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 4 / E_B3_XX (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

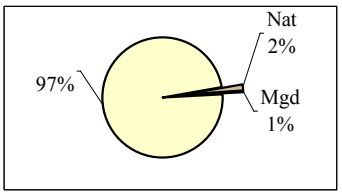
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	2.020E-02
Eqn: 2P	b	2.3138942
	k	N/A
Deciduous	a	9.123E-04
Eqn: 2P+K	b	3.2182084
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,983
Mgd. Stand Area (ha):	3,293

Stratum as a % of the managed landbase:

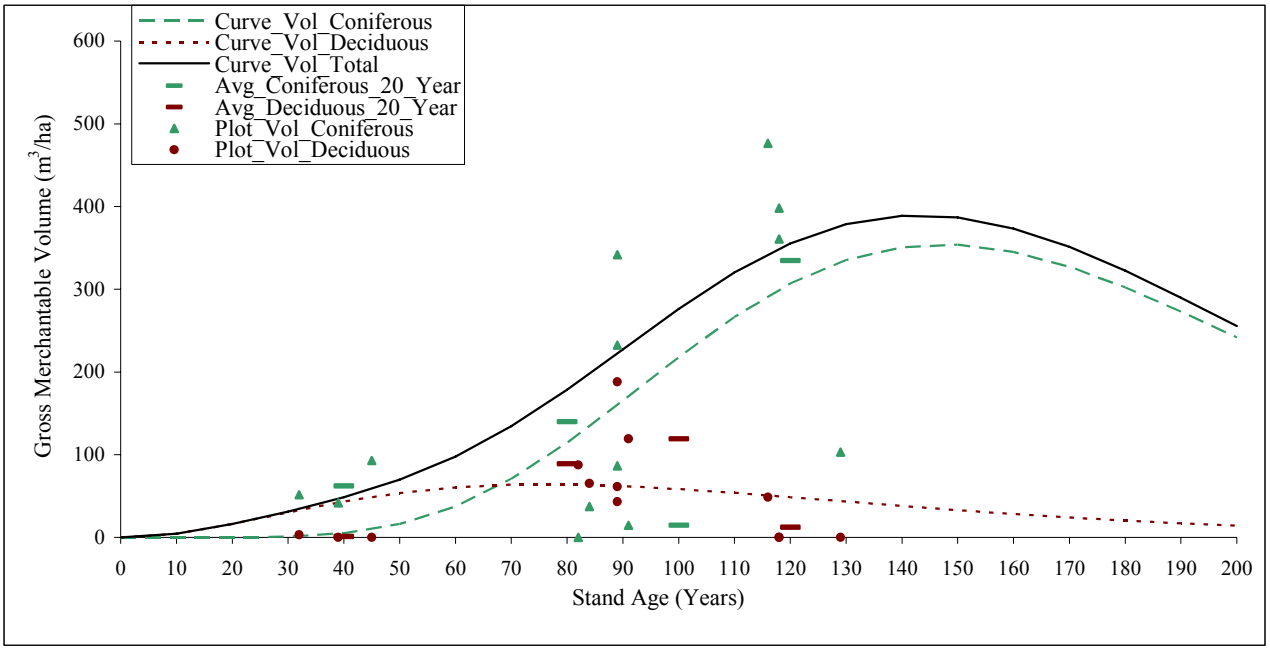


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.4	1.1	4.5	0.340	0.108	0.448
20	0	13.8	7.2	21.0	0.691	0.360	1.051
30	0	28.8	19.0	47.9	0.961	0.634	1.596
40	1	45.9	34.4	80.3	1.147	0.861	2.007
50	0	62.8	50.6	113.4	1.256	1.012	2.267
60	3	78.2	65.2	143.4	1.304	1.086	2.390
70	4	91.3	76.7	168.0	1.305	1.095	2.400
80	1	101.6	84.4	186.1	1.271	1.055	2.326
90	5	109.1	88.4	197.5	1.212	0.982	2.194
100	15	113.7	88.9	202.6	1.137	0.889	2.026
110	4	115.9	86.6	202.4	1.053	0.787	1.840
120	1	115.8	82.1	197.8	0.965	0.684	1.649
130	0	113.9	76.1	189.9	0.876	0.585	1.461
140	0	110.4	69.2	179.6	0.789	0.494	1.283
150	0	105.9	61.9	167.8	0.706	0.413	1.118
160	0	100.4	54.6	155.0	0.628	0.341	0.969
170	0	94.4	47.6	142.0	0.555	0.280	0.835
180	0	88.0	41.0	129.0	0.489	0.228	0.717
190	0	81.5	34.9	116.5	0.429	0.184	0.613
200	0	75.0	29.5	104.5	0.375	0.148	0.523

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 5 / E_B4_XX (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

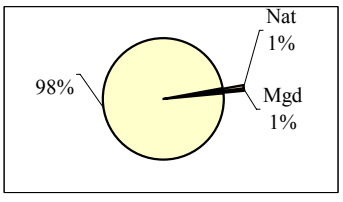
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	6.088E-11
Eqn: 2P+K	b	7.3625262
	k	20
Deciduous	a	3.013E-02
Eqn: 2P	b	2.2984601
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	13
Nat. Stand Area (ha):	5,141
Mgd. Stand Area (ha):	4,098

Stratum as a % of the managed landbase:

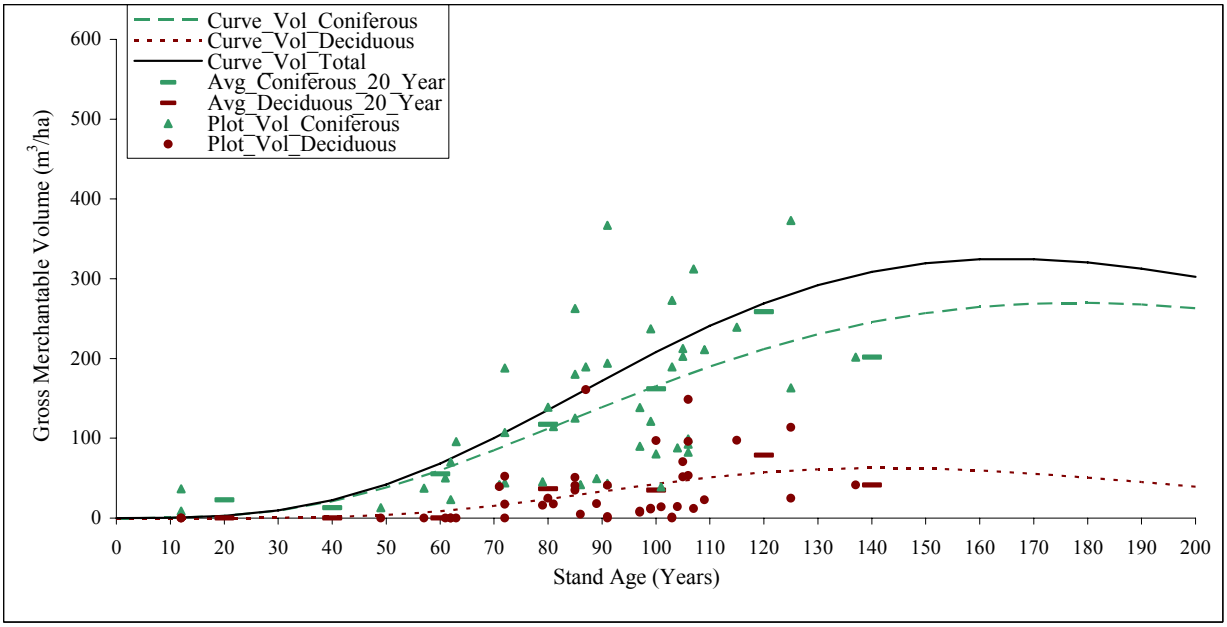


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	0.0	4.4	4.4	0.000	0.443	0.443
20	0	0.1	16.1	16.2	0.004	0.807	0.811
30	1	1.0	30.3	31.3	0.034	1.010	1.044
40	1	5.1	43.4	48.6	0.129	1.086	1.214
50	1	16.1	53.7	69.8	0.322	1.073	1.396
60	0	37.4	60.4	97.8	0.624	1.006	1.630
70	0	70.6	63.7	134.3	1.009	0.909	1.918
80	2	114.5	64.0	178.5	1.431	0.800	2.231
90	4	165.3	62.1	227.4	1.837	0.690	2.527
100	0	217.8	58.5	276.3	2.178	0.585	2.763
110	0	266.5	53.9	320.4	2.422	0.490	2.912
120	3	306.7	48.7	355.4	2.556	0.406	2.962
130	1	335.4	43.3	378.7	2.580	0.333	2.913
140	0	351.0	38.0	389.0	2.507	0.271	2.779
150	0	353.8	32.9	386.7	2.359	0.220	2.578
160	0	345.1	28.3	373.4	2.157	0.177	2.334
170	0	327.1	24.0	351.1	1.924	0.141	2.066
180	0	302.2	20.3	322.5	1.679	0.113	1.792
190	0	272.9	17.0	289.9	1.436	0.089	1.526
200	0	241.5	14.1	255.6	1.207	0.071	1.278

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 6 / E_B5_XX (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

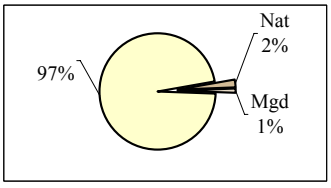
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	9.472E-05
Eqn: 2P+K	b	3.5552058
	k	50
Deciduous	a	4.126E-11
Eqn: 2P+K	b	7.0930320
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	44
Nat. Stand Area (ha):	14,170
Mgd. Stand Area (ha):	6,888

Stratum as a % of the managed landbase:

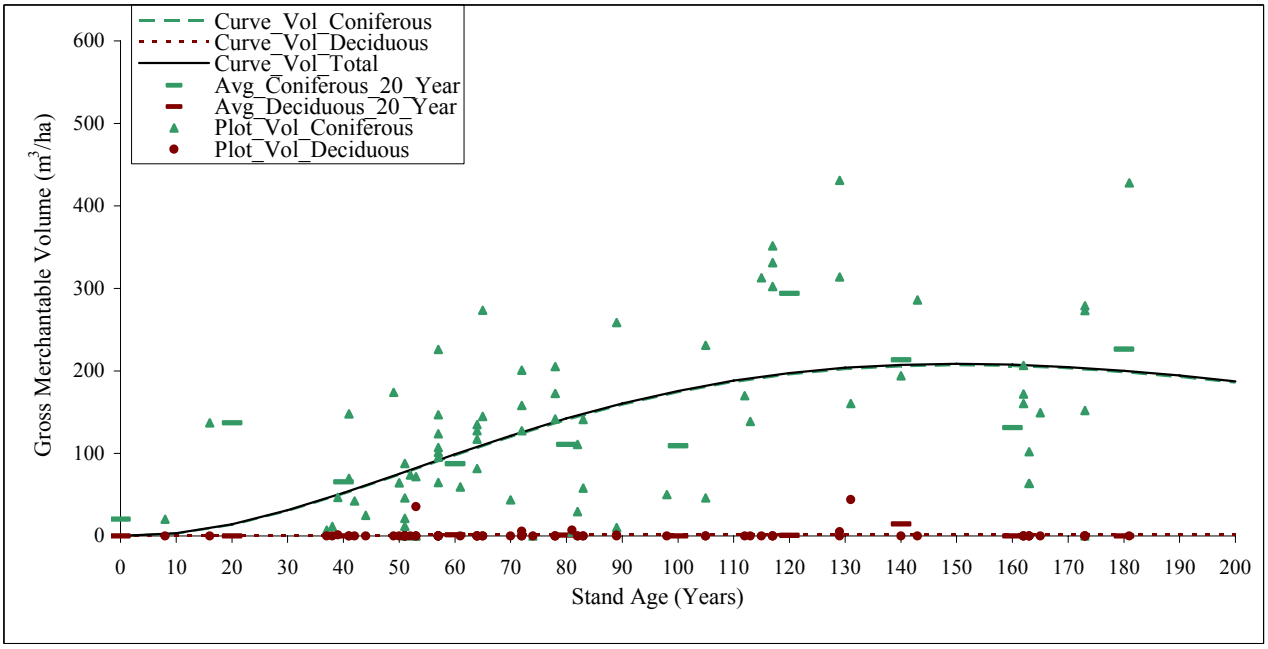


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	2	0.3	0.0	0.3	0.028	0.000	0.028
20	0	2.7	0.0	2.7	0.134	0.001	0.135
30	0	9.3	0.3	9.6	0.309	0.009	0.318
40	0	21.1	1.3	22.4	0.528	0.032	0.560
50	1	38.2	3.8	42.0	0.764	0.076	0.841
60	5	59.8	8.4	68.3	0.997	0.140	1.138
70	4	84.7	15.2	100.0	1.211	0.218	1.428
80	3	111.5	23.8	135.4	1.394	0.298	1.692
90	9	138.8	33.3	172.1	1.542	0.370	1.913
100	9	165.3	42.7	208.0	1.653	0.427	2.080
110	7	189.9	50.9	240.8	1.727	0.463	2.189
120	1	211.9	57.2	269.1	1.766	0.477	2.242
130	2	230.6	61.2	291.8	1.774	0.471	2.244
140	1	245.7	62.8	308.5	1.755	0.449	2.203
150	0	257.0	62.1	319.2	1.714	0.414	2.128
160	0	264.7	59.6	324.3	1.655	0.372	2.027
170	0	268.9	55.5	324.4	1.582	0.327	1.908
180	0	269.7	50.5	320.3	1.499	0.281	1.779
190	0	267.6	45.0	312.6	1.409	0.237	1.645
200	0	263.0	39.3	302.2	1.315	0.196	1.511

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 7 / E_B7_MX (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

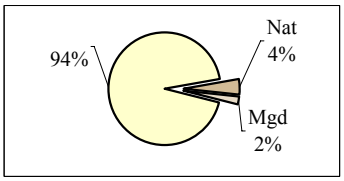
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.573E-02
Eqn: 2P	b	2.3638761
	k	N/A
Deciduous	a	1.061E-02
Eqn: 2P	b	1.3238200
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	76
Nat. Stand Area (ha):	28,336
Mgd. Stand Area (ha):	15,336

Stratum as a % of the managed landbase:

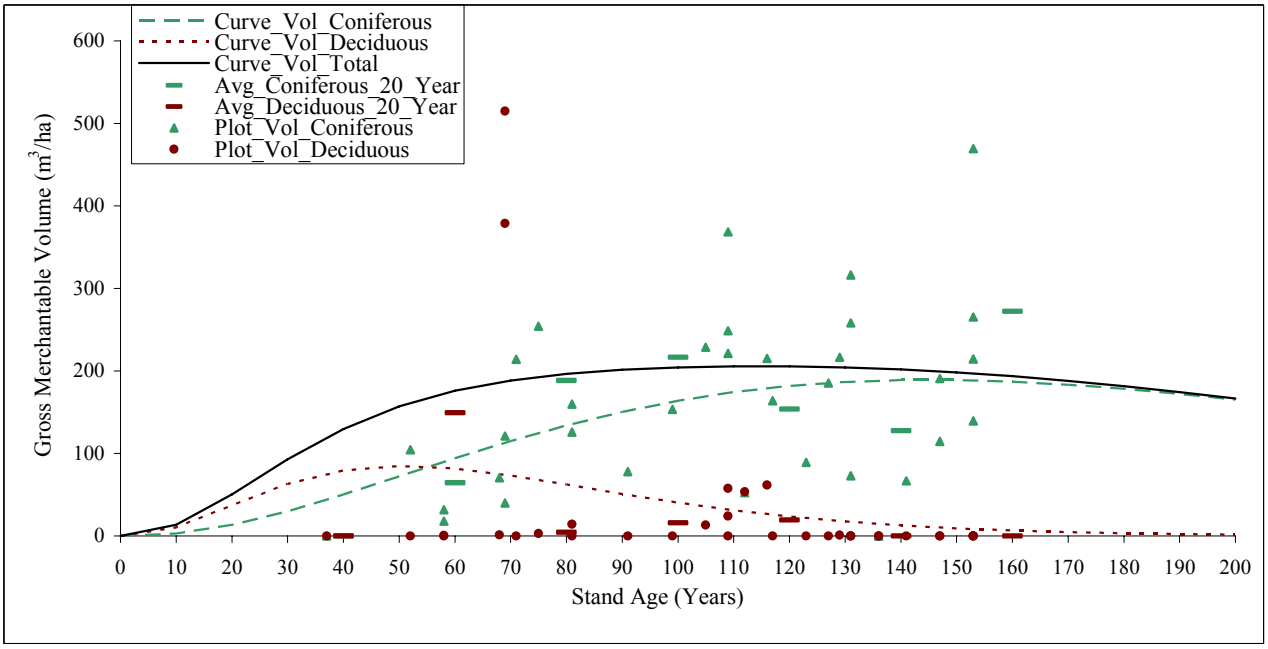


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	3.1	0.2	3.3	0.311	0.020	0.331
20	1	13.7	0.5	14.1	0.683	0.023	0.706
30	0	30.4	0.7	31.1	1.015	0.023	1.038
40	7	51.4	0.9	52.3	1.284	0.023	1.307
50	12	74.4	1.1	75.5	1.487	0.022	1.509
60	12	97.8	1.3	99.0	1.629	0.021	1.651
70	7	120.3	1.4	121.7	1.718	0.020	1.738
80	8	140.9	1.5	142.4	1.761	0.019	1.780
90	2	159.0	1.6	160.6	1.767	0.018	1.784
100	1	174.3	1.6	175.9	1.743	0.016	1.759
110	4	186.6	1.7	188.2	1.696	0.015	1.711
120	4	195.8	1.7	197.5	1.632	0.014	1.646
130	3	202.2	1.7	203.8	1.555	0.013	1.568
140	2	205.8	1.7	207.5	1.470	0.012	1.482
150	0	207.0	1.6	208.6	1.380	0.011	1.391
160	6	206.0	1.6	207.6	1.288	0.010	1.298
170	5	203.2	1.6	204.7	1.195	0.009	1.204
180	1	198.7	1.5	200.2	1.104	0.008	1.112
190	0	192.9	1.5	194.4	1.015	0.008	1.023
200	0	186.1	1.4	187.5	0.930	0.007	0.937

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 8 / E_B7_GL (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

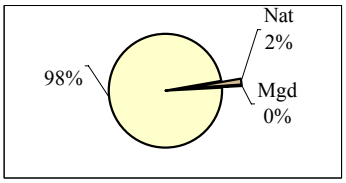
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.624E-02
Eqn: 2P	b	2.3545789
	k	N/A
Total	a	5.005E-02
Eqn: 2P	b	2.5404703
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	35
Nat. Stand Area (ha):	10,099
Mgd. Stand Area (ha):	1,667

Stratum as a % of the managed landbase:

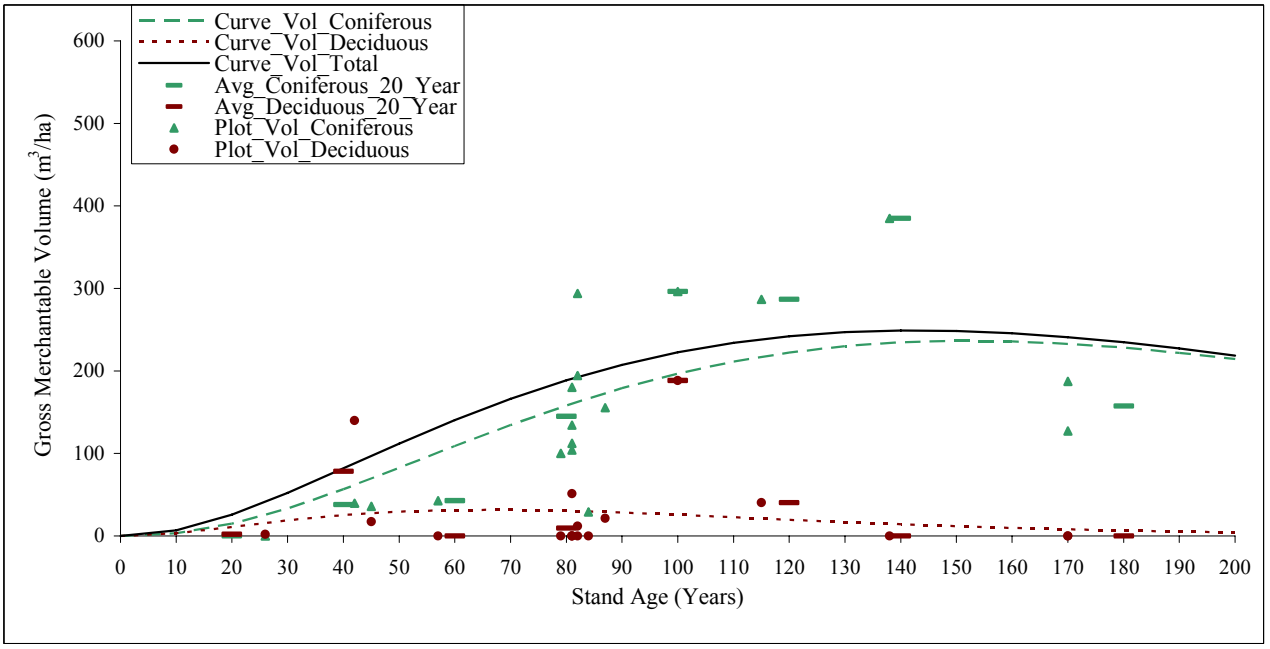


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.1	10.5	13.7	0.312	1.053	1.366
20	0	13.6	37.1	50.7	0.679	1.857	2.536
30	0	30.0	63.1	93.1	1.000	2.103	3.102
40	1	50.2	79.4	129.6	1.255	1.986	3.240
50	1	72.2	84.9	157.0	1.443	1.698	3.141
60	2	94.2	81.8	176.0	1.571	1.363	2.933
70	4	115.2	73.3	188.5	1.645	1.048	2.693
80	3	134.1	62.4	196.5	1.676	0.780	2.456
90	1	150.4	51.0	201.4	1.671	0.567	2.238
100	1	163.9	40.4	204.3	1.639	0.404	2.043
110	5	174.3	31.2	205.6	1.585	0.284	1.869
120	3	181.9	23.6	205.5	1.516	0.197	1.713
130	5	186.7	17.5	204.3	1.436	0.135	1.571
140	3	189.0	12.8	201.8	1.350	0.092	1.442
150	6	189.0	9.3	198.3	1.260	0.062	1.322
160	0	187.0	6.6	193.7	1.169	0.041	1.210
170	0	183.4	4.7	188.1	1.079	0.028	1.106
180	0	178.4	3.3	181.7	0.991	0.018	1.009
190	0	172.2	2.3	174.5	0.906	0.012	0.918
200	0	165.2	1.6	166.8	0.826	0.008	0.834

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 9 / E_B7_GH (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

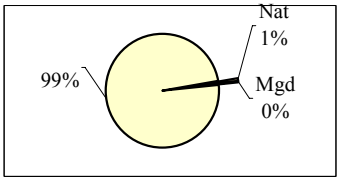
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.572E-02
Eqn: 2P	b	2.3902339
	k	N/A
Deciduous	a	3.283E-02
Eqn: 2P	b	2.1590241
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	18
Nat. Stand Area (ha):	5,713
Mgd. Stand Area (ha):	1,153

Stratum as a % of the managed landbase:

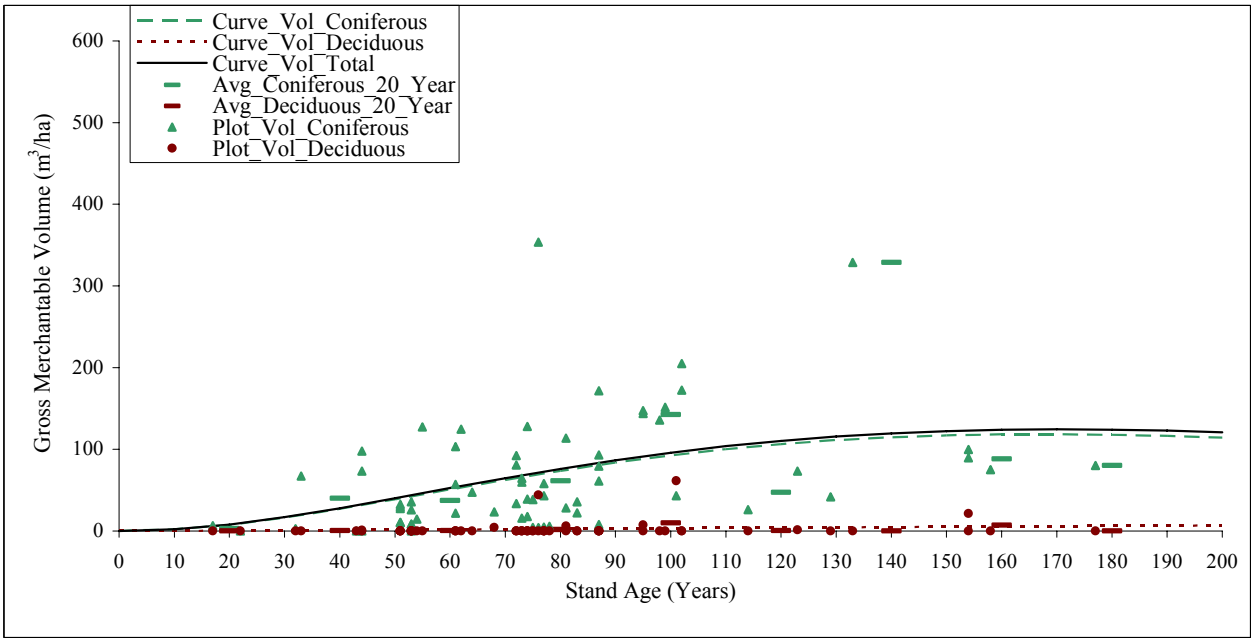


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.3	3.4	6.7	0.330	0.341	0.671
20	0	14.8	11.0	25.7	0.739	0.548	1.287
30	1	33.3	19.0	52.2	1.110	0.632	1.741
40	1	56.6	25.4	82.0	1.414	0.635	2.049
50	1	82.4	29.6	112.0	1.648	0.592	2.241
60	1	108.9	31.6	140.5	1.815	0.527	2.342
70	0	134.5	31.8	166.3	1.922	0.454	2.375
80	8	158.2	30.5	188.7	1.977	0.381	2.359
90	1	179.1	28.3	207.5	1.990	0.315	2.305
100	1	196.9	25.6	222.5	1.969	0.256	2.225
110	0	211.3	22.7	234.0	1.921	0.206	2.127
120	1	222.3	19.7	242.0	1.853	0.164	2.017
130	0	230.1	16.9	246.9	1.770	0.130	1.899
140	1	234.7	14.3	249.0	1.676	0.102	1.778
150	0	236.5	11.9	248.4	1.577	0.079	1.656
160	0	235.8	9.9	245.7	1.474	0.062	1.536
170	2	233.0	8.1	241.1	1.370	0.048	1.418
180	0	228.2	6.6	234.8	1.268	0.037	1.305
190	0	222.0	5.3	227.3	1.168	0.028	1.196
200	0	214.4	4.3	218.7	1.072	0.021	1.094

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =10 / E_B8_ML (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

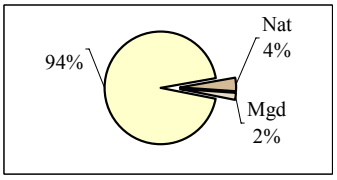
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.321E-02
Eqn: 2P	b	2.2096170
	k	N/A
Deciduous	a	3.605E-03
Eqn: 2P	b	1.5567061
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	69
Nat. Stand Area (ha):	25,396
Mgd. Stand Area (ha):	12,695

Stratum as a % of the managed landbase:

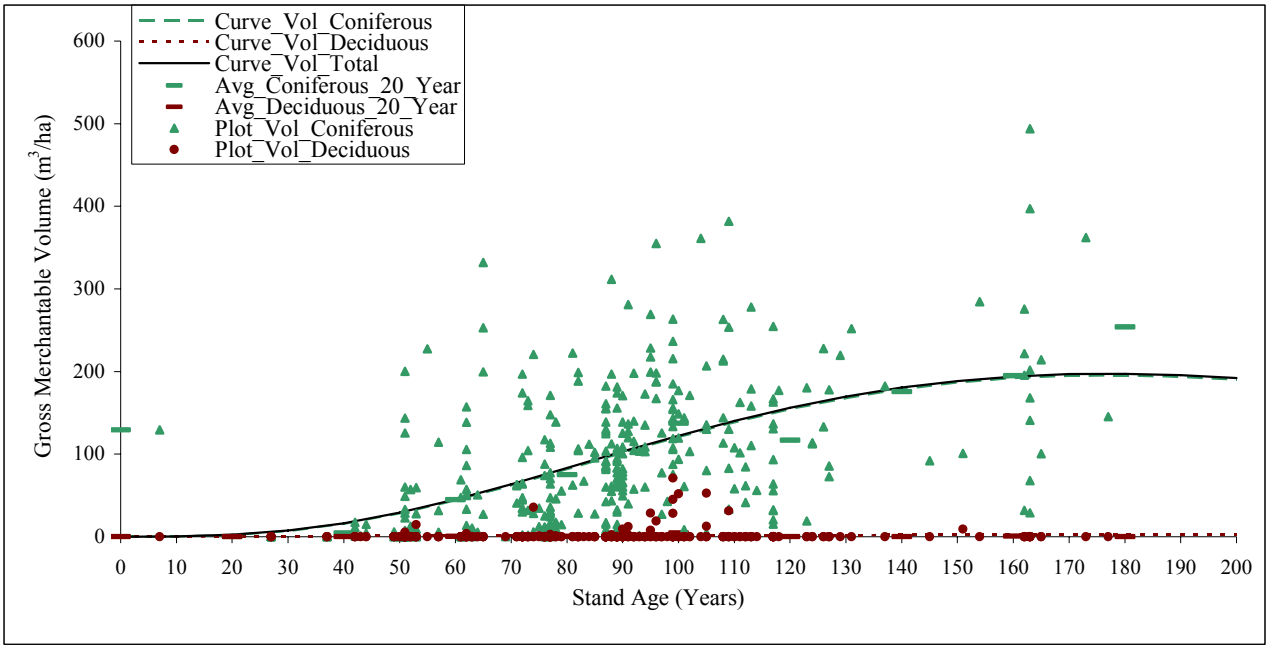


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	1.9	0.1	2.0	0.188	0.013	0.200
20	2	7.6	0.4	8.0	0.380	0.018	0.398
30	2	16.3	0.6	17.0	0.544	0.021	0.565
40	4	27.0	1.0	28.0	0.675	0.024	0.699
50	12	38.7	1.3	40.1	0.775	0.027	0.801
60	6	50.8	1.7	52.5	0.846	0.028	0.875
70	10	62.6	2.1	64.6	0.894	0.030	0.923
80	13	73.6	2.5	76.1	0.920	0.031	0.951
90	5	83.7	2.9	86.6	0.930	0.032	0.962
100	7	92.6	3.3	95.8	0.926	0.033	0.958
110	1	100.1	3.7	103.8	0.910	0.033	0.943
120	1	106.3	4.0	110.4	0.886	0.034	0.920
130	2	111.2	4.4	115.6	0.855	0.034	0.889
140	0	114.8	4.8	119.6	0.820	0.034	0.854
150	2	117.1	5.1	122.3	0.781	0.034	0.815
160	1	118.4	5.5	123.8	0.740	0.034	0.774
170	0	118.6	5.8	124.4	0.698	0.034	0.732
180	1	117.9	6.1	124.0	0.655	0.034	0.689
190	0	116.4	6.4	122.9	0.613	0.034	0.647
200	0	114.3	6.7	121.0	0.571	0.033	0.605

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =11 / E_B8_MH (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

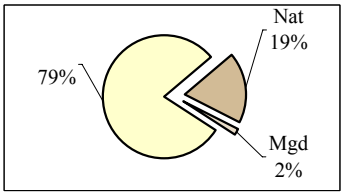
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	7.454E-05
Eqn: 2P+K	b	3.5390489
	k	50
Deciduous	a	6.713E-03
Eqn: 2P	b	1.3332412
	k	N/A

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	345
Nat. Stand Area (ha):	121,277
Mgd. Stand Area (ha):	10,565

Stratum as a % of the managed landbase:

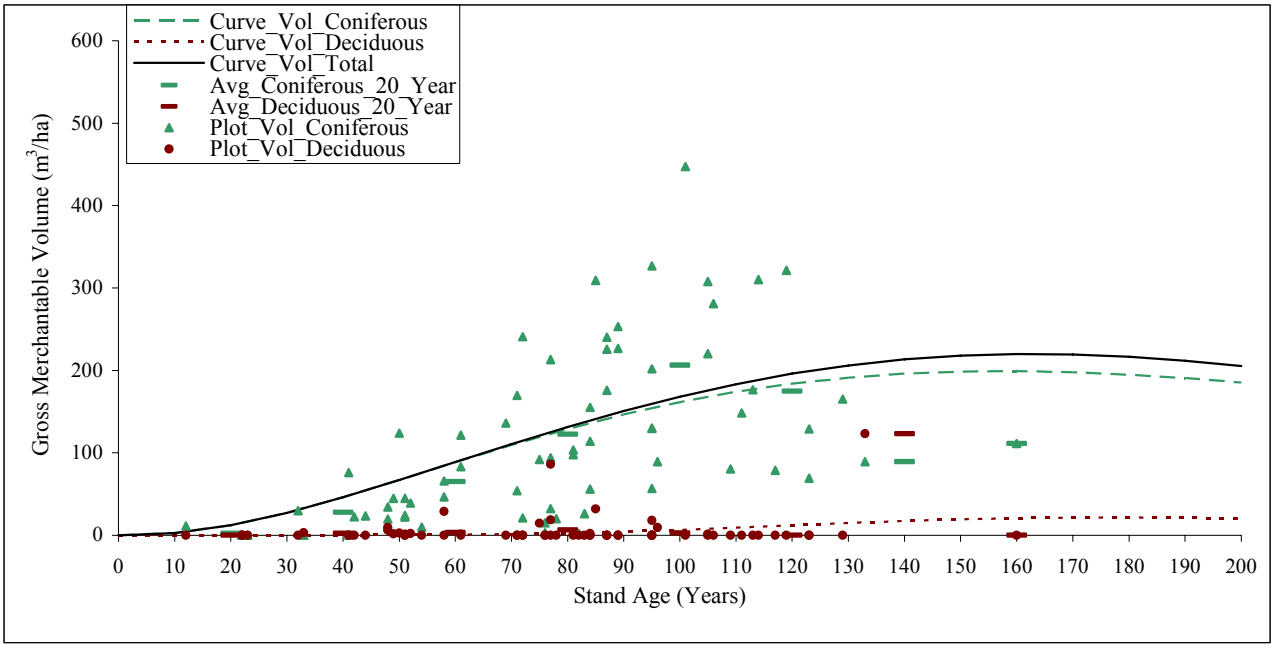


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	0.2	0.1	0.3	0.021	0.014	0.035
20	0	2.0	0.3	2.3	0.100	0.016	0.116
30	4	6.9	0.5	7.4	0.230	0.017	0.247
40	10	15.7	0.7	16.4	0.391	0.018	0.409
50	38	28.2	0.9	29.1	0.565	0.018	0.582
60	27	44.1	1.1	45.1	0.735	0.018	0.752
70	28	62.3	1.2	63.5	0.890	0.017	0.907
80	50	81.8	1.4	83.1	1.022	0.017	1.039
90	79	101.6	1.5	103.1	1.129	0.016	1.145
100	38	120.7	1.6	122.3	1.207	0.016	1.223
110	27	138.5	1.7	140.2	1.259	0.015	1.275
120	17	154.3	1.8	156.1	1.286	0.015	1.301
130	7	167.7	1.8	169.6	1.290	0.014	1.304
140	1	178.5	1.9	180.4	1.275	0.014	1.288
150	3	186.5	2.0	188.5	1.244	0.013	1.257
160	11	191.9	2.0	193.9	1.199	0.012	1.212
170	3	194.7	2.0	196.8	1.145	0.012	1.157
180	1	195.2	2.0	197.2	1.084	0.011	1.096
190	0	193.5	2.0	195.5	1.018	0.011	1.029
200	0	190.0	2.0	192.0	0.950	0.010	0.960

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =12 / E_B8_GL (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

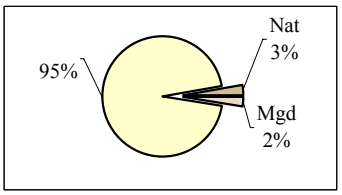
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.486E-02
Eqn: 2P	b	2.3408020
	k	N/A
Deciduous	a	2.053E-15
Eqn: 2P+K	b	8.8379240
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	70
Nat. Stand Area (ha):	17,672
Mgd. Stand Area (ha):	16,136

Stratum as a % of the managed landbase:

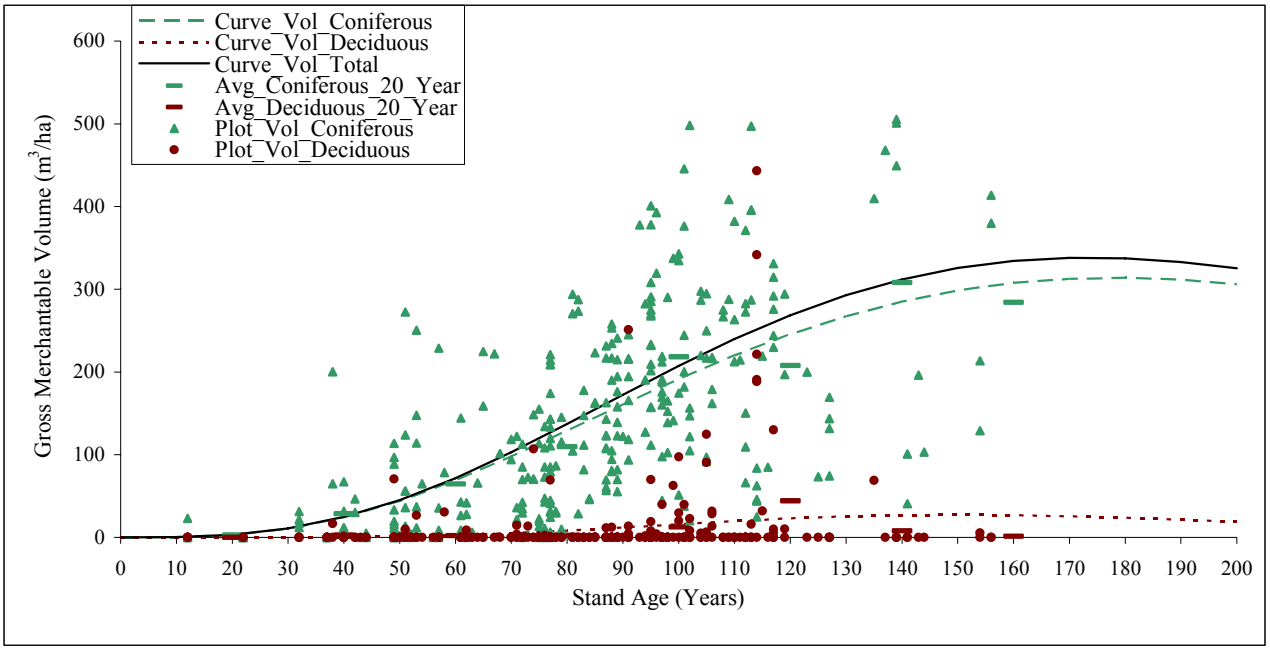


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	2.8	0.0	2.8	0.281	0.000	0.281
20	4	12.3	0.0	12.3	0.613	0.000	0.613
30	2	27.3	0.0	27.3	0.910	0.000	0.910
40	4	46.1	0.0	46.2	1.153	0.001	1.154
50	9	67.0	0.2	67.2	1.341	0.003	1.344
60	4	88.5	0.5	89.1	1.476	0.009	1.484
70	5	109.5	1.3	110.7	1.564	0.018	1.582
80	14	129.0	2.5	131.5	1.612	0.031	1.643
90	6	146.5	4.3	150.7	1.627	0.047	1.675
100	7	161.5	6.6	168.1	1.615	0.066	1.681
110	7	174.0	9.2	183.3	1.582	0.084	1.666
120	4	183.9	12.1	196.0	1.533	0.101	1.633
130	2	191.2	14.9	206.0	1.471	0.114	1.585
140	0	196.0	17.4	213.4	1.400	0.124	1.524
150	0	198.5	19.4	217.9	1.324	0.129	1.453
160	1	199.0	20.8	219.8	1.244	0.130	1.374
170	0	197.7	21.5	219.3	1.163	0.127	1.290
180	0	194.8	21.7	216.5	1.082	0.120	1.203
190	0	190.6	21.2	211.8	1.003	0.111	1.115
200	0	185.2	20.2	205.4	0.926	0.101	1.027

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =13 / E_B8_GH (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

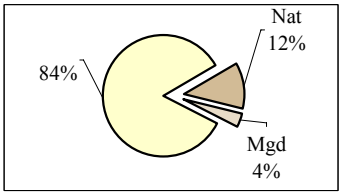
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.057E-04
Eqn: 2P+K	b	3.5631370
	k	50
Deciduous	a	2.612E-12
Eqn: 2P+K	b	7.4784989
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	311
Nat. Stand Area (ha):	79,758
Mgd. Stand Area (ha):	23,832

Stratum as a % of the managed landbase:

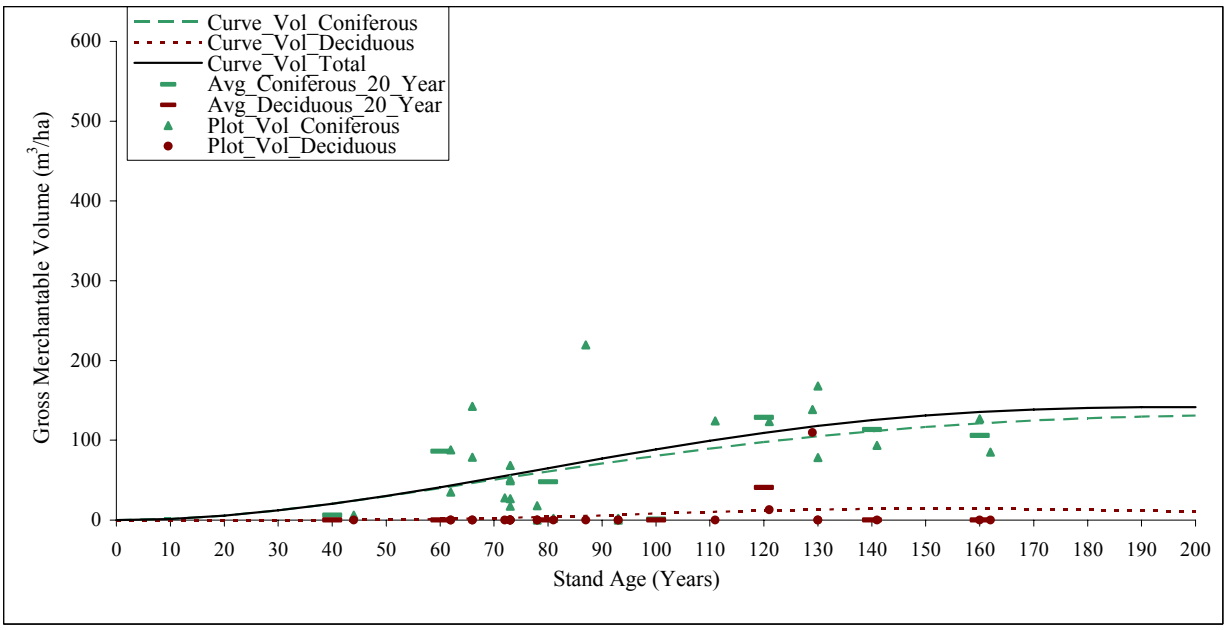


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	4	0.3	0.0	0.3	0.032	0.000	0.032
20	4	3.1	0.0	3.1	0.153	0.000	0.153
30	4	10.6	0.1	10.7	0.355	0.002	0.357
40	18	24.3	0.3	24.6	0.607	0.008	0.615
50	30	44.0	1.1	45.1	0.880	0.022	0.902
60	18	69.0	2.6	71.6	1.150	0.043	1.193
70	22	97.8	5.0	102.8	1.398	0.071	1.469
80	51	128.9	8.2	137.1	1.612	0.102	1.714
90	45	160.6	12.0	172.6	1.784	0.133	1.917
100	53	191.4	15.9	207.3	1.914	0.159	2.073
110	33	220.1	19.7	239.8	2.001	0.179	2.180
120	11	245.7	22.9	268.6	2.047	0.191	2.238
130	5	267.5	25.3	292.8	2.058	0.195	2.252
140	9	285.2	26.7	311.9	2.037	0.191	2.228
150	2	298.6	27.1	325.7	1.991	0.181	2.172
160	2	307.7	26.7	334.3	1.923	0.167	2.090
170	0	312.6	25.5	338.1	1.839	0.150	1.989
180	0	313.8	23.7	337.5	1.743	0.132	1.875
190	0	311.5	21.5	333.0	1.639	0.113	1.753
200	0	306.2	19.2	325.3	1.531	0.096	1.627

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =14 / E_B9_XX (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

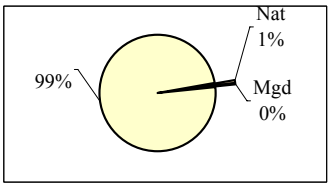
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.020E-02
Eqn: 2P	b	2.1703443
	k	N/A
Deciduous	a	7.163E-13
Eqn: 2P+K	b	7.6101655
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	25
Nat. Stand Area (ha):	4,777
Mgd. Stand Area (ha):	2,615

Stratum as a % of the managed landbase:

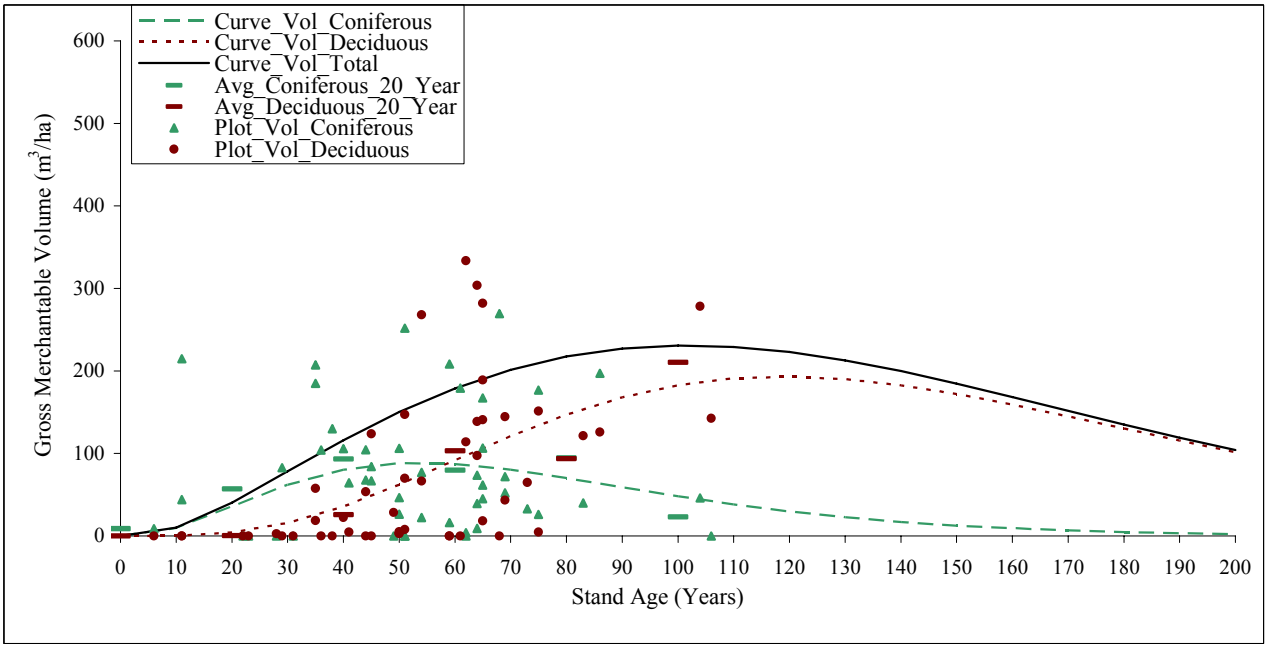


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	1.4	0.0	1.4	0.136	0.000	0.136
20	0	5.5	0.0	5.5	0.277	0.000	0.277
30	0	12.1	0.0	12.1	0.402	0.001	0.403
40	1	20.3	0.2	20.5	0.509	0.004	0.512
50	0	29.8	0.5	30.3	0.596	0.010	0.606
60	2	40.0	1.2	41.2	0.667	0.020	0.687
70	8	50.5	2.4	52.8	0.721	0.034	0.755
80	3	60.9	4.0	64.9	0.761	0.050	0.811
90	3	71.0	5.9	76.9	0.789	0.066	0.855
100	0	80.6	8.0	88.6	0.806	0.080	0.886
110	1	89.5	10.0	99.5	0.814	0.091	0.905
120	1	97.6	11.8	109.4	0.814	0.098	0.912
130	3	104.9	13.2	118.1	0.807	0.101	0.908
140	1	111.3	14.0	125.3	0.795	0.100	0.895
150	0	116.7	14.4	131.1	0.778	0.096	0.874
160	2	121.2	14.3	135.5	0.758	0.089	0.847
170	0	124.9	13.7	138.6	0.735	0.081	0.815
180	0	127.7	12.9	140.5	0.709	0.071	0.781
190	0	129.6	11.8	141.4	0.682	0.062	0.744
200	0	130.9	10.6	141.4	0.654	0.053	0.707

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =15 / E_UN_DM (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

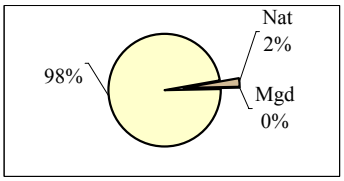
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	4.715E-02
Eqn: 2P	b	2.5286361
	k	N/A
Deciduous	a	6.112E-05
Eqn: 2P+K	b	3.9615699
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	49
Nat. Stand Area (ha):	15,843
Mgd. Stand Area (ha):	0

Stratum as a % of the managed landbase:

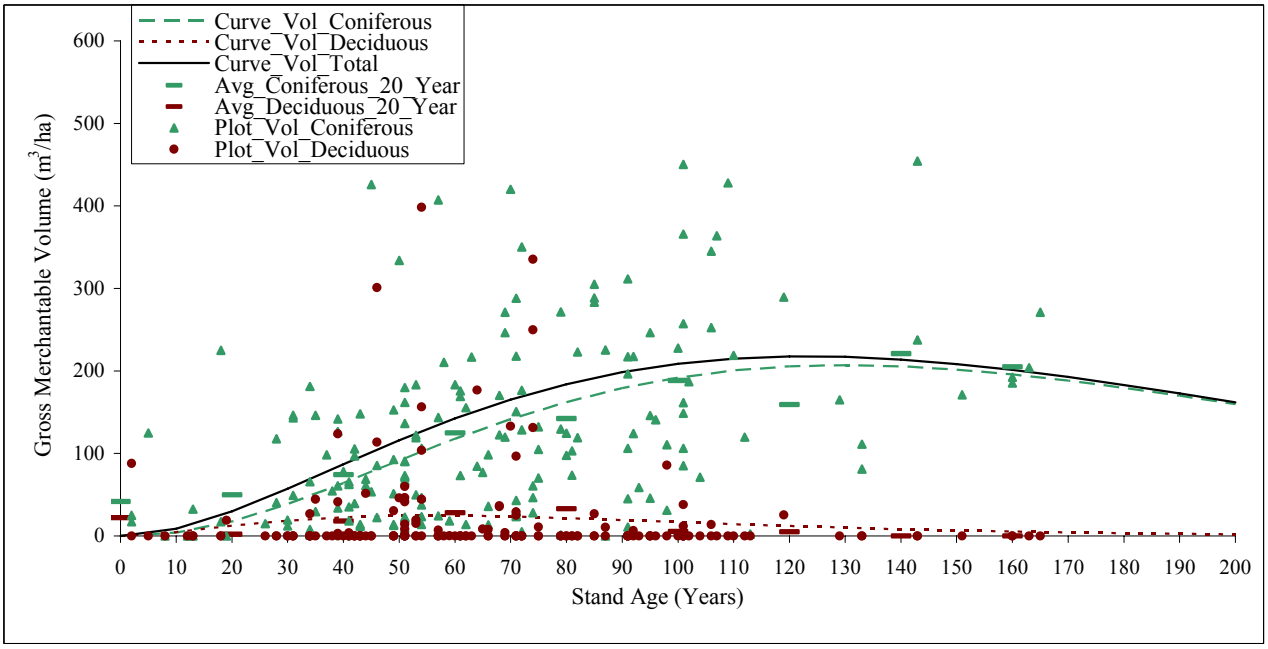


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	3	9.9	0.4	10.3	0.994	0.040	1.034
20	2	35.8	4.5	40.3	1.790	0.224	2.013
30	3	62.3	16.0	78.3	2.076	0.533	2.608
40	8	80.4	35.8	116.2	2.011	0.895	2.906
50	11	88.2	62.1	150.3	1.765	1.242	3.007
60	8	87.3	91.6	178.9	1.455	1.527	2.982
70	8	80.5	120.9	201.4	1.150	1.727	2.876
80	3	70.4	147.0	217.4	0.880	1.837	2.717
90	1	59.2	168.0	227.1	0.657	1.866	2.524
100	1	48.2	182.7	230.9	0.482	1.827	2.309
110	1	38.3	190.9	229.2	0.348	1.736	2.084
120	0	29.8	193.1	222.9	0.248	1.609	1.857
130	0	22.7	190.0	212.8	0.175	1.462	1.637
140	0	17.1	182.6	199.7	0.122	1.304	1.427
150	0	12.7	172.0	184.7	0.085	1.147	1.231
160	0	9.3	159.1	168.5	0.058	0.995	1.053
170	0	6.8	145.0	151.8	0.040	0.853	0.893
180	0	4.9	130.3	135.2	0.027	0.724	0.751
190	0	3.5	115.6	119.2	0.018	0.609	0.627
200	0	2.5	101.5	104.0	0.012	0.508	0.520

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =16 / E_UN_CX (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

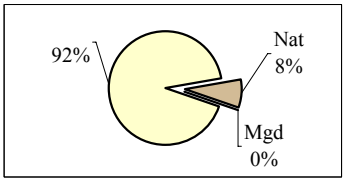
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.854E-02
Eqn: 2P	b	2.4100139
	k	N/A
Total	a	9.535E-02
Eqn: 2P+K	b	1.8474356
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	173
Nat. Stand Area (ha):	51,955
Mgd. Stand Area (ha):	0

Stratum as a % of the managed landbase:

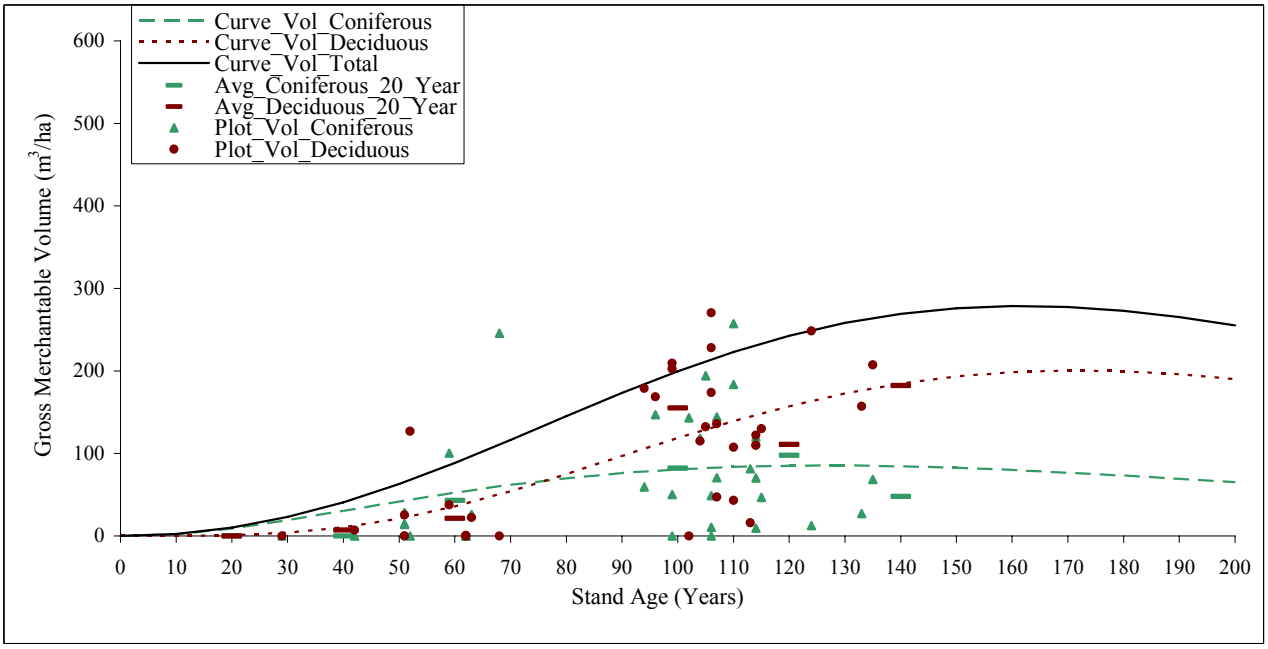


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	2	0.0	0.0	0.0	0.000	0.000	0.000
10	5	4.0	4.8	8.8	0.396	0.481	0.877
20	3	17.5	12.4	29.9	0.874	0.620	1.494
30	13	38.6	18.8	57.4	1.286	0.626	1.912
40	22	64.1	22.9	87.0	1.603	0.573	2.176
50	30	91.2	24.8	116.0	1.824	0.496	2.320
60	14	117.6	24.9	142.5	1.960	0.415	2.374
70	24	141.6	23.7	165.3	2.024	0.339	2.362
80	12	162.4	21.7	184.1	2.029	0.272	2.301
90	14	179.2	19.4	198.5	1.991	0.215	2.206
100	16	191.9	16.8	208.7	1.919	0.168	2.087
110	7	200.6	14.4	215.0	1.823	0.131	1.954
120	1	205.5	12.1	217.6	1.712	0.101	1.813
130	3	207.0	10.1	217.1	1.593	0.077	1.670
140	2	205.6	8.3	213.9	1.469	0.059	1.528
150	1	201.8	6.7	208.5	1.345	0.045	1.390
160	3	195.8	5.4	201.3	1.224	0.034	1.258
170	1	188.3	4.4	192.6	1.108	0.026	1.133
180	0	179.5	3.5	183.0	0.997	0.019	1.017
190	0	169.9	2.7	172.6	0.894	0.014	0.909
200	0	159.7	2.2	161.9	0.799	0.011	0.809

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 17 / E_B1_XL (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

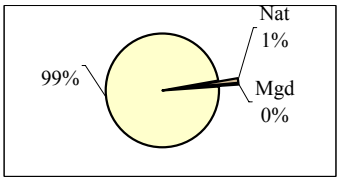
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.749E-02
Eqn: 2P	b	2.2122879
	k	N/A
Deciduous	a	3.843E-06
Eqn: 2P+K	b	4.2876332
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,174
Mgd. Stand Area (ha):	2,078

Stratum as a % of the managed landbase:

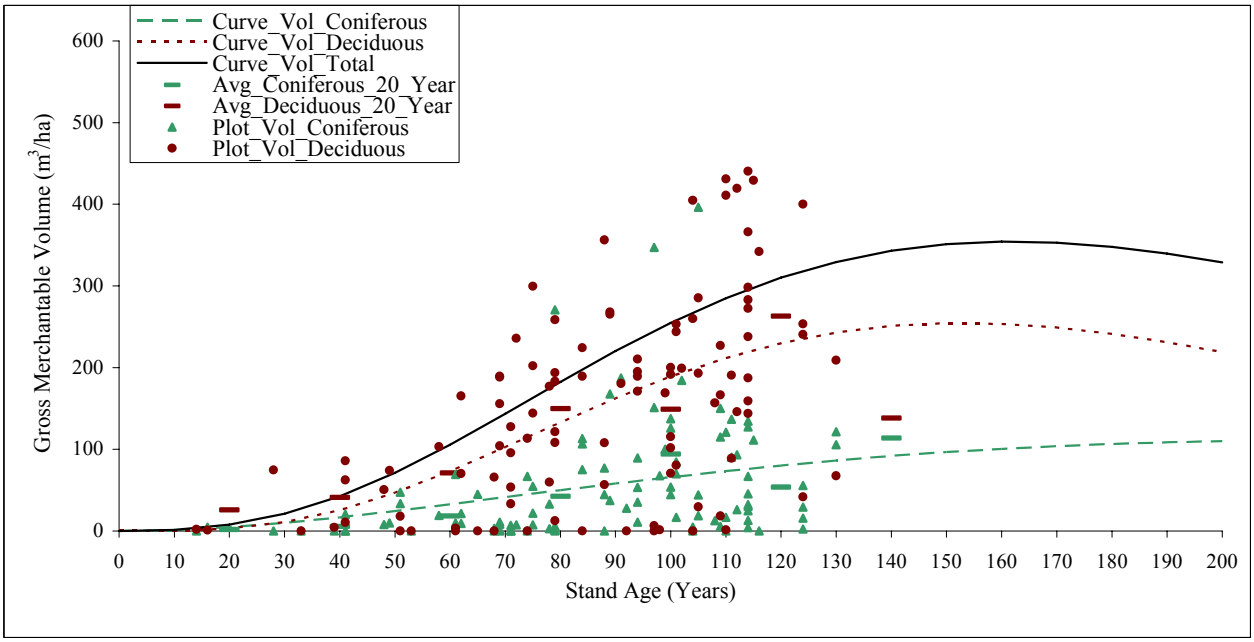


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.4	0.1	2.5	0.239	0.006	0.245
20	0	9.3	0.9	10.2	0.466	0.044	0.510
30	1	19.2	3.9	23.1	0.639	0.130	0.770
40	1	30.4	10.5	40.9	0.761	0.261	1.022
50	4	41.8	21.2	63.0	0.837	0.424	1.261
60	5	52.6	36.1	88.7	0.876	0.601	1.478
70	1	62.1	54.4	116.5	0.887	0.778	1.664
80	0	70.0	75.1	145.2	0.875	0.939	1.815
90	1	76.3	97.0	173.3	0.848	1.077	1.925
100	5	80.9	118.6	199.5	0.809	1.186	1.995
110	12	83.8	139.0	222.9	0.762	1.264	2.026
120	2	85.3	157.3	242.5	0.711	1.310	2.021
130	1	85.5	172.6	258.1	0.657	1.328	1.985
140	1	84.5	184.7	269.3	0.604	1.319	1.923
150	0	82.7	193.4	276.0	0.551	1.289	1.840
160	0	80.1	198.6	278.7	0.500	1.241	1.742
170	0	76.9	200.6	277.4	0.452	1.180	1.632
180	0	73.2	199.6	272.8	0.407	1.109	1.516
190	0	69.3	196.0	265.3	0.365	1.032	1.396
200	0	65.1	190.2	255.3	0.326	0.951	1.277

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 18 / E_B1_XL (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

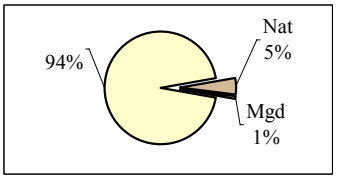
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	9.630E-03
Eqn: 2P	b	2.1270025
	k	N/A
Deciduous	a	5.295E-05
Eqn: 2P+K	b	3.8190012
	k	40

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	104
Nat. Stand Area (ha):	30,931
Mgd. Stand Area (ha):	4,534

Stratum as a % of the managed landbase:

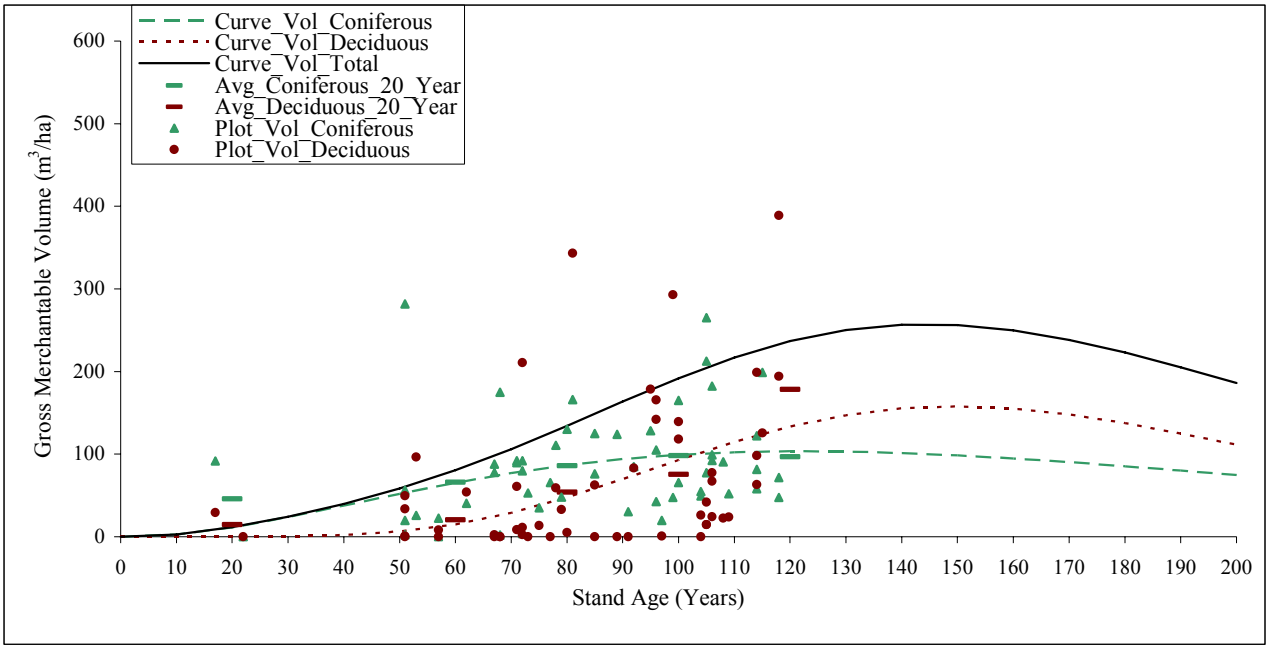


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	1.2	0.3	1.4	0.117	0.027	0.144
20	1	4.6	3.0	7.6	0.232	0.149	0.382
30	2	10.0	10.9	20.9	0.333	0.365	0.698
40	4	16.7	25.6	42.3	0.419	0.639	1.058
50	5	24.4	46.7	71.2	0.489	0.934	1.423
60	5	32.7	73.0	105.7	0.545	1.216	1.762
70	14	41.2	102.4	143.6	0.589	1.463	2.052
80	14	49.8	132.8	182.6	0.622	1.660	2.282
90	11	58.1	162.2	220.2	0.645	1.802	2.447
100	16	66.0	188.9	254.8	0.660	1.889	2.548
110	23	73.4	211.7	285.1	0.667	1.924	2.591
120	6	80.2	229.8	310.0	0.668	1.915	2.584
130	2	86.4	243.0	329.3	0.664	1.869	2.533
140	0	91.8	251.1	343.0	0.656	1.794	2.450
150	0	96.6	254.6	351.1	0.644	1.697	2.341
160	0	100.6	253.7	354.3	0.629	1.585	2.214
170	0	103.9	249.0	353.0	0.611	1.465	2.076
180	0	106.6	241.2	347.9	0.592	1.340	1.933
190	0	108.6	231.0	339.6	0.572	1.216	1.787
200	0	110.0	218.8	328.8	0.550	1.094	1.644

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 19 / E_B2_XX (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

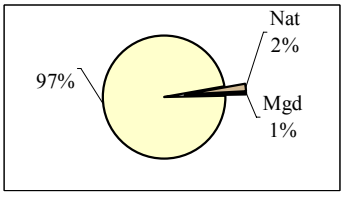
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.852E-02
Eqn: 2P	b	2.2664093
	k	N/A
Deciduous	a	1.533E-11
Eqn: 2P+K	b	7.4765311
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	54
Nat. Stand Area (ha):	11,880
Mgd. Stand Area (ha):	4,135

Stratum as a % of the managed landbase:

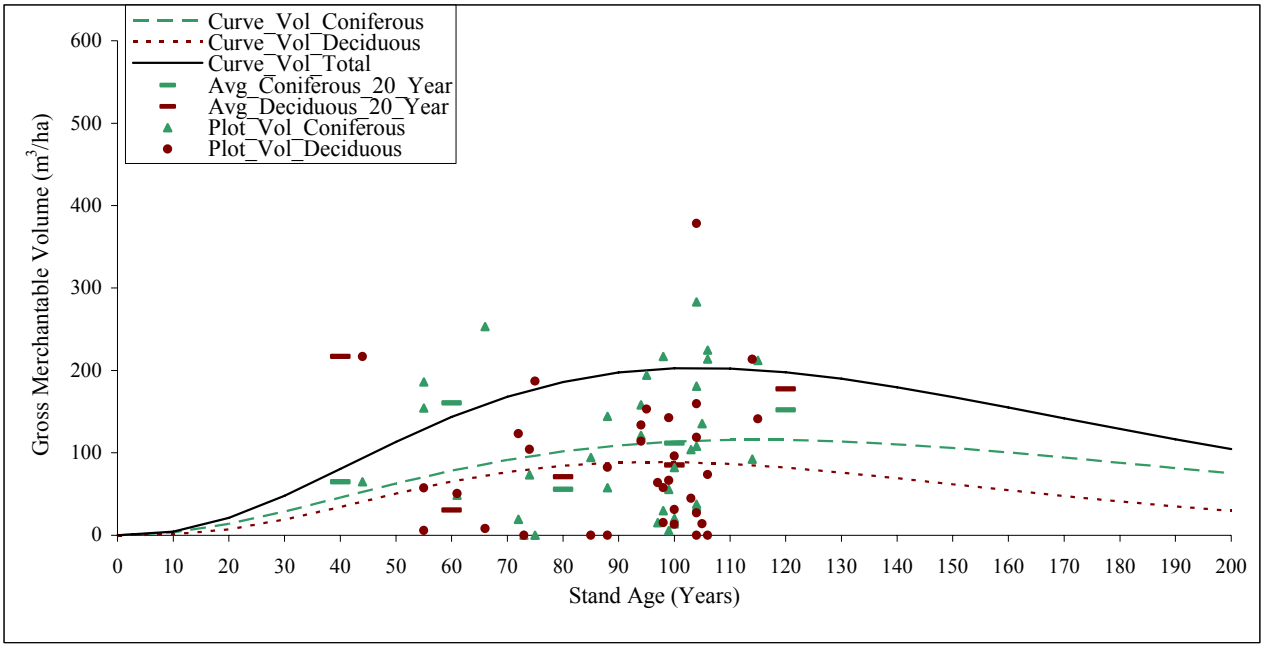


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	2.8	0.0	2.8	0.284	0.000	0.284
20	2	11.4	0.0	11.4	0.568	0.002	0.570
30	0	23.7	0.4	24.0	0.789	0.013	0.802
40	0	37.7	2.0	39.7	0.944	0.049	0.993
50	5	52.0	6.3	58.3	1.040	0.127	1.167
60	3	65.3	15.0	80.4	1.089	0.251	1.339
70	10	77.0	28.9	105.8	1.100	0.412	1.512
80	6	86.6	47.5	134.1	1.082	0.594	1.676
90	5	93.9	69.5	163.5	1.044	0.773	1.816
100	9	99.1	92.7	191.8	0.991	0.927	1.918
110	11	102.2	114.7	216.9	0.929	1.042	1.972
120	3	103.4	133.3	236.7	0.862	1.111	1.973
130	0	103.0	147.1	250.1	0.793	1.131	1.924
140	0	101.3	155.3	256.5	0.723	1.109	1.832
150	0	98.4	157.7	256.1	0.656	1.052	1.708
160	0	94.6	155.0	249.6	0.591	0.969	1.560
170	0	90.2	147.9	238.1	0.531	0.870	1.401
180	0	85.3	137.6	222.9	0.474	0.764	1.238
190	0	80.1	125.0	205.1	0.422	0.658	1.080
200	0	74.8	111.3	186.0	0.374	0.556	0.930

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER = 20 / E_B3_XX (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

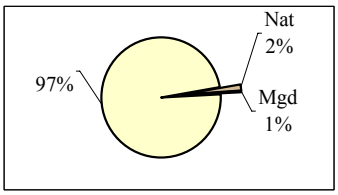
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	2.020E-02
Eqn: 2P	b	2.3138942
	k	N/A
Deciduous	a	9.123E-04
Eqn: 2P+K	b	3.2182084
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	34
Nat. Stand Area (ha):	9,983
Mgd. Stand Area (ha):	3,293

Stratum as a % of the managed landbase:

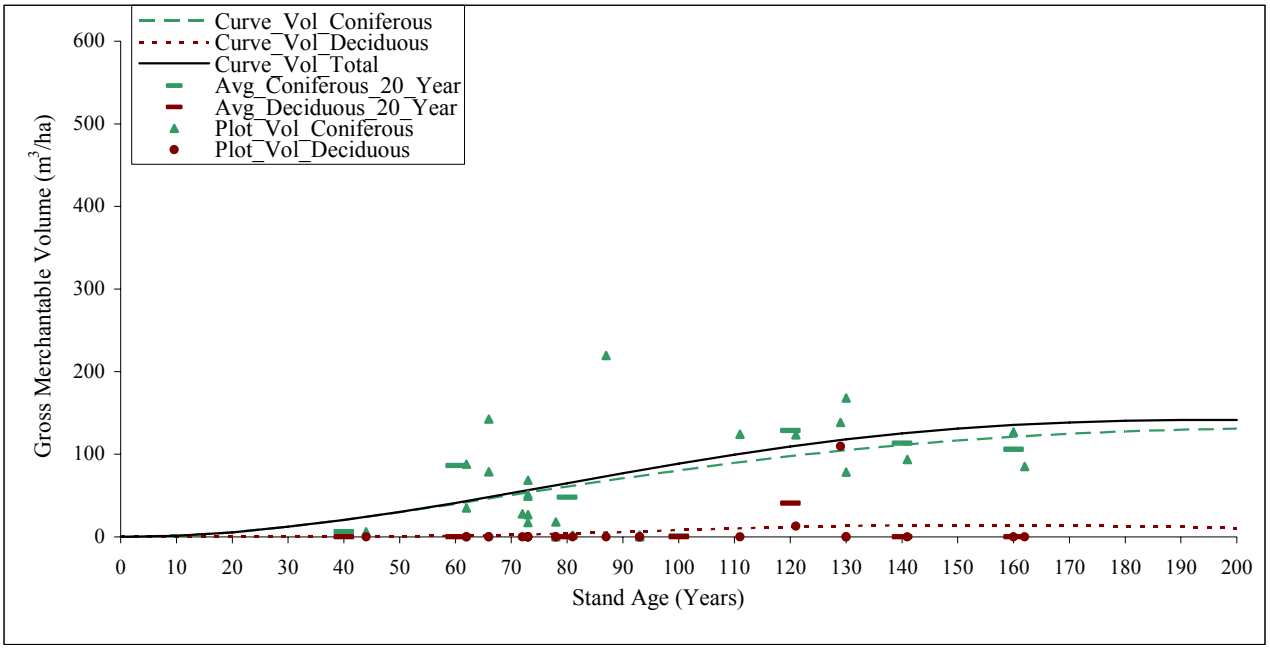


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	3.4	1.1	4.5	0.340	0.108	0.448
20	0	13.8	7.2	21.0	0.691	0.360	1.051
30	0	28.8	19.0	47.9	0.961	0.634	1.596
40	1	45.9	34.4	80.3	1.147	0.861	2.007
50	0	62.8	50.6	113.4	1.256	1.012	2.267
60	3	78.2	65.2	143.4	1.304	1.086	2.390
70	4	91.3	76.7	168.0	1.305	1.095	2.400
80	1	101.6	84.4	186.1	1.271	1.055	2.326
90	5	109.1	88.4	197.5	1.212	0.982	2.194
100	15	113.7	88.9	202.6	1.137	0.889	2.026
110	4	115.9	86.6	202.4	1.053	0.787	1.840
120	1	115.8	82.1	197.8	0.965	0.684	1.649
130	0	113.9	76.1	189.9	0.876	0.585	1.461
140	0	110.4	69.2	179.6	0.789	0.494	1.283
150	0	105.9	61.9	167.8	0.706	0.413	1.118
160	0	100.4	54.6	155.0	0.628	0.341	0.969
170	0	94.4	47.6	142.0	0.555	0.280	0.835
180	0	88.0	41.0	129.0	0.489	0.228	0.717
190	0	81.5	34.9	116.5	0.429	0.184	0.613
200	0	75.0	29.5	104.5	0.375	0.148	0.523

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =25 / E_B9_XX (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

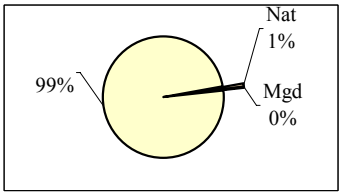
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.020E-02
Eqn: 2P	b	2.1703443
	k	N/A
Deciduous	a	7.163E-13
Eqn: 2P+K	b	7.6101655
	k	20

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	25
Nat. Stand Area (ha):	4,777
Mgd. Stand Area (ha):	2,615

Stratum as a % of the managed landbase:

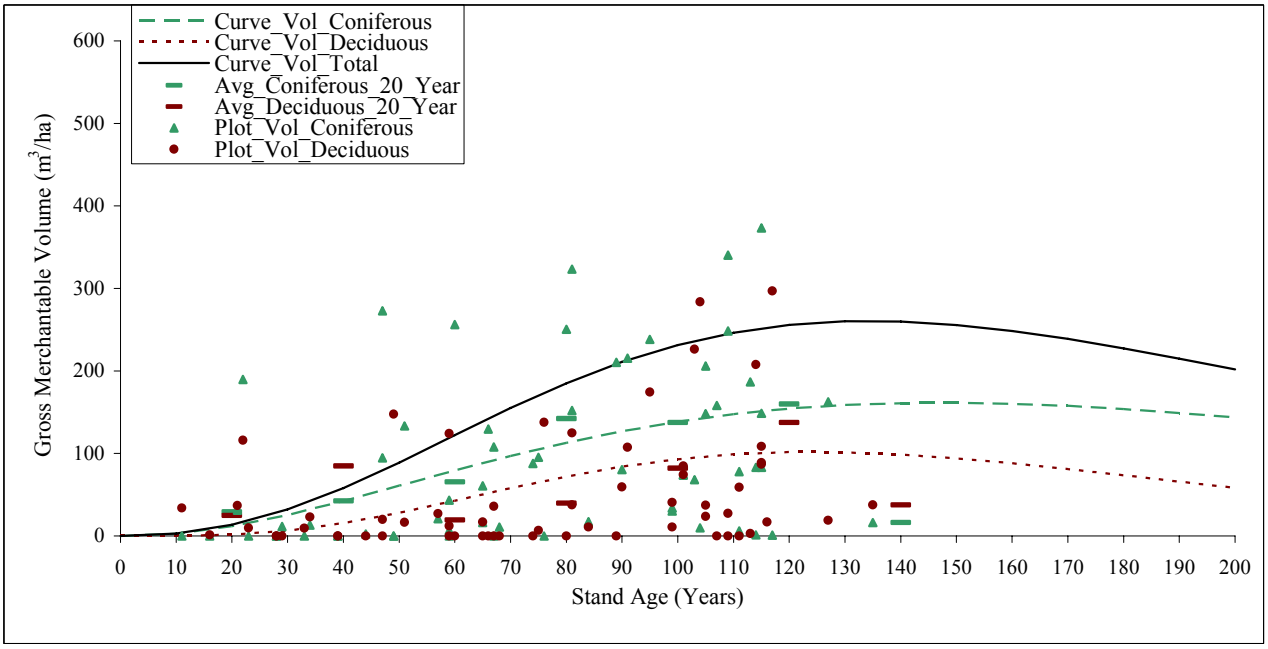


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	0	1.4	0.0	1.4	0.136	0.000	0.136
20	0	5.5	0.0	5.5	0.277	0.000	0.277
30	0	12.1	0.0	12.1	0.402	0.001	0.403
40	1	20.3	0.2	20.5	0.509	0.004	0.512
50	0	29.8	0.5	30.3	0.596	0.010	0.606
60	2	40.0	1.2	41.2	0.667	0.020	0.687
70	8	50.5	2.4	52.8	0.721	0.034	0.755
80	3	60.9	4.0	64.9	0.761	0.050	0.811
90	3	71.0	5.9	76.9	0.789	0.066	0.855
100	0	80.6	8.0	88.6	0.806	0.080	0.886
110	1	89.5	10.0	99.5	0.814	0.091	0.905
120	1	97.6	11.8	109.4	0.814	0.098	0.912
130	3	104.9	13.2	118.1	0.807	0.101	0.908
140	1	111.3	14.0	125.3	0.795	0.100	0.895
150	0	116.7	14.4	131.1	0.778	0.096	0.874
160	2	121.2	14.3	135.5	0.758	0.089	0.847
170	0	124.9	13.7	138.6	0.735	0.081	0.815
180	0	127.7	12.9	140.5	0.709	0.071	0.781
190	0	129.6	11.8	141.4	0.682	0.062	0.744
200	0	130.9	10.6	141.4	0.654	0.053	0.707

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =26 / E_PAS_D (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

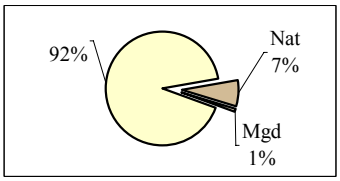
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.568E-02
Eqn: 2P	b	2.3134441
	k	N/A
Deciduous	a	1.391E-05
Eqn: 2P+K	b	4.1366767
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	63
Nat. Stand Area (ha):	22,426
Mgd. Stand Area (ha):	2,660

Stratum as a % of the passive landbase:

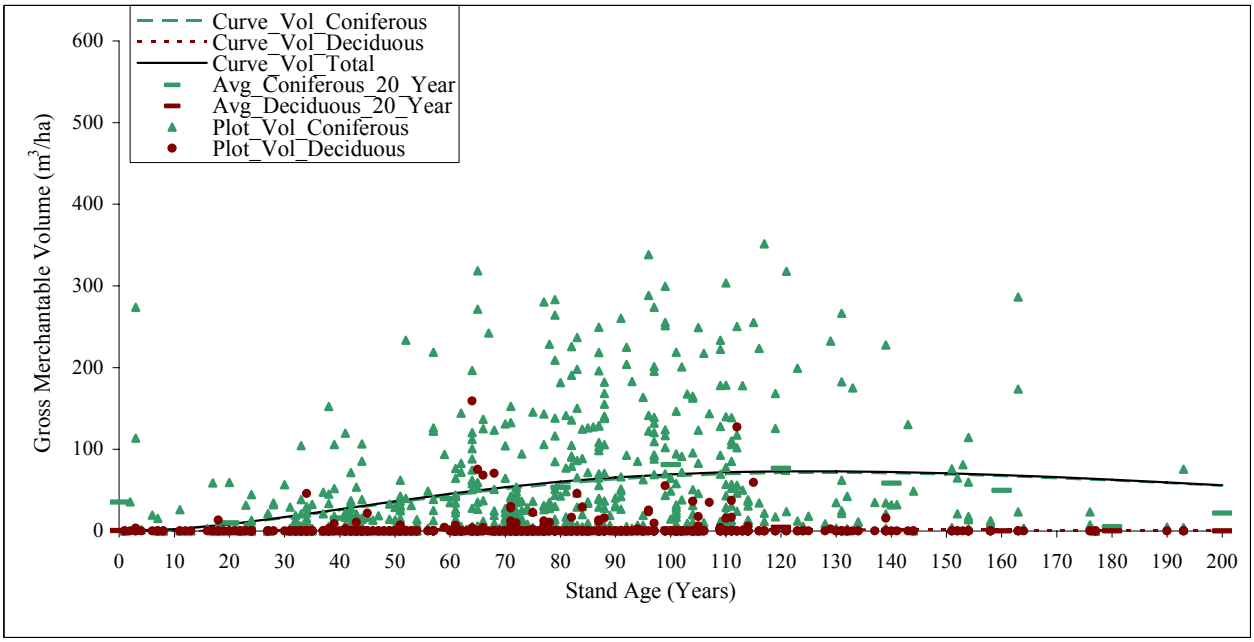


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha) Conifer	Deciduous	Total	Mean Annual Increment (m^3/ha/year)[2] Conifer	Deciduous	Total
0	0	0.0	0.0	0.0	0.000	0.000	0.000
10	1	2.8	0.1	2.9	0.276	0.014	0.290
20	4	11.7	1.7	13.4	0.586	0.086	0.672
30	5	25.6	6.6	32.2	0.853	0.220	1.073
40	3	42.6	15.5	58.1	1.065	0.389	1.453
50	5	61.0	28.0	89.0	1.220	0.561	1.781
60	5	79.5	42.7	122.2	1.325	0.712	2.037
70	7	97.1	57.9	155.0	1.387	0.827	2.214
80	6	113.0	72.1	185.1	1.413	0.901	2.314
90	3	126.9	84.1	211.0	1.410	0.934	2.344
100	7	138.4	93.1	231.6	1.384	0.931	2.316
110	10	147.5	99.0	246.5	1.341	0.900	2.241
120	5	154.2	101.7	255.9	1.285	0.847	2.133
130	1	158.7	101.4	260.1	1.221	0.780	2.001
140	1	161.0	98.8	259.8	1.150	0.705	1.856
150	0	161.5	94.1	255.6	1.077	0.628	1.704
160	0	160.3	88.1	248.4	1.002	0.551	1.552
170	0	157.6	81.1	238.8	0.927	0.477	1.404
180	0	153.8	73.6	227.4	0.855	0.409	1.264
190	0	149.0	66.0	215.0	0.784	0.347	1.132
200	0	143.4	58.4	201.9	0.717	0.292	1.009

1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

STRATUM NUMBER =27 / E_PAS_C (Con-UT3/Dec-UT4)



2-PARAMETER EQUATION (2P): volume = $a(age)^b e^{(-a*age)}$

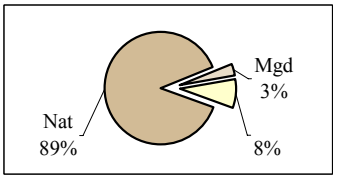
2-PARAMETER EQUATION WITH CONSTANT (2P+k): volume = $a(age)^b e^{(-age/k)}$

Parameter Estimates:		
Coniferous	a	1.691E-02
Eqn: 2P	b	2.1658698
	k	N/A
Deciduous	a	7.107E-05
Eqn: 2P+K	b	2.9940174
	k	30

Utilization Standards:	
Con. Top Diameter (cm):	13.0
Dec. Top Diameter (cm):	10.0
Con. Min. Log Length (m):	3.76
Dec. Min. Log Length (m):	2.56
Stump Diameter (cm):	15.0
Stump Height (cm):	15.0

Stratum Summary:	
Total Number of Plots:	702
Nat. Stand Area (ha):	267,931
Mgd. Stand Area (ha):	10,345

Stratum as a % of the passive landbase:

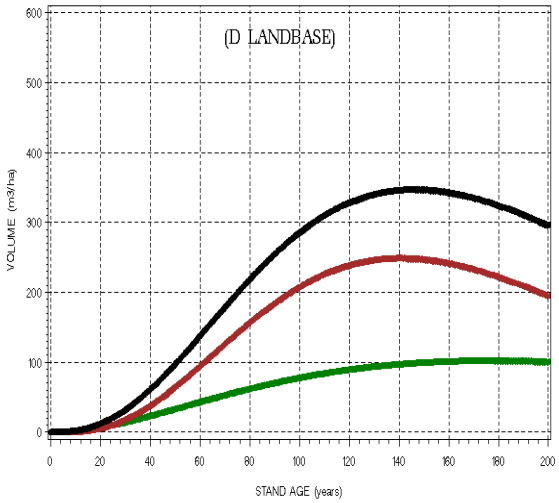


Stand Age	Number of Plots	Predicted Gross Merchantable Volume[1] (m^3/ha)			Mean Annual Increment (m^3/ha/year)[2]		
		Conifer	Deciduous	Total	Conifer	Deciduous	Total
0	7	0.0	0.0	0.0	0.000	0.000	0.000
10	10	2.1	0.1	2.1	0.209	0.005	0.214
20	26	7.9	0.3	8.2	0.396	0.014	0.411
30	50	16.1	0.7	16.8	0.537	0.023	0.560
40	67	25.4	1.2	26.5	0.634	0.029	0.663
50	51	34.7	1.6	36.4	0.695	0.033	0.727
60	56	43.5	2.0	45.6	0.725	0.034	0.759
70	92	51.3	2.3	53.6	0.733	0.033	0.766
80	77	57.9	2.5	60.3	0.723	0.031	0.754
90	67	63.1	2.5	65.6	0.701	0.028	0.729
100	66	66.9	2.5	69.4	0.669	0.025	0.694
110	61	69.5	2.4	71.8	0.631	0.021	0.653
120	15	70.8	2.2	73.0	0.590	0.018	0.608
130	16	71.1	2.0	73.1	0.547	0.015	0.562
140	11	70.5	1.8	72.3	0.504	0.013	0.516
150	12	69.1	1.6	70.7	0.461	0.010	0.471
160	8	67.1	1.4	68.5	0.420	0.009	0.428
170	0	64.6	1.2	65.8	0.380	0.007	0.387
180	6	61.8	1.0	62.8	0.343	0.006	0.349
190	4	58.6	0.8	59.5	0.309	0.004	0.313
200	0	55.3	0.7	56.0	0.277	0.004	0.280

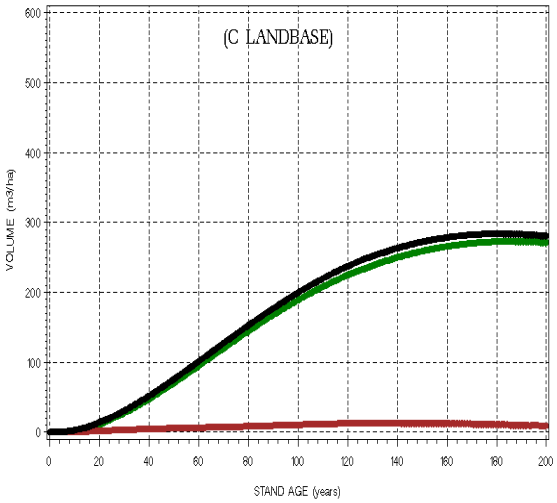
1 Gross volume is calculated at the utilization standards specified on this page with no deductions for cull.

2 Maximum MAI highlighted in light yellow.

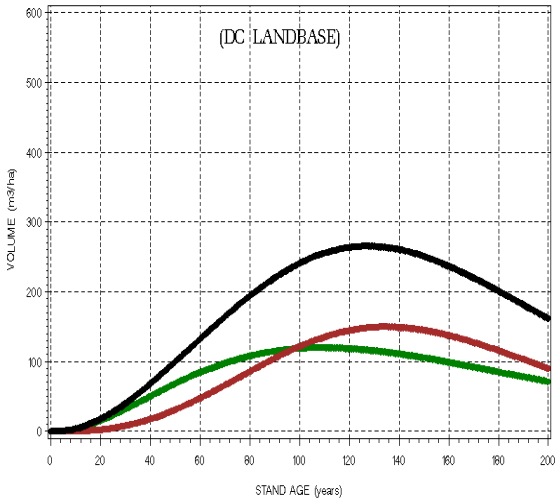
Appendix II Composite Yield Curves



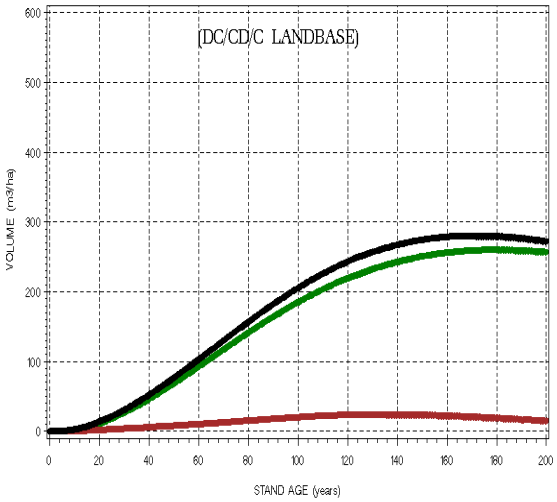
(Green – Softwood, Brown – Hardwood, Black – Total)



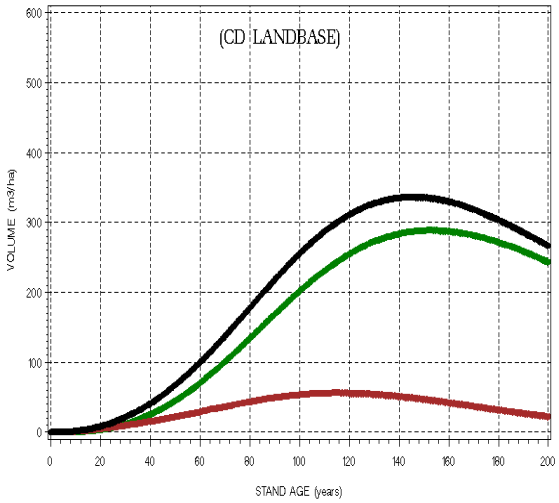
(Green – Softwood, Brown – Hardwood, Black – Total)



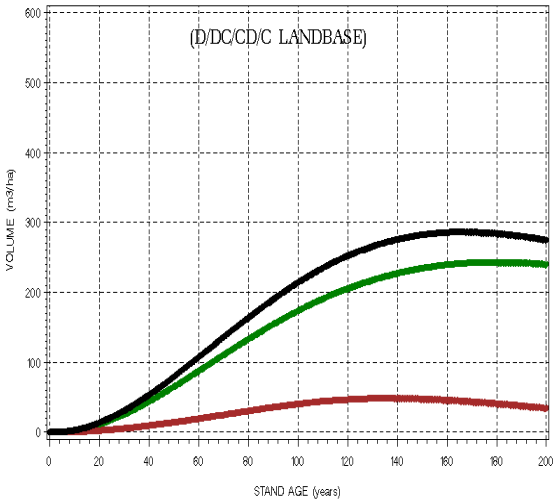
(Green – Softwood, Brown – Hardwood, Black – Total)



(Green – Softwood, Brown – Hardwood, Black – Total)



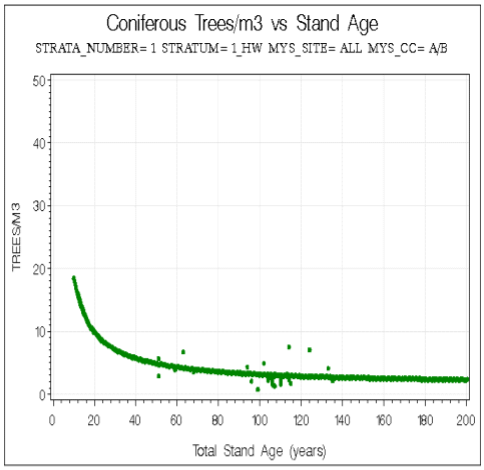
(Green – Softwood, Brown – Hardwood, Black – Total)

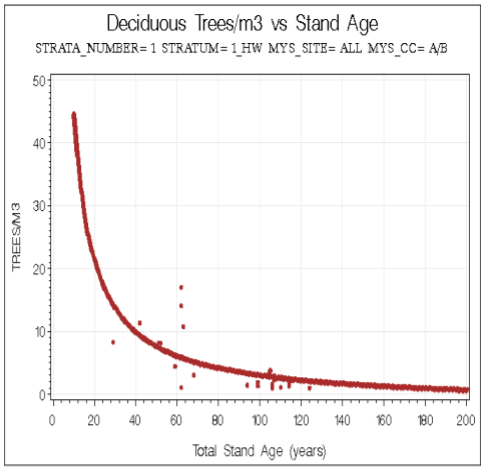


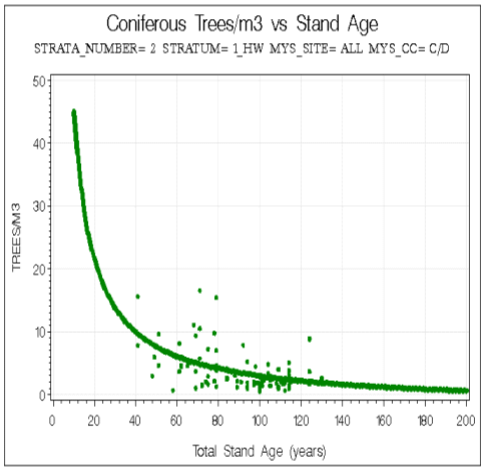
(Green – Softwood, Brown – Hardwood, Black – Total)

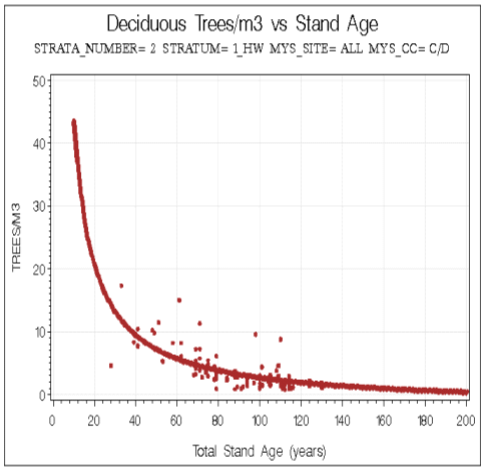
Appendix III Piece Size Curves

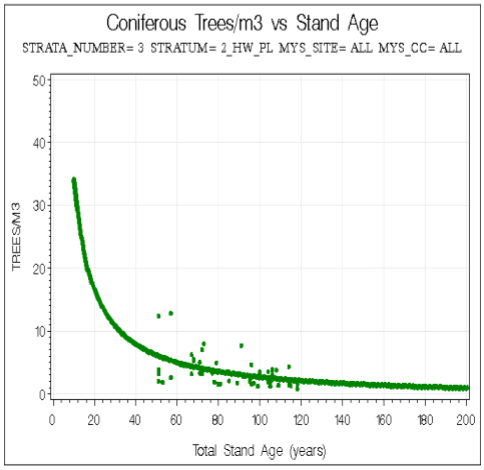
- **Natural Stands Piece Size Curves**

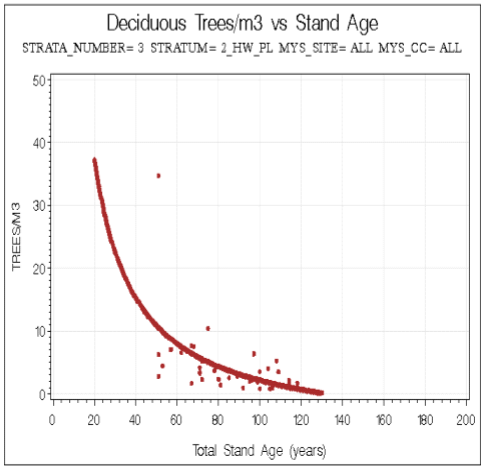

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 1 STRATUM= 1_HW MYS_SITE= ALL MYS_CC= A/B
TREES/M3
Total Stand Age (years)

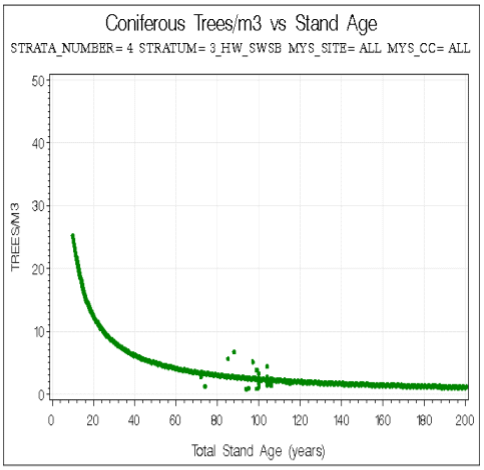

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 1 STRATUM= 1_HW MYS_SITE= ALL MYS_CC= A/B
TREES/M3
Total Stand Age (years)

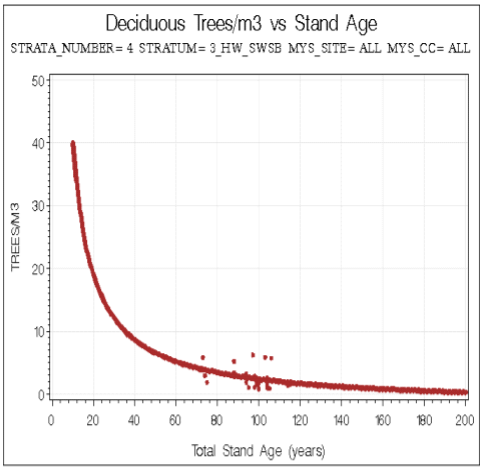

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 2 STRATUM= 1_HW MYS_SITE= ALL MYS_CC= C/D
TREES/M3
Total Stand Age (years)

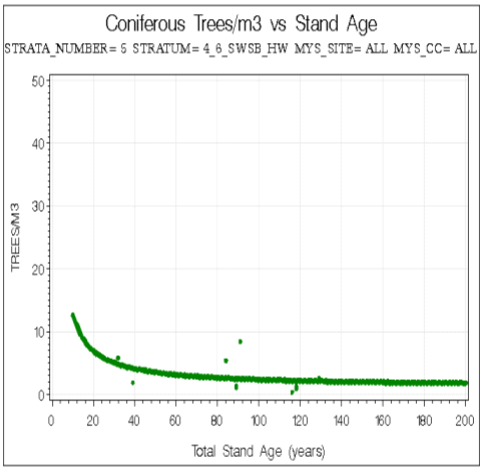

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 2 STRATUM= 1_HW MYS_SITE= ALL MYS_CC= C/D
TREES/M3
Total Stand Age (years)

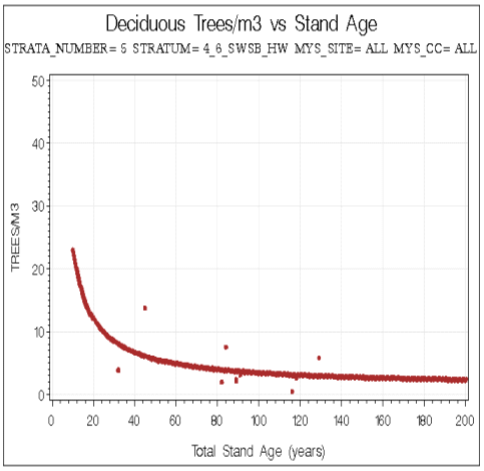

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 3 STRATUM= 2_HW_PL MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

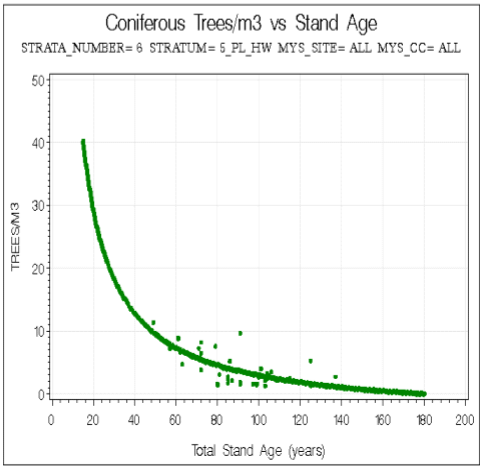

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 3 STRATUM= 2_HW_PL MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

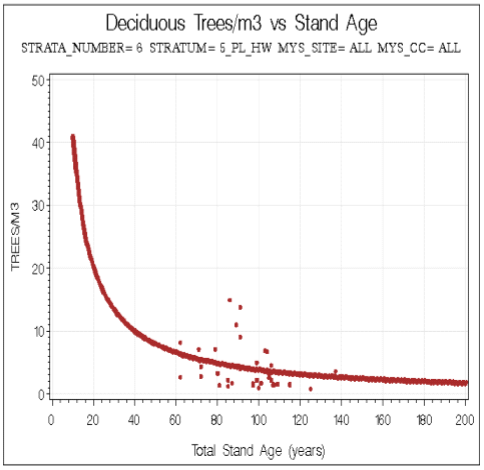

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 4 STRATUM= 3_HW_SWSB MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

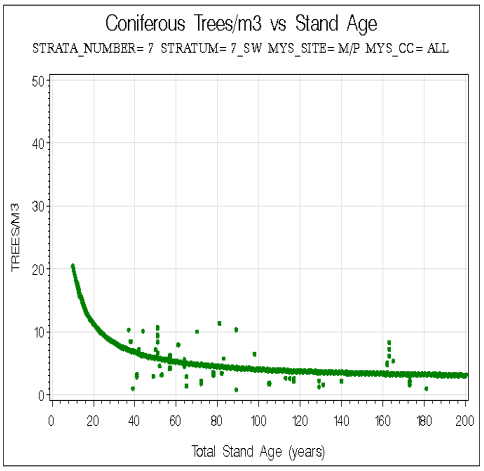

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 4 STRATUM= 3_HW_SWSB MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

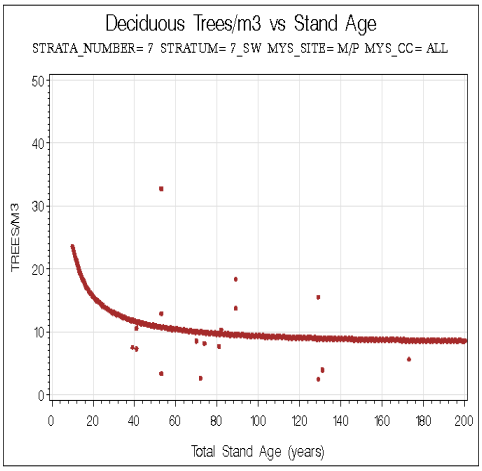

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 5 STRATUM= 4_6_SWSB_HW MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

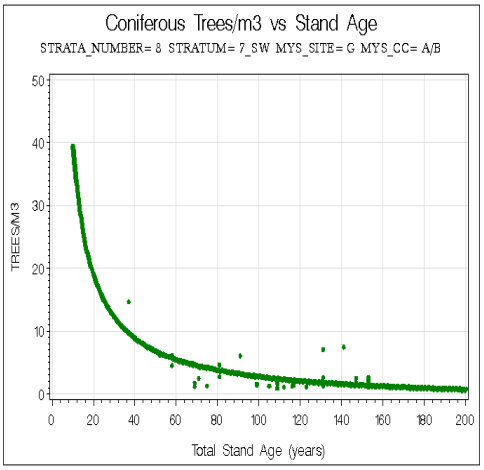

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 5 STRATUM= 4_6_SWSB_HW MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

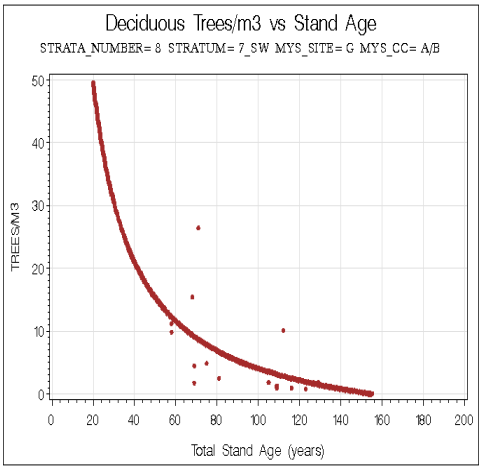

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 6 STRATUM= 5_PL_HW MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

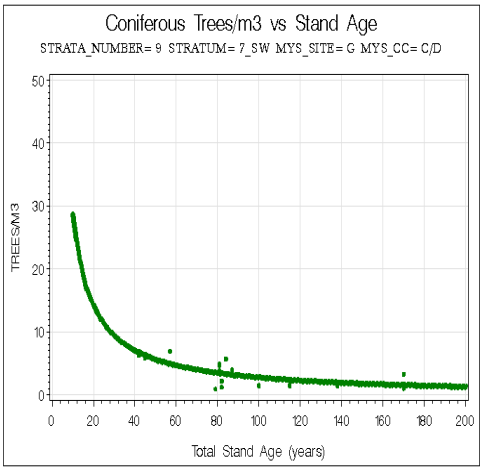

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 6 STRATUM= 5_PL_HW MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

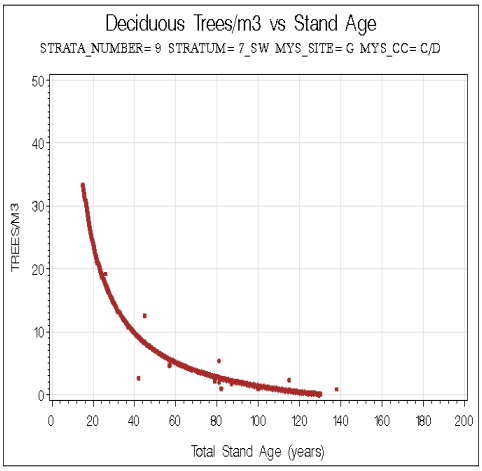

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 7 STRATUM= 7_SW MYS_SITE= M/P MYS_CC= ALL
TREES/M3
Total Stand Age (years)

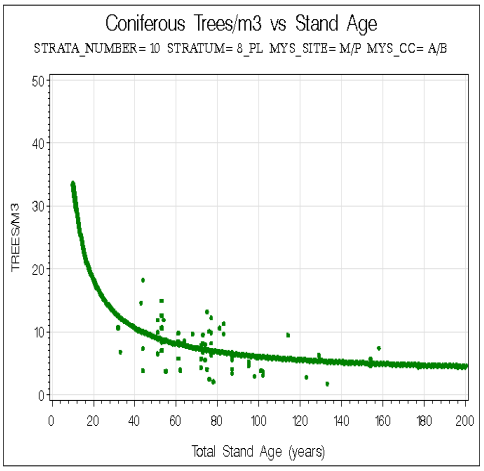

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 7 STRATUM= 7_SW MYS_SITE= M/P MYS_CC= ALL
TREES/M3
Total Stand Age (years)

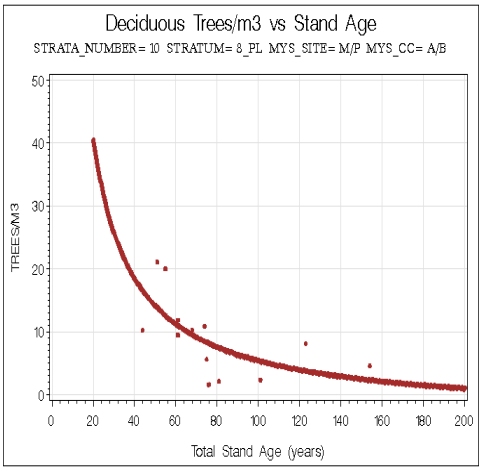

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 8 STRATUM= 7_SW MYS_SITE= G MYS_CC= A/B
TREES/M3
Total Stand Age (years)

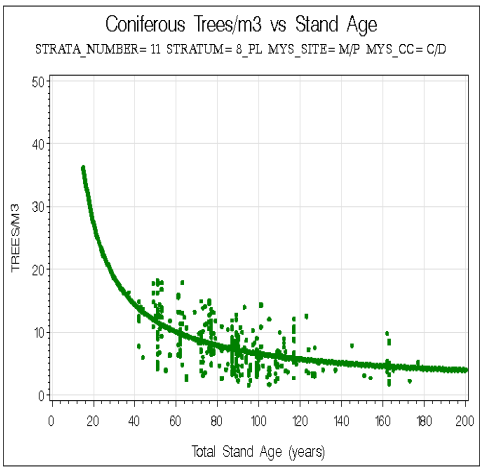

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 8 STRATUM= 7_SW MYS_SITE= G MYS_CC= A/B
TREES/M3
Total Stand Age (years)

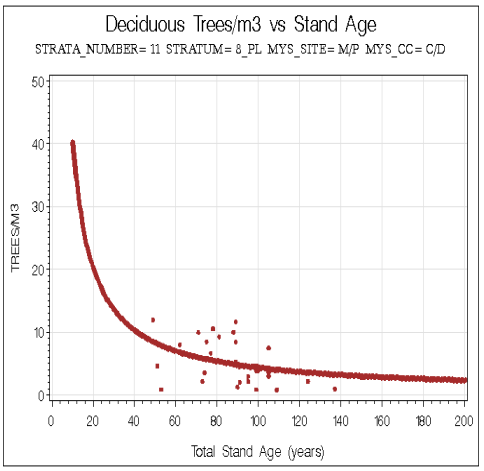

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 9 STRATUM= 7_SW MYS_SITE= G MYS_CC= C/D
TREES/M3
Total Stand Age (years)

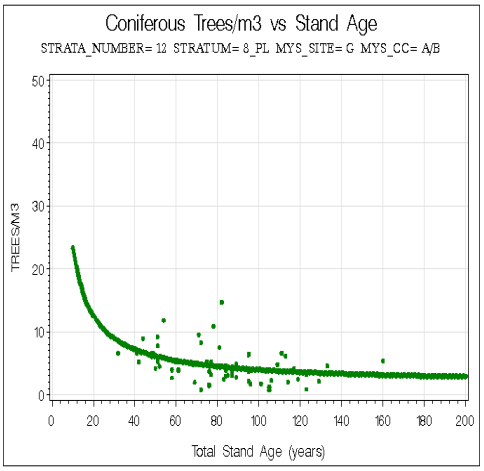

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 9 STRATUM= 7_SW MYS_SITE= G MYS_CC= C/D
TREES/M3
Total Stand Age (years)

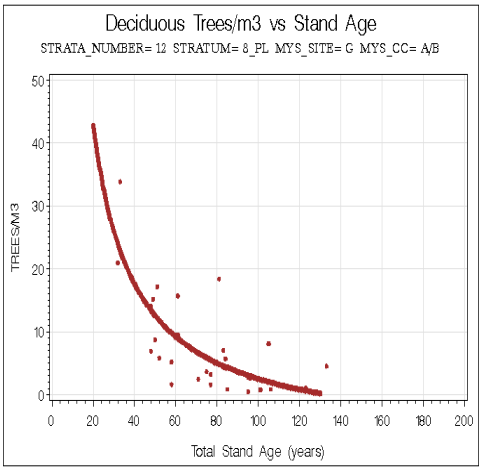

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 10 STRATUM= 8_PL MYS_SITE= M/P MYS_CC= A/B
TREES/M3
Total Stand Age (years)

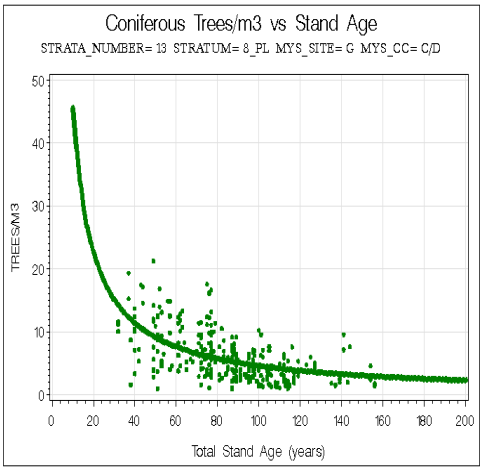

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 10 STRATUM= 8_PL MYS_SITE= M/P MYS_CC= A/B
TREES/M3
Total Stand Age (years)

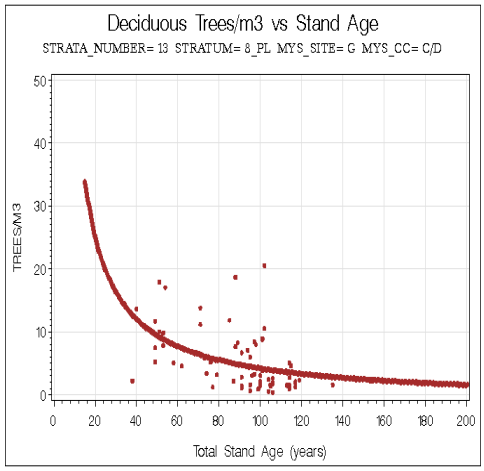

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 11 STRATUM= 8_PL MYS_SITE= M/P MYS_CC= C/D
TREES/M3
Total Stand Age (years)

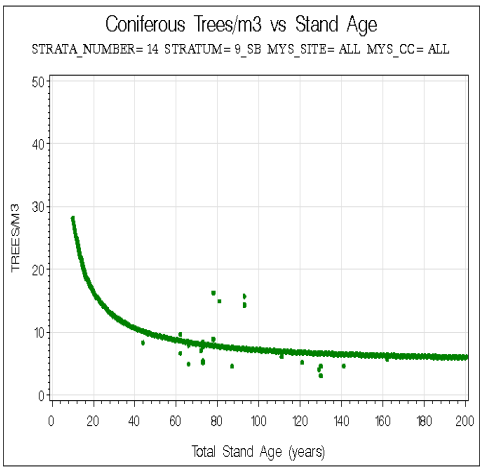

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 11 STRATUM= 8_PL MYS_SITE= M/P MYS_CC= C/D
TREES/M3
Total Stand Age (years)

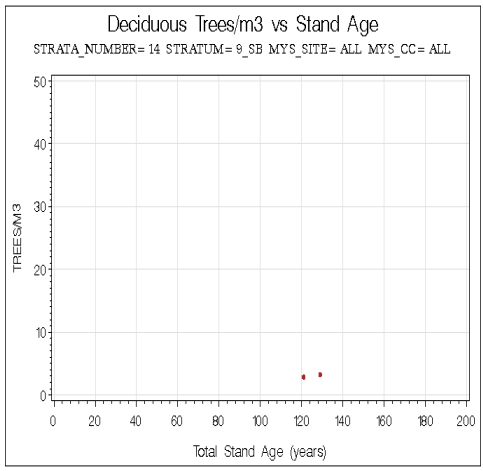

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 12 STRATUM= 8_PL MYS_SITE= G MYS_CC= A/B
TREES/M3
Total Stand Age (years)

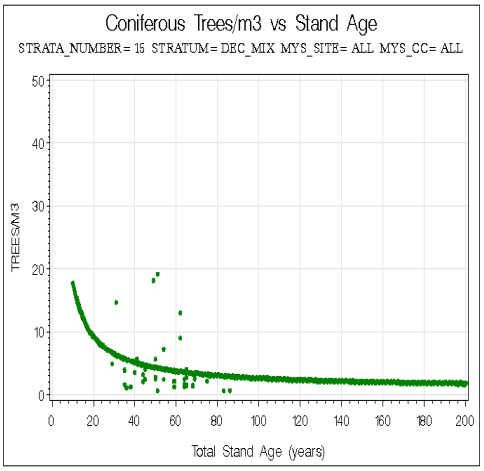

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 12 STRATUM= 8_PL MYS_SITE= G MYS_CC= A/B
TREES/M3
Total Stand Age (years)

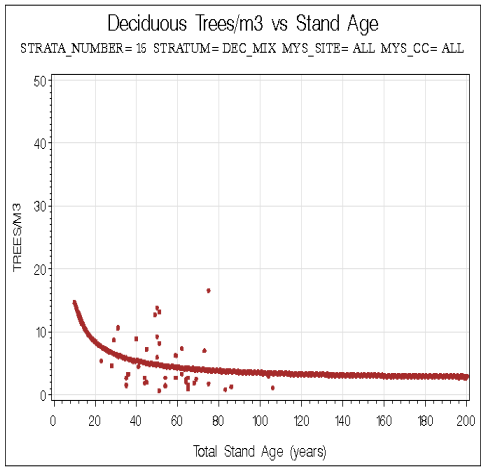

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 13 STRATUM= 8_PL MYS_SITE= G MYS_CC= C/D
TREES/M3
Total Stand Age (years)

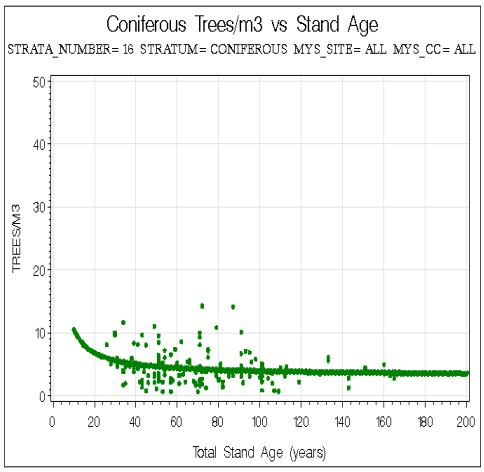

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 13 STRATUM= 8_PL MYS_SITE= G MYS_CC= C/D
TREES/M3
Total Stand Age (years)

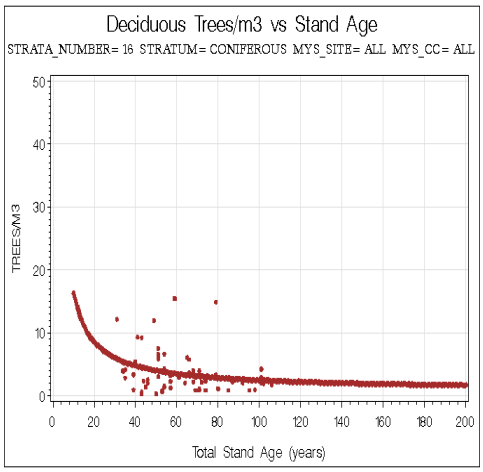

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 14 STRATUM= 9_SB MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

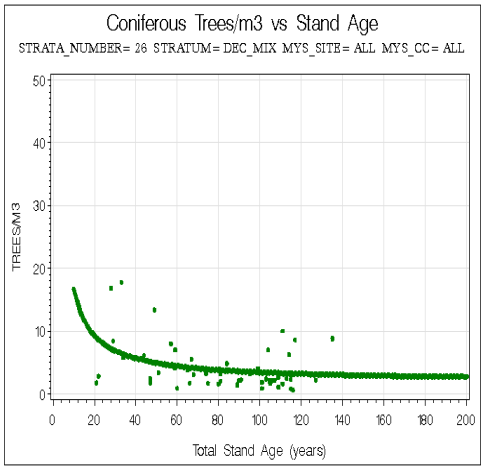

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 14 STRATUM= 9_SB MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

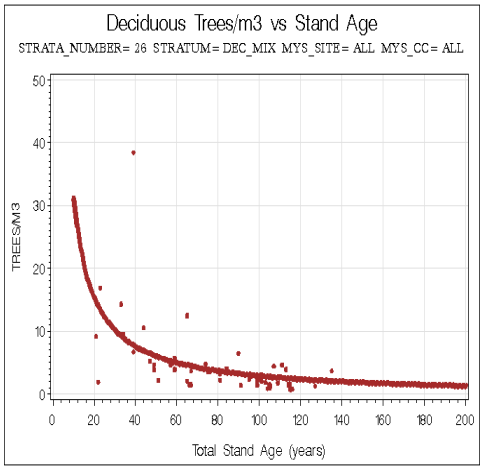

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 15 STRATUM= DEC_MIX MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

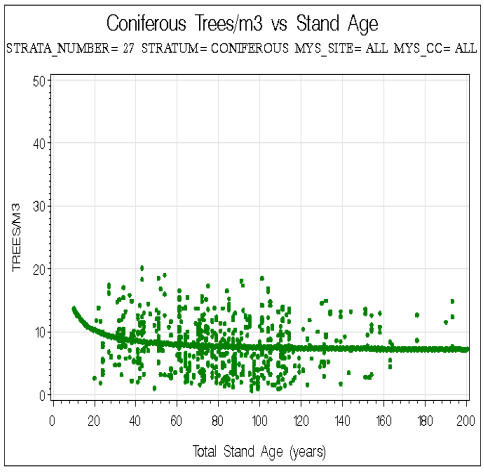

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 15 STRATUM= DEC_MIX MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

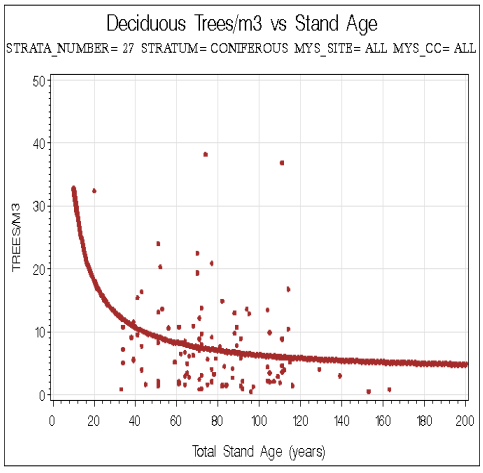

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 16 STRATUM= CONIFEROUS MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)


Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 16 STRATUM= CONIFEROUS MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

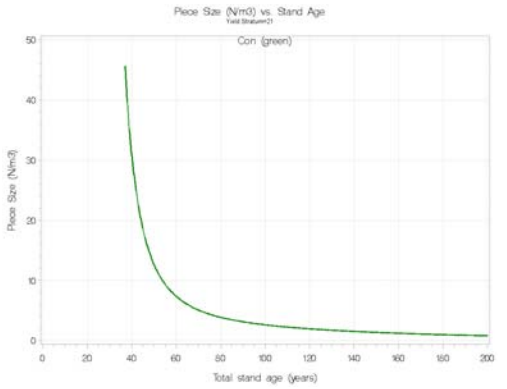

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 26 STRATUM= DEC_MIX MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

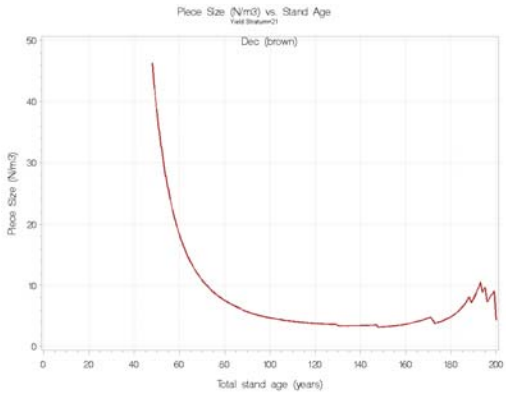

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 26 STRATUM= DEC_MIX MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

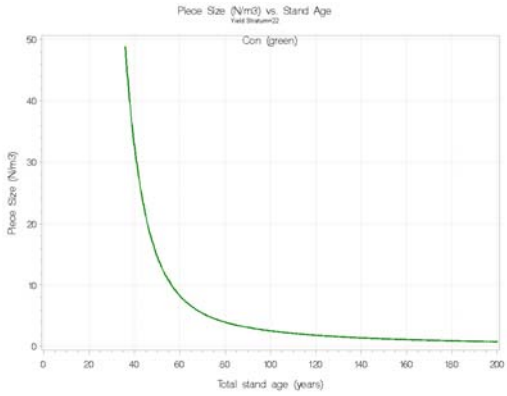

Coniferous Trees/m3 vs Stand Age
STRATA_NUMBER= 27 STRATUM= CONIFEROUS MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

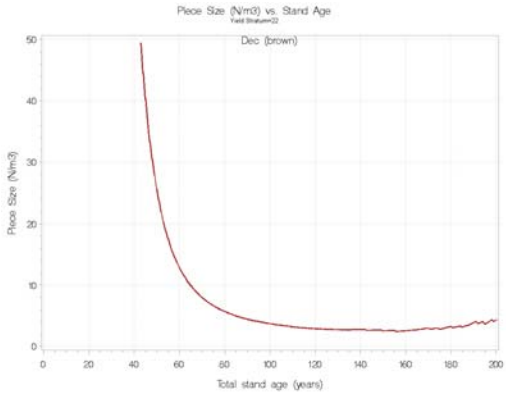

Deciduous Trees/m3 vs Stand Age
STRATA_NUMBER= 27 STRATUM= CONIFEROUS MYS_SITE= ALL MYS_CC= ALL
TREES/M3
Total Stand Age (years)

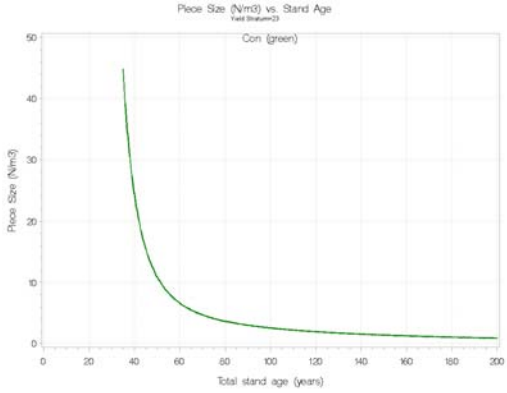
- **Managed Stands Piece Size Curves**

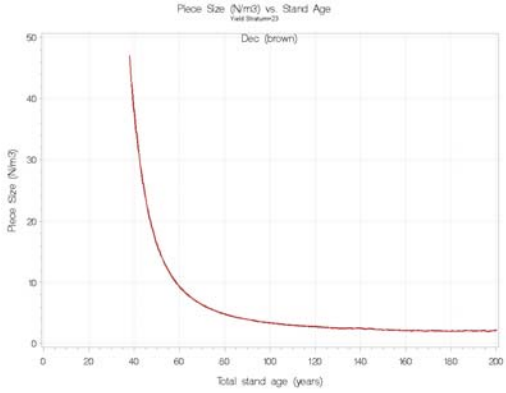

Piece Size (N/m3) vs. Stand Age
Yield Stratum=21
Con (green)
Piece Size (N/m3)
Total stand age (years)

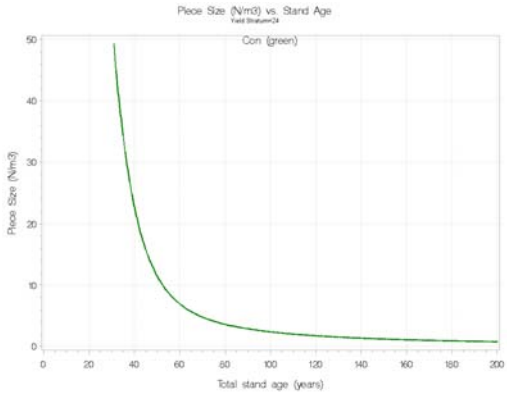

Piece Size (N/m3) vs. Stand Age
Yield Stratum=21
Dec (brown)
Piece Size (N/m3)
Total stand age (years)

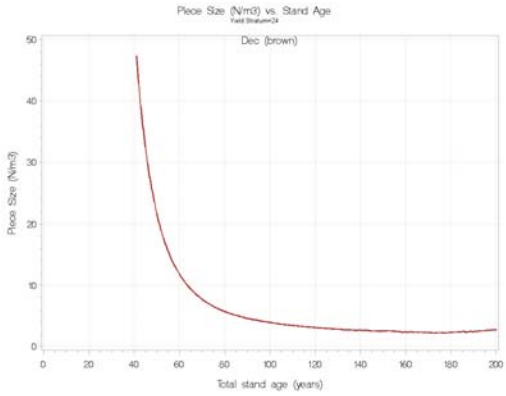

Piece Size (N/m3) vs. Stand Age
Yield Stratum=22
Con (green)
Piece Size (N/m3)
Total stand age (years)


Piece Size (N/m3) vs. Stand Age
Yield Stratum=22
Dec (brown)
Piece Size (N/m3)
Total stand age (years)


Piece Size (N/m3) vs. Stand Age
Yield Stratum=23
Con (green)
Piece Size (N/m3)
Total stand age (years)


Piece Size (N/m3) vs. Stand Age
Yield Stratum=23
Dec (brown)
Piece Size (N/m3)
Total stand age (years)


Piece Size (N/m3) vs. Stand Age
Yield Stratum=24
Con (green)
Piece Size (N/m3)
Total stand age (years)


Piece Size (N/m3) vs. Stand Age
Yield Stratum=24
Dec (brown)
Piece Size (N/m3)
Total stand age (years)

The Forestry Corp. Project Number: P616
For additional information, please contact:
The Forestry Corp.
Suite 101, 11710 Kingsway Avenue
Edmonton, AB
T5G 0X5
(780) 452-5878
www.forcorp.com

\\Silver\clients\WF_GROUP\Projects\P616\3_Analyses\HWP_GYPSY_YC\ARS_GYPSY_YC\Submission_20100218\Submission_HWP_YC_20100218\Documents\HWP_YC_Document_ver2_20100423.doc