Free Growing – Now What?
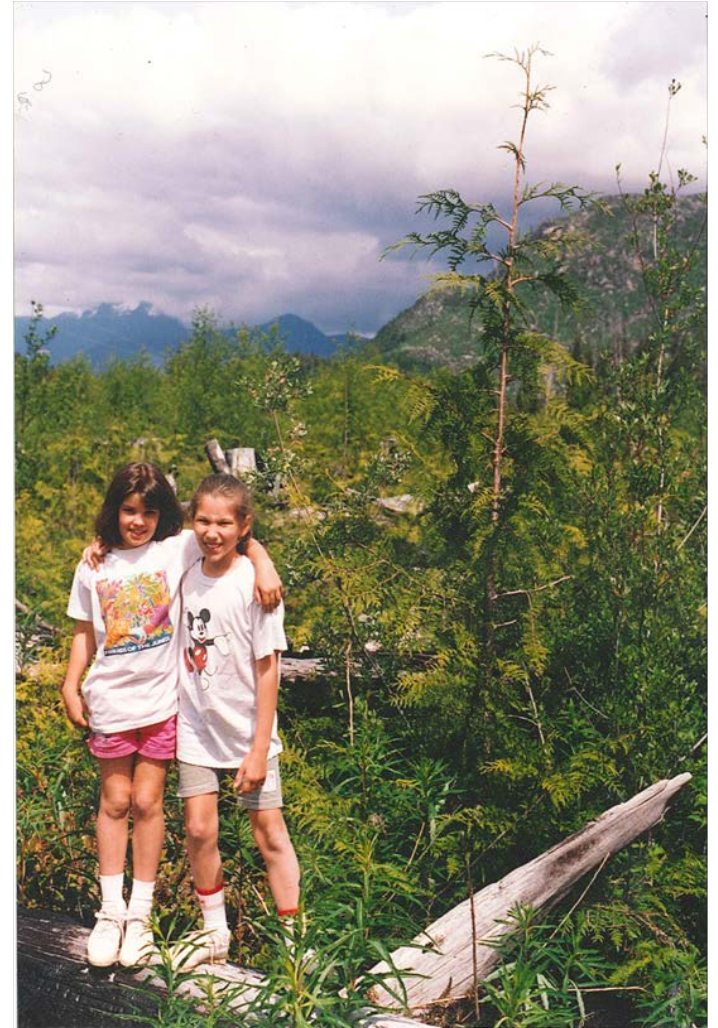
CSC   February 2013

Free Growing – Now What?

▸ What is Free Growing?

▸ Legal Obligation
▸ Milestone
▸ Performance Measure
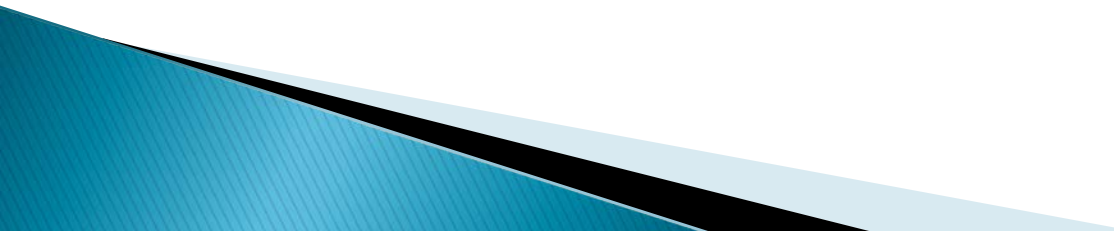▸ Opportunity to learn
▸ Driver of TSR

Free Growing – Now What?
Scenario #1

▸ Hey boss, just got back from camp

▸ How did the FG surveys go?

▸ Great, no problems, above minimums everywhere

▸ Excellent work, glad those are out of the way, now we can get those declarations done and relax until next year

Free Growing – Now What?
Scenario #2

- Hey boss, just got back from camp

- How did the FG surveys go?

- Great, we seem to be increasing the proportion of Fd in the silviculture layer, the Pw on the zonal sites in the xm are amazing, the aerial spray from 2008 kicked butt, the losses for NP and voids are well below 2% and .....

- Good work, let's work up the summaries, compare with our projections and performance measures and see how we are trending, and, oh ya, let's do the declarations

Free Growing – Now What?

- Information is not knowledge

- A free growing survey is often heavy on information and light on knowledge

Stocking Status:	**SR**		STRATEGIC		**S.U.: 1**

Project: , () Block 05 MCLD FG Q3 (2011, Silv)	**Examiners:** SM. MLB, NR	**Lat:** 50.03
Licensee: TimberWest	**Field Start:** 07-Nov-11	**Long:** 125.52
Block: 5-8B	**Field Finish:** 07-Nov-11	**Person Days:** N/A

Standards:			Block Information:		Results:	
Acc species:	Pw,Ss	Gross area:	0.0	# of plots:	15
Pref species:	Cw,Fdc,Hw	Survey area:	32.4	Plot multiplier:	200
Target (TSS):	800	BioGeo Label:	CWH	Green-up SPH:	1,080
Min (MSSpa):	500	Soil texture:		Green-up ht (cm):	557
Min (MSSp):	400	Soil CFC:		Plantable (SPH):	-
Max Density:	10,000	Low Elevation (m):	170	Preparable (SPH):	-
Regen Delay:	10-Jan-04	High Elevation (m):	290	Total Conifers (SPH):	2,880
Early FG Date:		Slope (%):	-	Count Conifers (SPH):	67
Late FG Date:	10-Jan-12	Aspect:		Site Index Source:	E
MITD (m):	2	History:	L01, P02	Crown Closure (%):	30

Stocking (SPH)

WS	WS (P)	WS (M+)	WS (LCL)	FG	FG (P)	FG (M+)	FG (LCL)
773	773	907	741	760	760	827	722

Silviculture Information

Labels:	WS:	Fdc53 Hw29 Cw18- 10 - 4.9 - 29/E - 773 (11)						
	FG:	Fdc55 Hw27 Cw18- 10 - 4.9 - 29/E - 760 (11)						
Species	WS SPH	WS %	FTG SPH	FTG %	Ldr Ht (cm)	Silv Ht (cm)	Silv Age
Fdc (p)	480	53	453	55	82	562	9
Hw (p)	267	29	227	27	52	440	10
Cw (p)	160	18	147	18	45	410	10
Silviculture Sum:	907	100	827	100	60	470	10

Inventory Information

Inventory Label:	Hw70 Fdc20 Cw10- 9/10 - 4.9/5.6 - 26/E - 16 - 2880 (11)			
Tree Species	TS SPH	TS %	Inv Ht (cm)	Inv Age
Hw (p)	1,898	66	487	9
Fdc (p)	664	23	560	10
Cw (p)	305	11	279	9
Dr	13	0	-	-
Inventory Summary:	2,880	100	331	7

Veg / Brush	Description	% cover	Avg Ht. (m)
PTE AQU	Scattered	17	1.22
RUB SPE	Scattered	13	1.76
RUB PAR	Scattered	2	1.70
SAM RAC	Patchy	-	3.00
EPI ANG	Scattered	2	1.10

Pest / Disease	Description	Dead trees	Live trees	% total trees	% conifers	% live trees	% host trees
None observed.							

Comments

STOCK: Green up has been achieved. Solidly FG in planted Fd . and natural Hw. BRUSH: Brush levels are moderate with Salmonberry, elderberry and thimbleberry all close to 170cm. Herbacious layer is not an issue as conifers are well above heights. Alder kill was 90% successful with less than 50sph left scattered throughout the block. Alder levels are not preventing free growing. HEALTH: No pests or disease were observed during survey. SITE: Block is mainly 01/05 with patches of 03.

Recommendations

Declare Free Growing.

FG – opportunity to learn

- Best chance to evaluate your entire program
  - Site plans
  - Planting prescriptions
    - Density
    - Species composition
    - Performance
 - Brushing prescriptions
  - Survey strategies

FG – opportunity to learn

- Need to relate the plantation at FG to the goals at post harvest
- To do this properly, need to
  - toss out the inventory layer and focus on the silviculture layer
  - relate results back to site series
    - Designing of standards units takes on an added dimension
  - understand the importance of the M value

FG – opportunity to learn

TFL 47 CWHxm 01   at FG T/Ha   10 year history
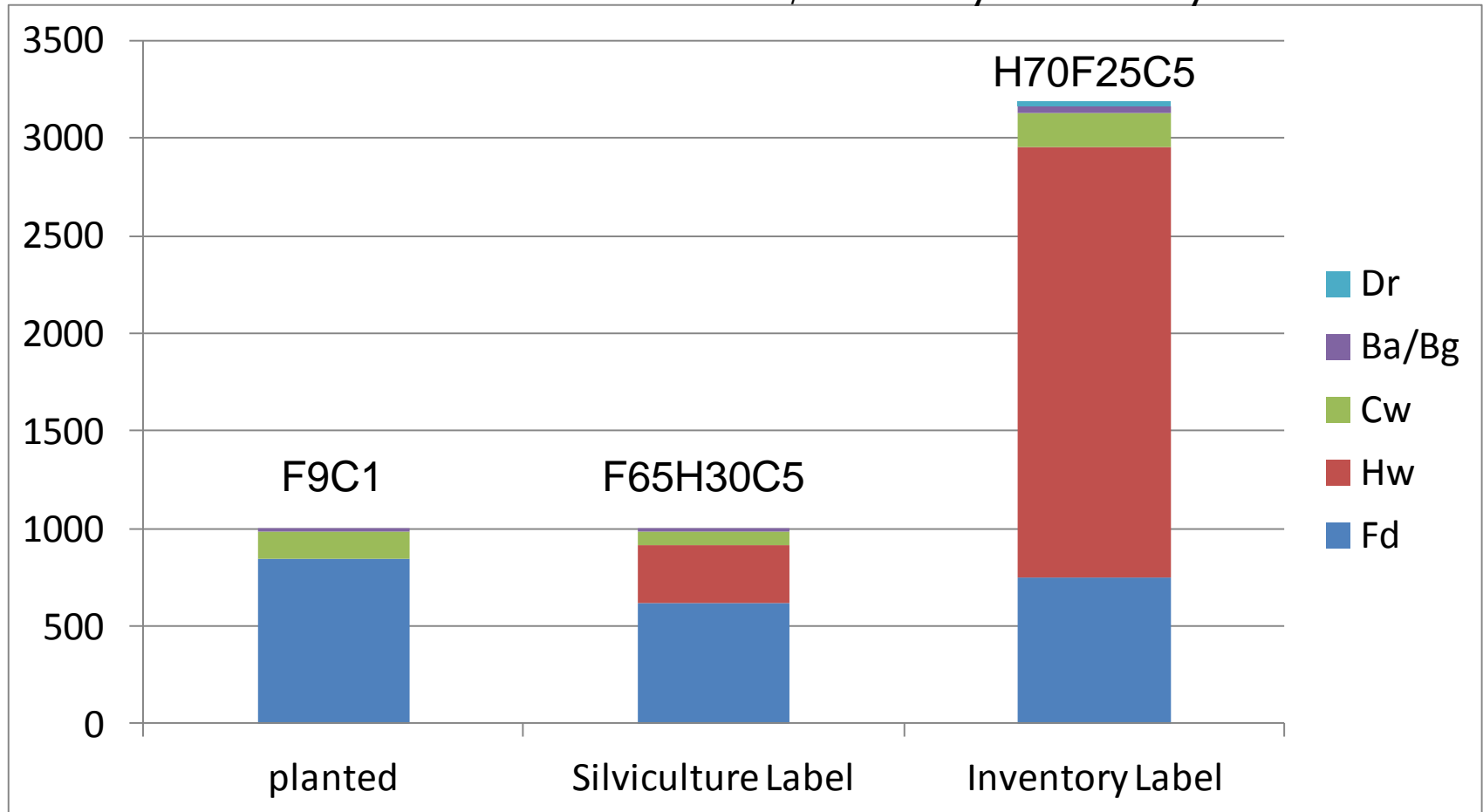
FG – opportunity to learn

TFL 47, CWHxm 01

- 72% (650/ha) of planted Fd and 50% (50/ha) of planted Cw are making it into the silviculture layer

- Gotta ask the question – is this what you want?
  ◦ If you're overachieving, lower the planting density
  ◦ If you're underachieving, do you increase the planting density, switch species or …………..

- 2,000+/ha Hw naturally regenerating – do you need to plant?

- Is there a climate change concern?

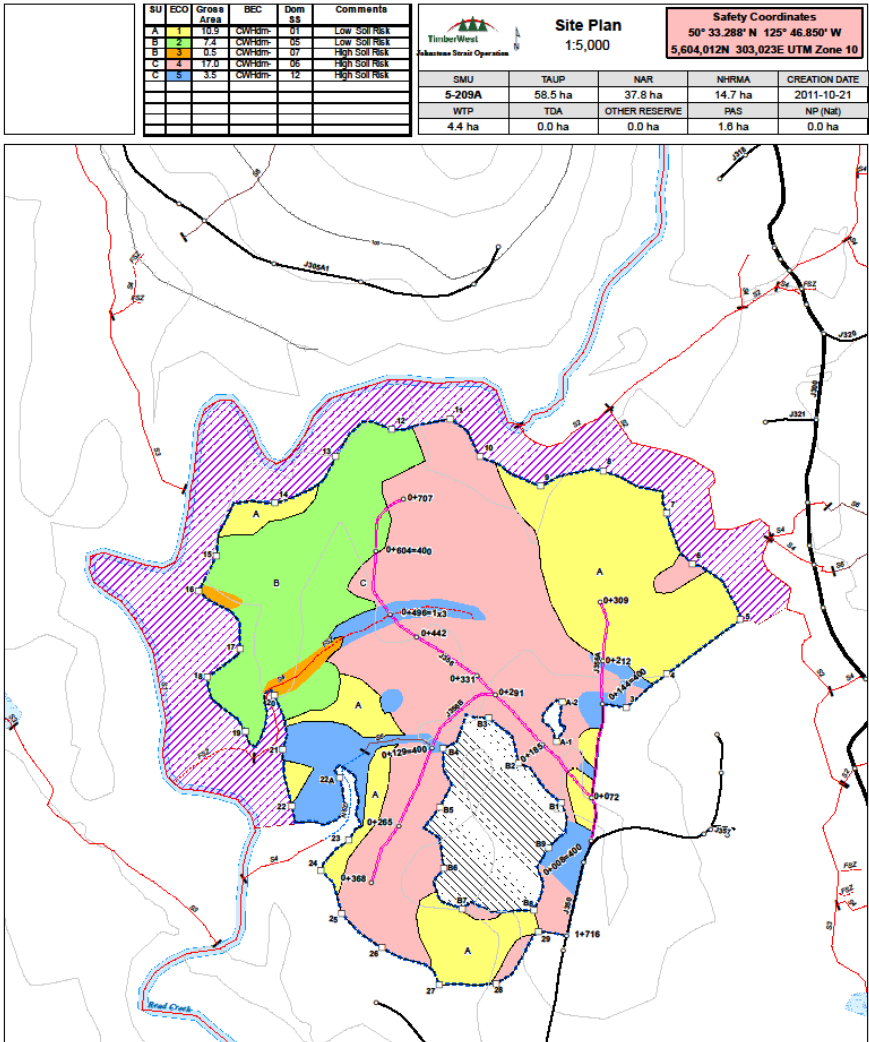# TFL 47 CWHxm 01 T/Ha – next 5 years
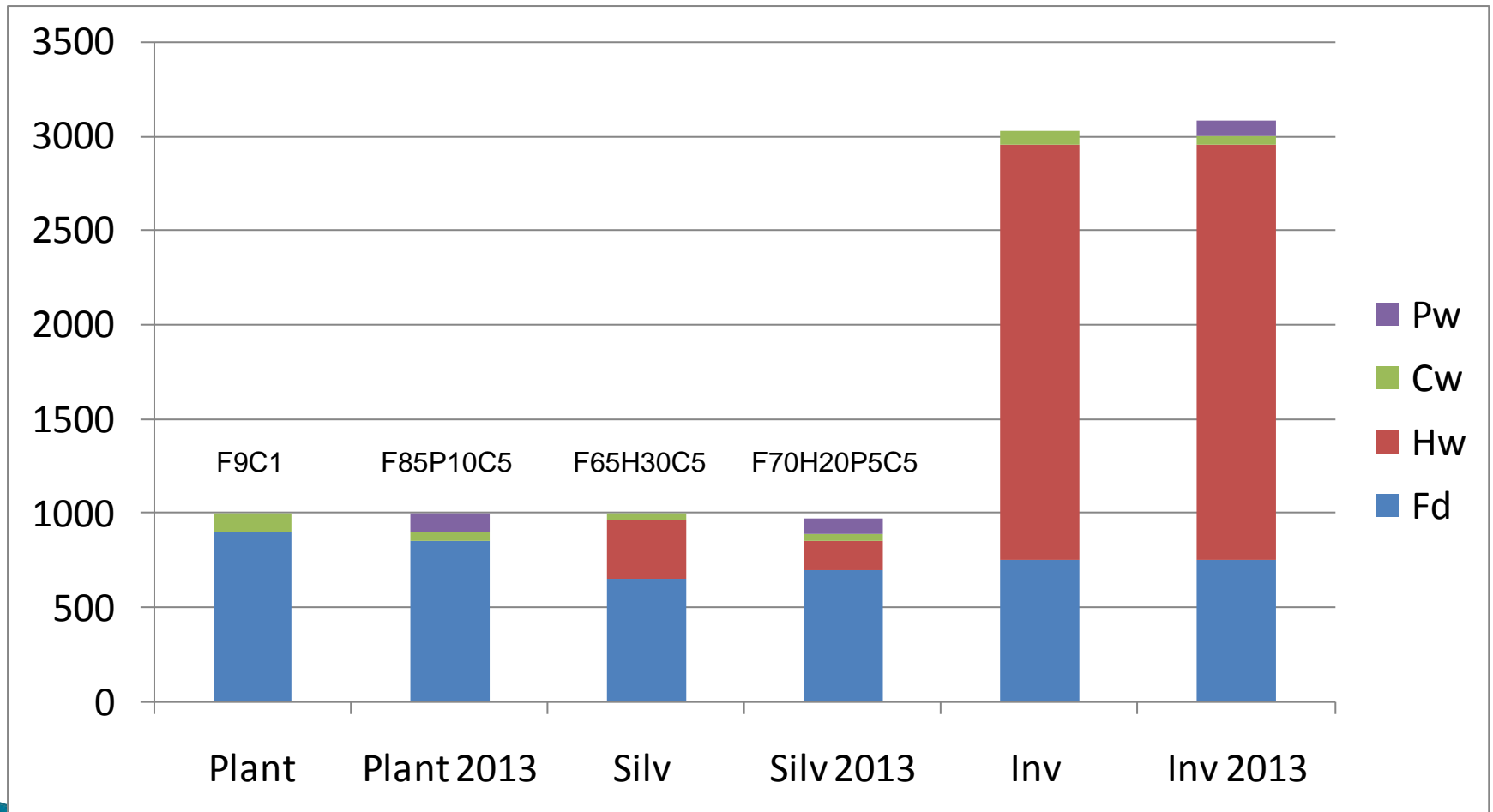
FG – opportunity to learn

- Standards units are the building blocks
- Need to design SUs to facilitate learning
  - Lumpers vs splitters
- More SUs = higher survey costs but surveys are cheap and the ~~information~~ knowledge is worth it
- Opportunity to roll up to the landscape; apples to apples

A	1	01
B	2	05
B	3	07
C	4	06
C	5	12

SU	ECO	Gross Area	BEC	Dom SS	Comments
A	1	10.9	CWHdm-	01	Low Soil Risk
B	2	7.4	CWHdm-	05	Low Soil Risk
B	3	0.5	CWHdm-	07	High Soil Risk
C	4	17.0	CWHdm-	06	High Soil Risk
C	5	3.5	CWHdm-	12	High Soil Risk

Site Plan
1:5,000

Safety Coordinates
50° 33.288' N 125° 46.850' W
5,604,012N 303,023E UTM Zone 10

| SMU	TAUP	NAR	NHRMA	CREATION DATE
5-209A	58.5 ha	37.8 ha	14.7 ha	2011-10-21
WTP	TDA	OTHER RESERVE	PAS	NP (Nat)
4.4 ha	0.0 ha	0.0 ha	1.6 ha	0.0 ha

TimberWest
Johnstone Strait Operation

FG – opportunity to learn

- M value
  - If your objective is strictly compliance, ok to survey to M+
  - If your objective is learning and compliance, consider surveying only to the M value
  - Padding the numbers in the silviculture layer can have a down side
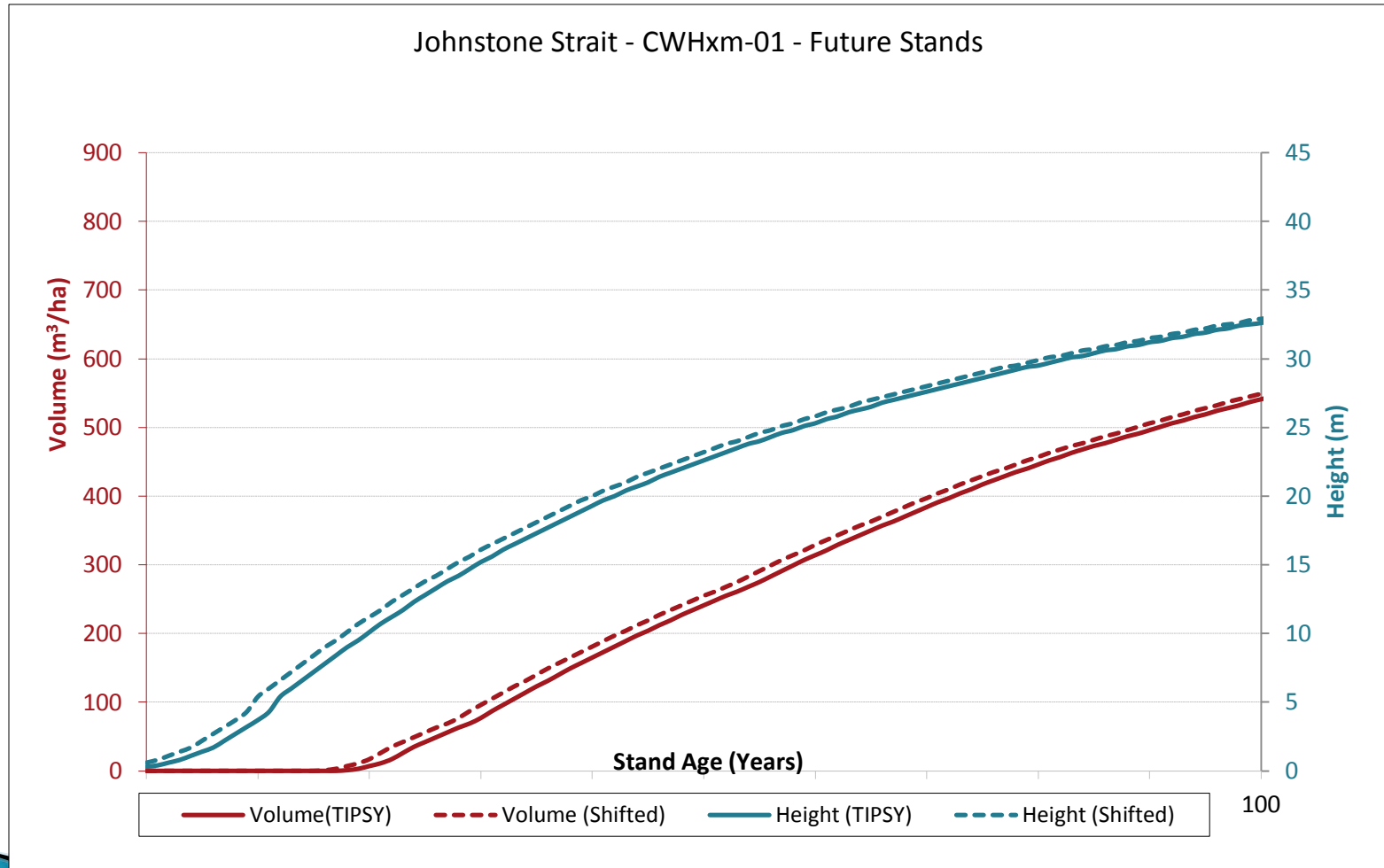
M+ exaggerates the % of Hw
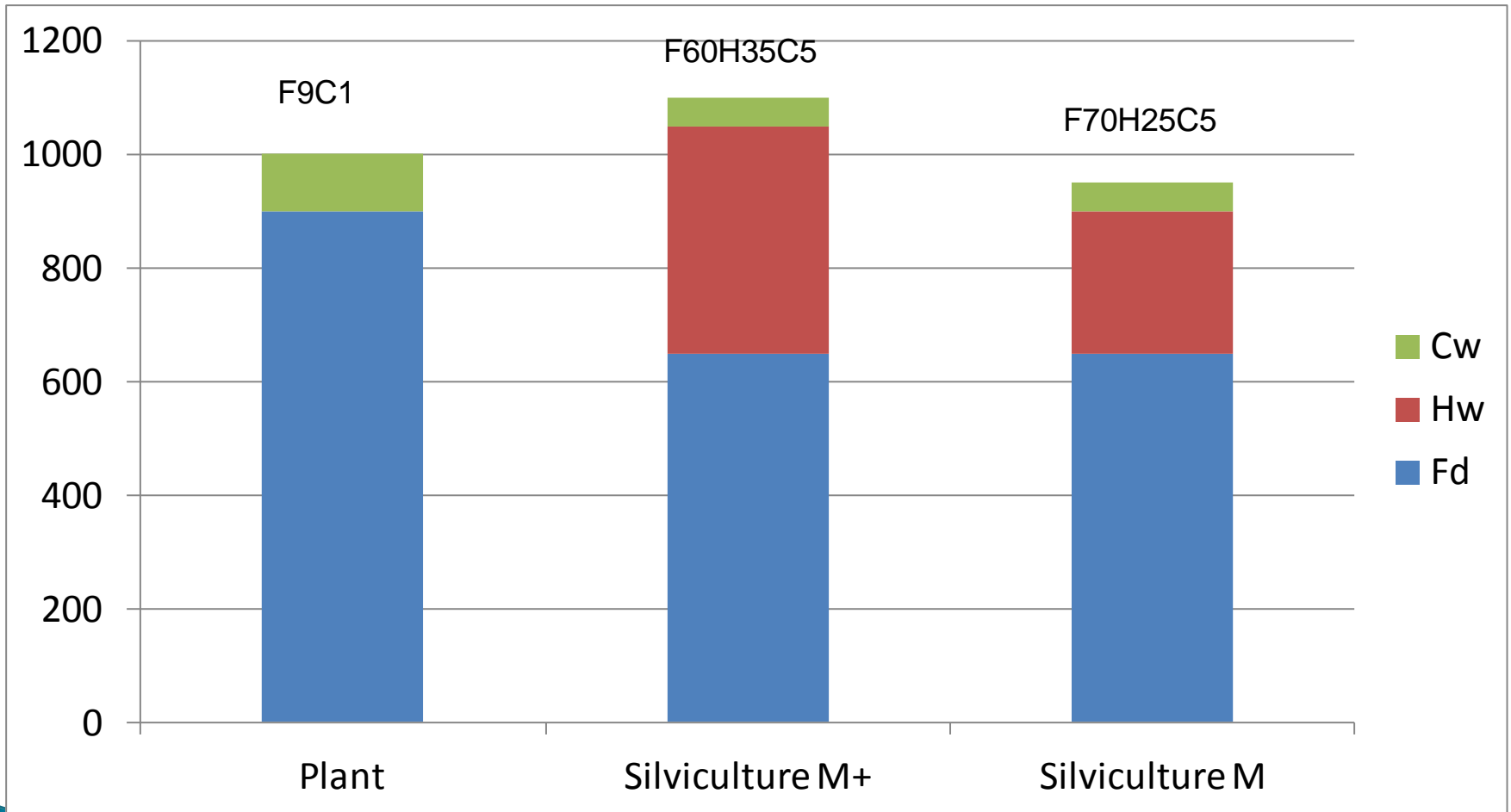
Y2BH and TSR

Average Fdc Height TFL 47 CWH xm 01

Y2BH and TSR

Johnstone Strait - CWHxm-01 - Future Stands
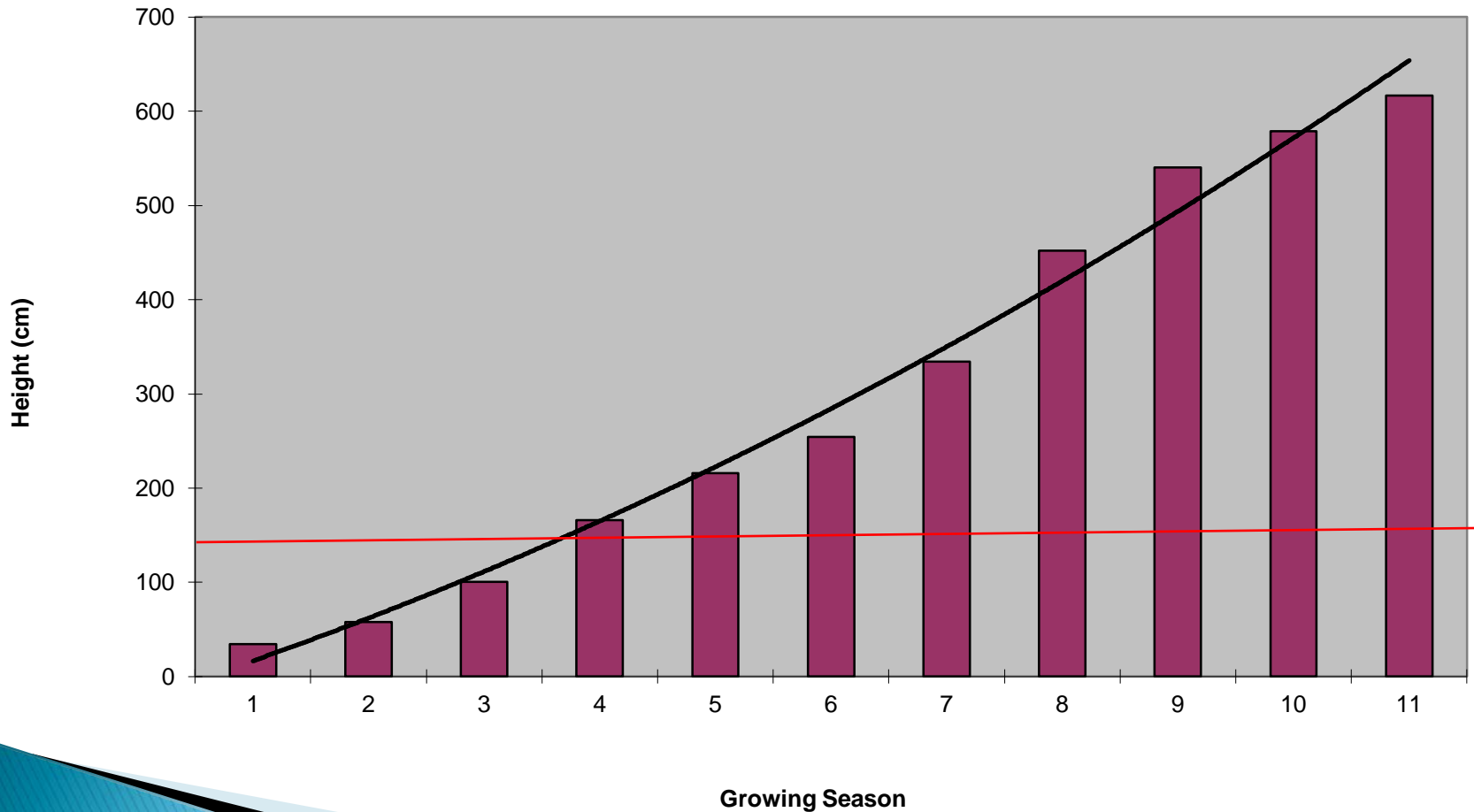
FG and TSR

- Several of these concepts also tie directly into using FG as a driver of TSR
- TFL 47 TSR
  ◦ Tossed out VRI in favour of TEM/SIBEC
  ◦ Silviculture layer used in place of existing inventory to reflect the species shift
  ◦ Novel concept – use the actual performance of the silviculture program to drive the future forest cover
  ◦ Proportion of Fd doubled
  ◦ Implications for SI and genetic gain relative to Hw

FG and TSR

- 10 year history of FG surveys segregated by variant and site series

- Lumped similar site series where populations were small

- Developed a planted and a natural table for each site series – based on planting history, FG silviculture label and FG inventory label

Silviculture Regimes
Blocks 5 - 12
CWHdm, CWHxm, CWHvm1, CWHmm1

site series		ha	F	H	C	Ba	Yc	Bg	Ss	Dr	Total	Stand Compostion At Harvest								
												F	H	C	Ba	Yc	Bg	Ss	Dr	Total
01	P T/ha	2772	840	0	140	10	0	10	0	0	1000	62.0	-	5.2	0.4		1.0	-	-	68.5
	N T/Ha		0	2200	50	16	0	0	3	31	2300	-	29.0	1.8	0.6	-	-	-	-	31.5
	Crop %		62	29	7	1	0	1	0	0	100	62.0	29.0	7.0	1.0	-	1.0	-	-	100.0
03	P T/ha	135	900	0	100	0	0	0	0	0	1000	53.0	-	3.8				-	-	56.8
	N T/Ha		0	2300	400	0	0	0	30	70	2800	-	27.0	15.2				1.0	-	43.2
	Crop %		53	27	19	0	0	0	1	0	100	53.0	27.0	19.0				1.0	-	100.0
05	P T/ha	848	800	0	190	0	0	10	0	0	1000	67.0	-	13.0	-		1.0	-	-	81.0
	N T/Ha		0	1600	0	10	0	0	10	80	1700	-	19.0	-	-		-	-	-	19.0
	Crop %		67	19	13	0	0	1	0	0	100	67.0	19.0	13.0	-		1.0	-	-	100.0
06	P T/ha	167	500	0	500	0	0	0	0	0	1000	32.0	-	23.6	-			-	-	55.6
	N T/Ha		0	2590	50	50	0	0	30	80	2800	-	41.0	2.4	1.0			-	-	44.4
	Crop %		32	41	26	1	0	0	0	0	100	32.0	41.0	26.0	1.0			-	-	100.0
07	P T/ha	425	500	0	460	20	0	20	0	0	1000	48.0	-	22.0	1.0		2.0		-	73.0
	N T/Ha		0	1900	0	0	0	0	0	100	2000	-	26.0	-	-		-		1.0	27.0
	Crop %		48	26	22	1	0	2	0	1	100	48.0	26.0	22.0	1.0		2.0		1.0	100.0
12/14	P T/ha	26	60	0	940	0	0	0	0	0	1000	6.0	-	40.7				-	-	46.7
	N T/Ha		0	1700	100	0	0	0	90	110	2000	-	47.0	4.3				2.0	-	53.3
	Crop %		6	47	45	0	0	0	2	0	100	6.0	47.0	45.0				2.0	-	100.0

4373

100% of blocks planted
planting density of 1000/ha

site series 03 includes 02
site series 05 includes 04
site series 07 includes 08

FG and TSR – what next?

- Fine tune the strata/standards unit process
- Delay the FG survey to later in the window
  - LFG = 20 years = more stable label
- Determine an appropriate M value for each site series
- Customize current silviculture survey tools
- Opportunity to determine OAF1
  - 8% net down due to gaps and unmappable NP is too high
- Don't forget about Y2BH

Free Growing – Now What?

- Silviculture is the closest thing we have to a silver bullet to boost TSR
- Need to find a way to encourage excellence
  - Stumpage rebates
  - Stumpage free AAC
  - Tenure reform

When performance exceeds expectations
Fd 415D after 2 growing seasons